Youth Perspectives and Future Visions for Community Food Security:
An Applied Approach to Participatory Research in Phoenix, Arizona

by

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ABSTRACT

Food security literature has a heavy emphasis on physical barriers, often employing spatial analysis or market-based approaches, but the human dimensions of food security remain unexplored. This has resulted in a disconnect between the understanding of the problem and proposed interventions, as the contextual factors and lived experiences of residents are not considered. There are many barriers and opportunities for food security that are not spatially fixed (e.g. family relations, social capital) that may be important but are unrepresented in these types of studies. In order to capture these barriers and opportunities, community stakeholders need to play a fundamental role in the problem analysis and visioning stages. This study utilized community-based participatory research methods to engage an important stakeholder in the future food environment, youth, to 1) understand how the youth of Canyon Corridor describe their food environment, and thus capture contextual aspects of food security 2) adapt CBPR methods to engage youth in a visioning session to elicit their ideal community food environment and 3) determine if these applications of CBPR can empower youth of Canyon Corridor to mobilize towards a more secure food environment. I found that while the youth did identify many barriers to food security (i.e. transportation, cost, availability), this community also had significant strengths, particularly social capital, that allowed them to overcome what would be food insecurity. Despite their conclusions on food security, youth did desire many changes for the future food environment and felt increased empowerment after the workshops. Thus this shows the need for incorporating methods that also acknowledge the role of social and individual factors and how they interrelate with the physical environment in relation to food security.
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Chapter 1

INTRODUCTION

This research sought to explore the human dimensions of food security through the eyes of an important stakeholder in the future food environment: youth. Food security is a prerequisite for a sustainable community and involves access to healthy, fresh, affordable, and culturally appropriate food (Winne, 2003). There are many contextual factors affecting food security in particular localities, as access differs for each neighborhood, and barriers, especially those that are non-physical, may be difficult to assess. Therefore food security research requires place-specific and community-level assessments that are able to capture not only the physical barriers, but the human aspects of food insecurity as well.

Food security research, particularly studies that take a “food desert” (i.e. areas without access to fresh, healthy food) approach, tend to emphasize physical barriers to food access, often employing spatial analysis or market-based approaches, which highlights what food outlets are available, where they are in location to the community, and the type and quality of food available, however many of the social aspects remain unexplored (Beaulac, Kristjansson & Cummins, 2009; Walker, Keane & Burke, 2010). Such social impacts may be comprised of both barriers and assets, which greatly shape how people access food. This incomplete analysis has resulted in a disconnect between the understanding of the problem and proposed interventions because it presupposes that these so-called food deserts need to be filled, and usually with traditional popular interventions that may not be relevant to the community’s lived experiences. For example, studies have found that placing grocery stores in
communities with limited food access does not necessarily result in positive dietary changes (Wrigley, Warm, Margetts, 2003; Cullum, Spilsbury & Richardson, 2005). Thus more than physical access impacts a community’s food security.

There are many barriers and opportunities for food security that are not spatially fixed (e.g. family relations, social capital) that may be important but are unrepresented in these types of studies. In order to capture these barriers and opportunities, as well as promote interventions that take into account the lived experiences of the residents, community stakeholders need to play a fundamental role in the problem analysis and visioning stages. Further, since food insecurity tends to impact marginalized populations (Larson et al. 2009; Martin et al., 2004; Azuma et al., 2010) and children (Casey et al., 2001; Wilde, 2004) most, and because these populations are often underrepresented in community planning outreach (Uyesugi & Shipley, 2005; Moss & Grunkemeyer, 2010), a mechanism for capturing these stakeholders’ views and perspectives is needed. Such engagement should be considerate of the specific constraints associated with these populations (i.e. language barriers, time, culture, attention span, etc.).

Despite the public emphasis on reducing childhood obesity and promoting healthy lifestyles, youth perceptions on obesity and food environments remain relatively unexplored. This is similar to the majority of research completed in sustainability science. The wellbeing of future generations is fundamental to sustainability, and is featured in sustainability principles often in the form of inter-generational equity (Gibson, 2006). However, only a select few studies incorporate perceptions of children and youth into their analysis. The paucity of research on
youth perspectives is of concern because a key stakeholder group is not being engaged in the decision-making process that will ultimately affect their future livelihood. Research in public policy and planning has also noted the absence of youth engagement in community planning outreach, as well as minorities (Uyesugi & Shipley, 2005; Moss & Grunkemeyer, 2010). The shortcoming of youth and minority inclusion, as well as potential ways to engage youth minorities in participatory and people-focused research, will be explored through a case study of community food security research in a Phoenix community.

**Research Questions**

I facilitated transformative sustainability research (TSR)-inspired workshops on food security in a Phoenix community that has been identified as vulnerable to food insecurity by a past geographic and market-based study (Taylor, Schoon, Talbot, & Kelly, 2011). TSR is a framework for generating knowledge that leads to solution options and is one approach to problem solving in sustainability science (see Wiek, 2011). My research sought to explore youth’s perspectives on their food security, their visions for their future food environment, and their feelings on their capacity to achieve such visions. In order to facilitate this, I answered the following questions in my research:

- How do the youth of Canyon Corridor describe their food environment?
- How can community-based participatory research (CBPR) methods be adapted to engage youth in a visioning session to elicit their ideal community food environment?
• Can these applications of CBPR empower youth of Canyon Corridor to mobilize towards a more secure food environment?

**Canyon Corridor & Community Partners**

Maryvale on the Move (MTM) is a pilot endeavor for policy and environmental changes to prevent childhood obesity in the Maryvale and Canyon Corridor neighborhoods in Phoenix funded in part by Healthy Kids, Healthy Communities (Steele et al., 2010). Throughout the summer of 2011, the communities participated in an analysis of the availability of healthy and affordable food options in the area. This analysis orchestrated through collaboration between St. Luke's Health Initiatives, Maryvale on the Move partners, community members, and ASU researchers. Community members assessed the availability of healthy, affordable food options by utilizing a standardized tool, the Nutrition Environment Measurement Survey, or NEMS. The NEMS utilized incorporated a Latino adaptation to be sensitive to the dietary needs and preferences of the community. Analysis of the NEMS surveys show that issues of food access are prevalent within the entire Maryvale community (Taylor, Schoon & Talbot, 2011). Further, previous planning charrettes in the MTM communities found there were significant physical barriers present to healthy food outlets and active lifestyles (Steele et al., 2010).

I partnered with Rehoboth Community Development Corporation (RCDC), an organization that focuses on community development and economic revitalization in Canyon Corridor, and is also a community partner in the Maryvale on the Move (MTM) initiative. According to the Canyon Corridor Community Coalition (2011), Canyon Corridor is a very diverse, but struggling neighborhood.
The two-square mile area is home to about 20,000 people, who collectively speak over twenty-seven languages. Historically this community has had high poverty and crime rates. In the 1990s, Canyon Corridor experienced a 51 percent increase in population due to affordable housing options for Latin American immigrants and international refugees. As a result, it is home to an ethnically diverse population, including Latino, Burmese, Burundi, Iraqi, Iranian, and Vietnamese residents. It is also a young population, with thirty-three percent of the population is under the age of 17. While this diversity can be an important community asset, it also presents challenges in terms of communication, lower employment potential, and a lack of efficacy to utilize social services.

As part of their mission, MTM is in the process of developing and implementing initiatives to increase Canyon Corridor residents’ access to healthy foods. RCDC and MTM also expressed the desire to include community youth in these activities since youth had limited representation in past studies and are often the most vulnerable to food insecurity and obesity (Casey et al., 2001; Powell, Auld, & Chaloupka, 2007; Singh, 2010)

**Outline of Sections**

This thesis is divided into four sections, the first of which is this introduction. The second chapter, titled A Transformational Sustainability Approach to Community Food Security, was co-written with my research partner, Katie Talbot. It is a methodological piece that covers the inspiration for our research, the methods utilized, and process-level outcomes from our participatory and people-focused research. This chapter also highlights how our research fits together to cover the
three modules of transformative sustainability research. My second chapter is titled Exploring the Human Dimensions of Food Security and Future Visions Through Participatory Research. This chapter covers my personal research thoroughly, including how my methods were applied to discover contextual aspects of food security and elicit future visions from our youth participants, the findings from this research, including youth empowerment, and a discussion of the implications of these findings. The final and fourth chapter is my conclusion, which provides a brief summary and covers outcomes from my research for the participants, community, and research, as well as recommendations and next steps for Canyon Corridor and future studies. Chapter 2 and 3 were designed to be stand-alone pieces, potentially for publication, and therefore may have some redundancy.
Chapter 2

A TRANSFORMATIONAL SUSTAINABILITY APPROACH TO COMMUNITY FOOD SECURITY

Introduction

Many research groups, public organizations and even popular media sources report increasing concerns about food insecurity in the United States (US), particularly in urban areas (Gallagher, 2006; Nord et al., 2008; Gray, 2009). US food security efforts have historically focused on hunger-alleviation and food provisioning (i.e. ensuring enough food), but now must also address challenges including limited access to food outlets and the poor quality of food available, which may be tied with other diet-related health outcomes such as obesity (Christian, 2010; Egger & Swinburn, 1997; French, Story & Jeffery, 2001; Slater et al., 2008).

Urban communities that face these contemporary food insecurity challenges are often defined as “food deserts”—areas without access to fresh, healthy food. Food deserts are most commonly identified through geographic analyses or market-based methods that map food outlets and measure the availability, affordability, and quality of food available (Beaulac, Kristjansson & Cummins, 2009; Walker, Keane & Burke, 2010). This singular emphasis on the food environment (i.e. the presence or absence of certain food outlets) illustrates a significant deficiency in how we assess and respond to food insecurity. These types of assessments: 1) are based on assumptions about how the food environment affects dietary behaviors and health outcomes (Lytle, 2009; McKinnon et al., 2009), 2) fail to show how people actually intersect with this environment and, 3) do not invite potentially affected populations
to participate in defining the problem or affect change (Lytle, 2009; Brug et al., 2009; Cummins, 2007b; Guthman, 2011). Therefore, these conventional methods are problematic and do not translate to a deep understanding of food security (Guthman, 2011).

In this chapter, we present a participatory, transformational approach to understanding and assessing “food deserts” that addresses these challenges. We applied this approach in Canyon Corridor, a neighborhood in Phoenix, Arizona, that has been identified as vulnerable to food insecurity by a geographic- and market-based assessments (Taylor, Schoon & Talbot, 2011). We conducted workshops in Canyon Corridor designed to capture the perspectives and priorities of a specific stakeholder group, in this case, youth. Our objectives were: 1) to better understand food security and the food environment, particularly from a youth perspective and within a place-based context, 2) articulate a vision for the future that represented participants’ desires as well as food security principles, and 3) participate in developing relevant and effective interventions. To achieve these objectives, we employed a suite of creative methods that prioritize participation and co-production of knowledge: concept mapping, photovoice, sketch mapping, photo-visioning, and intervention mapping. Through these methods we were able to: 1) capture youth participants’ perspectives about a diverse set of factors that influence food security and can help inform future efforts, 2) successfully manage age, language, and cultural constraints in order to interact with an often overlooked and difficult-to-access population, and 3) empower participants to be change agents in their neighborhood.
The “Food Desert” Approach to Food Security

According to the US Department of Agriculture, “Food security for a household means access by all members at all times to enough food for an active, healthy life” (Nord et al., 2008). Access includes availability of acceptable food, affordability of the food available, and the means to obtain the available food (Cohen, 2002). Food security historically emphasized the welfare of households, and individuals’ ability to afford and obtain sufficient food. However, in light of studies suggesting the food environment and other structural processes influence dietary options and diet-related health outcomes, food security efforts have since shifted focus to these environmental factors (Furst et al., 1996; Adler & Stewart, 2009; Ver Ploeg, 2010; Lake & Townshend, 2006; Dixon et al. 2007).

Accordingly, most methods used in contemporary food security research emphasize the food environment. Areas lacking access to healthy food, or “food deserts,” are most commonly identified through: 1) spatial analysis using a geographic information system (GIS) that maps an area’s boundaries, available food outlets, and often other economic or social demographics, 2) market-based studies that compare the availability, affordability, and quality of food available or, 3) a mixture of geographic- and market-based approaches (Beaulac, Kristjansson & Cummins, 2009; Walker, Keane & Burke, 2010). In very simplified terms, any area further than one mile (or another distance justified by the researchers) from a supermarket (or an outlet with adequate food available) is a “food desert.” Residents of this area are thought to be vulnerable to food insecurity and the health outcomes associated with it.
These types of assessments are based on controversial assumptions and reductionist models about how the food environment affects dietary outcomes, and thus face serious validity concerns (e.g. Lytle, 2009; McKinnon et al., 2009; Brug et al., 2008). They also fail to show how people actually intersect with this environment, and do not encourage potentially affected populations to participate in defining the problem or affecting change (Lytle, 2009; Brug et al., 2009; Cummins, 2007b; Guthman, 2011). Since potential issues of validity are adequately explored elsewhere (Lytle, 2009; McKinnon et al., 2009; Brug et al., 2008), our focus is on the latter two concerns.

First, while the food environment may be an important consideration in assessing food security, methods must also acknowledge the role of social and individual factors and how they interrelate with the physical environment (Lytle, 2009; Brug et al., 2009; Cummins, 2007b; Guthman, 2011). The food environment is the context in which people make decisions and interact with one another and with food—it is not the sole determinant of decisions and dietary outcomes (Lytle, 2009). Yet, these conventional methods fail to capture “unmappable” features such as the lived experience of people living in “food deserts” and their characteristics, assets, attitudes, and behaviors that could potentially affect food security outcomes (e.g. social capital, dietary preferences, or constraints such as time).

Second, the current framing of the problem is criticized for disempowering populations living in “food deserts.” Since the food environment is an exogenous force, it “acts on” people, rather than putting people in a position to affect change (Guthman, 2011, pg. 68). However, it should not be assumed that all geographic and
market-based studies are disempowering simply because they are not inclusive of community members and take an exogenous approach, as some communities have ignited grassroots efforts to address issues of food access inspired by findings from such studies. Furthermore, since the problem is defined as a problem of supply (i.e. absence of food outlets) and since people are not empowered to participate, proposed solutions will at best be supply-oriented interventions that “fill” the food desert with food outlets (Guthman, 2011, pg. 69). Therefore, it is problematic to only look at physical factors that can be mapped or easily measured since these assessments do not translate to a deep understanding of food security, and do not motivate transformational change (Guthman, 2011).

We participated in a community food assessment that is exemplary of this food environment-centric approach and the corresponding issues. The assessment was performed in Canyon Corridor, a neighborhood in Phoenix, and was based on an adaptation of the Nutritional Environment Measures Survey (NEMS), a market-based tool to measure and map the food retail environment (Glanz et al., 2007; Taylor, Schoon & Talbot, 2011). Canyon Corridor residents were trained to use a Latino adaptation of the NEMS to report the availability, affordability, and quality of certain food items in neighborhood food outlets (Szkupinski Quiroga, 2012). From those surveys, researchers calculated indices and mapped the food outlets, their scores, and other demographic data using a GIS. This research concluded that residents of Canyon Corridor experience a poor food environment (Taylor, Schoon & Talbot, 2011).
This assessment was unique within market-based research in that people living in the community were also the surveyors. However, we noted that assessment methods did not solicit or integrate the perspectives and behaviors of these residents (e.g. “what factors are most important to you and your family?”). Further, upon completion of the NEMS report, community members were dissatisfied with the knowledge generated from the process. They reported that they knew the results (i.e. that there was relatively poor availability and affordability of healthy foods in their neighborhood) before the surveying; what they wanted to know was what to do about it. Unfortunately the community food assessment results could not help address this outside of recommending the neighborhood improve existing food outlets or pursue alternative outlets. For these reasons, we developed an additional assessment approach, based on sustainability science principles. This approach was designed to capture the perspectives of those potentially affected in order to develop a richer sense of the problem, and promote empowerment to develop innovative, community-based interventions.

**Food Security as a Sustainability Problem**

One of the reasons measures of the food environment are insufficient in assessing food security is because it is an issue embedded in complex networks of social, environmental, economic, political, and cultural factors. For instance, food security outcomes are influenced by socio-economic status (Larson, Story & Nelson, 2009), cultural and personal dietary preferences (Wrigley et al., 2004), and arguably by food politics and the wider food system (i.e. consolidation and industrialization, issues of distribution, etc.) (Winne, 2003). At the same time, food insecurity is a
pressing concern with significant negative impacts on the public good both in terms of health (e.g. malnutrition, obesity, other diet related diseases) (CDC, 2011; Morland, 2010; Casey et al, 2001), and human capacity (e.g. disenfranchisement of affected households and communities). What is more, food security and the associated diet-related outcomes potentially have inter-generational legacies on health (CDC, 2011; Hursti, 1999) and livelihoods.

Thus, we argue that food insecurity is not just an issue of individual welfare or physical deficiencies, but that it should be considered a sustainability problem—that is, a problem that (among other characteristics) is manifold (including social, economic, and environmental factors), threatens the public good, and has long-term implications (Wiek, 2010; Du Pisani, 2006). Community food security (CFS) is a progressive framing of food security that explicitly situates the issue in a sustainability context. CFS describes the “condition in which all community residents obtain a safe, culturally acceptable, nutritionally adequate diet through a sustainable food system that maximizes community self-reliance, social justice, and democratic decision-making” (Hamm & Bellows, 2003). If we take after CFS’s example and define food security as a sustainability problem, then sustainability problem solving frameworks are potentially relevant to help expand food security efforts past the physical environment, and toward CFS and more sustainable conditions.

**A Transformational Sustainability Approach to Food Security**

Transformational sustainability research (TSR) is a framework for knowledge generation and application and one approach to sustainability problem solving. TSR includes three modules: 1) *problem analysis*, generating (social) knowledge about
complex sustainability problems, 2) *visioning* a future sustainable state, and 3) *intervention planning*, developing strategic programs to move us from the current state toward the vision (Wiek, 2011). The formulation and relationship between modules involves a combination of foresight, backcasting, and intervention research (Wiek, 2011; Loorbach, 2010) (see Figure 1). The emphasis of TSR is on knowledge that can generate solution options, grounded in a strong understanding of the problem and orientation for the future. The *transformational* aspect is moving beyond the “knowledge-first” and problem-centered approach of sustainability research to research that allows for the exploration of potential solutions (Wiek, 2011; Sarewitz et al., 2010). A more comprehensive overview of TSR is provided elsewhere (Wiek, 2011).

Figure 1. Modules of TSR. Adapted from Wiek, 2011.

TSR research concentrates on the human aspects of sustainability problems and potential solutions (i.e. identifying different actors, motives, and constraints that contribute to the problem or might be carriers/barriers to solutions) (Wiek, 2011). Thus in a TSR framework, researchers engage with diverse stakeholders (including
user- or target-populations) to understand the problem, but also to develop joint strategies to solve the problem (Wiek, 2011; Blackstock, Kelly & Horsey, 2007). This is consistent with the values of participatory research to integrate different sources of knowledge and values, focus on social learning, and ultimately link knowledge with action through engagement (Talwar, Wick & Robinson, 2011; Loorbach, 2010; van Kerkoff & Lebel, 2006). Thus, TSR provides a potentially relevant framework to address some of the identified deficiencies in conventional food security research.

We explored this potential by examining food security via more flexible, participatory methods couched in the TSR framework.

**Study Site & Community Partnership**

We partnered with two organizations, Maryvale on the Move (MTM) and Rehoboth Community Development Corporation (RCDC), who were active in food and health initiatives in the Canyon Corridor and who conducted the NEMS assessment. Canyon Corridor is a very diverse, but economically depressed urban neighborhood (Table 3). Due to its unique demographics and acute social and economic challenges, it has been the focus of several federal-, city- and community-based development efforts.

<table>
<thead>
<tr>
<th>Population Demographics</th>
<th>Social &amp; Economic Indicators</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total Population</td>
<td>Per capita income $12,054</td>
</tr>
<tr>
<td>Under 18-years-old</td>
<td>Median household income $27,703</td>
</tr>
<tr>
<td>Race &amp; Ethnicity</td>
<td>Adult population w/o high school degree 35.8%</td>
</tr>
<tr>
<td>White</td>
<td>Population living in rental housing 52.0%</td>
</tr>
<tr>
<td>African American</td>
<td>Crime index 60</td>
</tr>
<tr>
<td>Race</td>
<td>Rate per 1,000 people</td>
</tr>
<tr>
<td>---------------------</td>
<td>-----------------------</td>
</tr>
<tr>
<td>Asian</td>
<td>5.1%</td>
</tr>
<tr>
<td>AIAN</td>
<td>2.7%</td>
</tr>
<tr>
<td>Other race</td>
<td>34.4%</td>
</tr>
<tr>
<td>Two or more races</td>
<td>4.0%</td>
</tr>
<tr>
<td>Latino</td>
<td>70.7%</td>
</tr>
<tr>
<td>Non-Latino</td>
<td>29.3%</td>
</tr>
</tbody>
</table>

No. languages spoken: 27
No. supermarkets: 1
Prominent refugee/immigrant populations: Latino, Burundi, Burmese, Iraqi, Bosnian, Philippine, Chinese, Japanese, Iranian, Vietnamese


MTM represents one such effort, a pilot endeavor for policy and environmental changes to prevent childhood obesity in the Maryvale and Canyon Corridor neighborhoods in Phoenix funded in part by the Healthy Kids, Healthy Communities program of the Robert Wood Johnson Foundation (Steele et al., 2010). As part of this program, MTM is developing initiatives to increase Canyon Corridor residents’ access to healthy foods. In an effort to make our research as salient and useful as possible to the community, we worked with RCDC, a MTM community partner working toward community development in Canyon Corridor, to define our project objectives and activities. We began the partnership with the specific intent to take a TSR-inspired approach to food security rather than market- and geographic-applications. However, we also adapted our focus based on our partners’ needs and desires. For instance, through interviews with RCDC and MTM leadership and meeting attendance and observation, we determined that both organizations were interested in exploring interventions to address food insecurity and poor food environments as part of greater community development efforts. RCDC and MTM also expressed the desire to include community youth in these activities since youth had limited representation in past studies and are often the most vulnerable to food...
insecurity and obesity and thus a targeted population in programming (Casey et al., 2001; Powell, Auld, & Chaloupka, 2007; Singh, 2010).

On the basis of these observations and consultations, we defined our study objectives as: 1) to better understand food security and the food environment in Canyon Corridor, particularly from a youth perspective and within a place-based context, 2) to articulate a vision for the future that represented participants’ desires as well as food security principles, and 3) to participate in developing relevant and effective interventions.

**Description of Participant Group**

Recruitment for study participants occurred via posters and handouts at RCDC’s Community Life Center, as well as outreach through apartment complex managers and community leaders identified by RCDC (Appendix B: Recruitment Materials). We capped enrollment to sixteen participants to allow for use of research methods best executed in small groups, and for a higher level of engagement with each participant. Working with smaller samples also helps manage restrictions of time, space, and resources.

The final participant group consisted of sixteen youth, aged twelve to eighteen years old. Fourteen of the participants were Burmese resettled refugees and two were Hispanic. A total of five boys, all of who were resettled refugees, and eleven girls participated. While the recruitment targeted youth from a diversity of ethnic and cultural backgrounds, most responses came from the Burmese refugee community. This was in part due to the high level of self-coordination, motivation, and interest of this population (Barron et al., 2007), as well as their proximity to the
Community Life Center in a neighboring apartment complex. All participants spoke a language other than English at home, and most were not proficient in English—especially Burmese participants resettled within the last two to three years. While our sample is not representative of Canyon Corridor’s entire population, it does represent the significant refugee and youth populations in Canyon Corridor (Table 1). All procedures for the recruitment, enrollment, and engagement of participants are detailed in an institutional review board-approved protocol (Appendix C: IRB Requirements).

**Research Design**

In some respects, we began the research with a pre-structured ontology of the problem (i.e. existing problem analysis from the NEMS assessment and consultations with community partners), but we also wanted to capture participants’ perspectives and extend past assessment tools to better understand the human dimensions involved. Thus outcomes were not predetermined, rather we took a grounded theory approach that sought to provide a ‘mouthpiece’ for the participants through a number of exploratory activities (Strauss & Corbin, 1994).
Figure 2. Research modules and corresponding methods.

We designed a suite of methods including concept and sketch mapping, photovoice, photo-visioning, and intervention mapping to elicit perspectives about each TSR module (see Figure 2). We facilitated research activities over three five-hour Saturday workshops in Canyon Corridor. These research methods are not rooted in assumptions about the food environment and its affect on food security, but are flexible and able to reflect the lived experience and knowledge of people living in a potential “food desert.” At the same time, the emphasis on co-production of knowledge was meant to empower participants and motivate transformational change. In the sections that follow, we outline these methods as applied in Canyon Corridor, with the aim that our approach can be replicated in other communities where food insecurity is a concern.

Problem Analysis

The first and second workshops were designed to capture youth participants’ perspectives of the current state of food security in Canyon Corridor. We focused on
what activities participants did related to food (i.e. what they ate, where, and with whom), and what they perceived to be the motivating drivers and effects of these activities. Participants also identified strengths and challenges in their neighborhood that had direct or indirect effects on food security.

**Concept mapping.**

Concept mapping is a mixed method used to capture participant-generated ideas and the relationship between these ideas (Trochim & Linton, 1986). It is one way to collect, analyze and interpret qualitative data—often about the lived experience of a target population—in a participatory format (Burke et al., 2005). In the first workshop, we used a simplified concept mapping format to: 1) prepare focal questions, 2) brainstorm and generate responses to the focal questions, 3) sort responses, 4) visually display the ideas and the relationships between them, 5) interpret the results through discussion and reflection, and 6) utilize these results by considering how they address the focal questions. Participants were the primary actors in phases 2-5.

In the first iteration, the focal questions centered on what participants saw as the causes and effects of food insecurity in the US, Canyon Corridor, and participants’ households. In the second iteration, the focal questions centered on what participants defined as barriers and assets to community development and food security in Canyon Corridor. Prompts were inspired by Tschakert’s (2007) study that asked participants to share a wide range of issues that either contribute to worries or help them in their lives. This ‘worry and help’ framing can help capture affected
populations’ perspectives on contextual factors often not captured in traditional vulnerability assessments.

Participants were able to brainstorm independently in their workshop journals, share ideas by writing them on sticky notes and posting them in front of the group, and work together to sort and categorize ideas (Picture 1).

![Picture 1. Participants sorting responses during concept mapping session.](image)

The final product was a set of factors in response to each prompt that represented the ideas of all participants, and their understanding of how these ideas were related (Table 2). While we were not able to utilize concept mapping analysis software for a more sophisticated display of the results, due to the small size of the group we were able to accomplish adequate sorting and representation manually.
Table 2.  
Participants self-categorized responses to ‘causes and effects’ concept mapping activity

<table>
<thead>
<tr>
<th>Causes</th>
<th>Effects</th>
</tr>
</thead>
<tbody>
<tr>
<td>People are busy</td>
<td>Obesity</td>
</tr>
<tr>
<td>Good food is too far</td>
<td>Hunger</td>
</tr>
<tr>
<td>No transportation</td>
<td>Health problems</td>
</tr>
<tr>
<td>People like the taste of unhealthy food</td>
<td></td>
</tr>
<tr>
<td>People don’t care what they eat</td>
<td></td>
</tr>
<tr>
<td>People don’t know better</td>
<td></td>
</tr>
<tr>
<td>Healthy food is expensive</td>
<td></td>
</tr>
<tr>
<td>Bad food is everywhere</td>
<td></td>
</tr>
</tbody>
</table>

**Photovoice.**

Similarly, photovoice is a collaborative process in which the participants utilize cameras and photographs to identify community strengths and weaknesses, define the issues in their community, and promote dialogue surrounding such issues (Wang & Burris, 1997; Wang, 1999). The key aspect of this method is the participation and control community members have in representing their community and identifying the problems. Photovoice has also been recognized for its ability to reach disenfranchised communities and promote empowerment (Wang & Burris, 1997; Wang, 1999; Strack, Magill, & McDonagh, 2004). For this project, the photovoice method was chosen for several reasons: 1) our target group was youth and photovoice has been recognized for its ability to engage youth in the research process, 2) we live in an age of technology and utilizing cameras is a good way to engage youth, keep them interested, and promote creativity and/or a skill (i.e.
exposure to photography), and 3) photovoice is often able to bypass many language barriers (Strack, Magill, & McDonagh, 2004).

Youth utilized cameras to portray and discuss the strengths and weaknesses of their food environment and discussed the implications for food security. Youth selected photographs they wished to share with the group and related their importance to food security by answering questions in the PHOTO prompt, a series of questions successfully used in another photovoice project in Phoenix (Szkupinski-Quiroga, & Sandlin, 2009).

“This is at Ranch Market by the apples because ‘an apple a day keeps the doctor away.’ I went with friends in WaWa’s car. It’s better to go to the store for fresh food rather than snacks. But we don’t actually shop here, we actually go to Lee Lee’s because it provides transportation and has a large selection of Asian cuisine. I wanted to go to a new place. Lee Lee’s gets boring and it’s far. I wish a place like Lee Lee’s was closer.”
Afterwards, youth organized their photographs into groups and color-coded photographs for their relationship to food security (i.e. green stickers were placed near a picture that helped food security, yellow stickers showed indifference, and red highlighted things that hurt food security). After the organization and coding of photographs, youth made a general statement about their community’s food security—that they were food secure.

![Picture 3. Youth determined categories from photovoice activity.](image)

**Sketch mapping.**

We also used a method called sketch mapping. Since the 1980s, participatory mapping has become a widespread method, particularly in the Global South, to elicit information about natural resource management, social structures, health outcomes, mobility, education, and many other factors of interest (Chambers, 2006). Maps can serve as useful boundary objects since many of these issues are spatially bound or
related. More formal mapping of the food environment use a GIS that draws from preexisting spatial data. In this regard, the representation of reality is based on available secondary data, not on the community’s own understanding of their environment or space. Unlike these formal mapping methods, sketch mapping is a very flexible platform to help stimulate discussion about community planning and decision-making, and can help provide the broad picture or context (Corbett, 2009; NOAA, 2009). For example, using sketch maps allows each participant to define her/his community boundaries rather than using a scaled map with a street grid that might not capture key points of interest (Cummins, 2007a). Sketch maps are drawn freehand from memory, are not dependent on exact measurements or scaling, and can include any key community features identified by participants themselves (Corbett, 2009).

Participants sketch mapped places relevant to their community (home, school, church, parks) and food outlets—or anywhere they purchased or ate food. Next, they mapped the routes to get to each place, and the mode of transport. Finally, they used color or emoticons to map how they felt in or traveling to each place. Participants then reflected on what seemed to be good and bad aspects of the neighborhood environment in terms of accessing food (Picture 4).
Visioning

Visioning is a creative and collaborative way of crafting an ideal future state that boasts a “problem-solved” quality while also reconciling a diverse set of values and preferences (Wiek, 2011). Drawing inspiration from the success and participatory nature of photovoice projects, we chose to incorporate many photovoice aspects into our visioning activities, resulting in a combination of the two methods that we referred to as photo-visioning. Through photo-visioning, youth used photographs to capture desired future states.

In the third workshop, we elicited participants’ perspectives of future visions of the food environment. We captured vision elements about what the food environment ought to look like in 2021, assessed whether these elements addressed
food security principles, and ultimately developed consensus around a vision statement.

**Photo-visioning.**

After an initial introduction to various strategies to address food security, the youth used photography to portray elements of their vision for food in ten years. The youth were asked to think about what they would like to see for food and how they would like to access food in their community in the future. Specifically they were asked to keep in mind the things they had classified from their photovoice and mapping activities as bad for food access and think of ways to help address these problems, and to think of things that would help enhance their community’s food security. A few youth brainstormed some elements for their vision and shared with the class how they would express these ideas in a photograph.

*Picture 5. Example visioning photograph.*

“I want to see more organic and natural foods. I heard from the news that people spray food and put things in apples to make it shiny.”
In the third workshop, youth presented their photo visions along with a brief description of what the photo was meant to capture. Afterwards, the youth arranged their visions into categories and assessed their effectiveness at ensuring food security (i.e. access to healthy, fresh, affordable, and culturally-appropriate food). As a final piece, the youth broke into two groups and wrote narratives depicting their envisioned future state for food.

*Picture 6. Individual vision elements grouped into categories.*
Intervention Research

The final module of the third workshop explored how to move from the current state to the proposed vision through strategic interventions. Intervention research demands a wide range of activities from strategy selection to implementation and evaluation—activities that were largely outside the scope of our research (Fraser et al., 2009). Our focus, then, was on preliminary steps such as intervention selection and planning.
**Intervention mapping.**

Intervention mapping (IM) is a planning process that explores program objectives, selects strategies, designs and organizes a program, specifies implementation plans, and generates evaluations plans (Belansky et al., 2011; Bartholomew et al., 2006). IM processes increasingly include community members or the target populations (Green & Mercer, 2001). We adapted IM processes to explore how identified barrier and asset factors can inform intervention selection and planning.

RCDC and its partner organizations articulated program objectives and proposed interventions (e.g. community gardens) prior to our research. In order to explore these interventions, we facilitated brainstorming and assessment activities in the third workshop. Participants performed an assessment of proposed interventions based on factors identified in the problem analysis activities (both barriers and assets). Participants considered each proposed intervention and determined whether it addressed each factor. Next, they considered potential improvements for each of the interventions so that they would address more of the place-specific problems and build on community strengths (Picture 8). This allowed a direct comparison between the three modules of the research, and helped vet the proposed interventions by what was known about the problem and vision. It also allowed participants to express areas for improving these interventions’ relevance and effectiveness prior to extensive program planning and implementation.
Finally, participants developed a draft action plan that considered what needed to be done, who needed to be involved, by when, and with what resources. We held an open community forum for the research team and participants to share the results of the workshops with RCDC staff, family, friends, and interested community members. We also created a report of findings and recommendations for RCDC, and facilitated follow-up meetings with decision-makers and participants to continue this thread of intervention planning (Appendix E: RCDC Report). This was
the beginning of the ‘real work’ of program design and implementation. Ultimately implementation and evaluation were beyond our research scope so while our activities were not comprehensive, they were an important first step in facilitating IM processes.

**Outcomes & Discussion**

Overall, using these participatory methods allowed us to capture the human dimensions of food security, as described by our youth participants, including many intervention-relevant aspects (e.g. communal meals, sharing resources) that would be impossible to capture with geographic and market-based methods. We were able to do so in part because the methods we used allowed participants to be co-creators of the knowledge and any final products. For instance, in concept mapping, participants were the primary actors in nearly each phase of the process, so the analysis was not developed by researchers after the workshop, but reflected the ‘voice’ of the participants themselves (Burke et al., 2005). Similarly, using sketch maps allowed for each participant to define her/his community boundaries, and key points of interest related to food. As a result, the mapping process helped prompt specific examples of barriers to food security (i.e. walkability, high crime areas) that participants didn’t bring up in the prior problem analysis activities. Overall, capturing these perspectives proved invaluable. Past assessments identified Canyon Corridor as a food insecure area (Steele et al., 2010; Taylor, Schoon & Talbot, 2011), however, we found that this particular group was able to overcome what would be food insecurities due to the social capital and high levels of collaboration.
Due to the unique demographics of our participant groups (both in terms of age, cultural background, and communication constraints), we had to be innovative and adaptive in our selection and facilitation of methods. We aimed for interactive activities to engage young people, such as taking photographs, drawing, writing, and having informal discussions. In order to accommodate the language needs of all participants, we asked a volunteer translator to assist in instructions, encouraged peer-translation and assistance, allowed participants to write in their primary language (and had it later translated), and designed activities that were not exclusively language-based. For example, photovoice allowed the youth to identify their experiences, as well as the strengths and weaknesses, of their food environment with photographs. This was beneficial since youth did not have to articulate such elements, rather the photograph acted as the primary communicator and a platform for meaningful discussion. Like photovoice, sketch mapping was a non-language-based activity so it was easier for participants who struggled to express themselves in written- or oral-based activities.

Further, it was important to foster a comfortable environment for the participants. Burmese refugees are often more reserved or discrete before friendship is formed (Barron et al., 2007). Thus, we focused on building familiarity over the course of the workshops, using reassuring body language and tone, re-asking questions in different ways, and allowing many different ways to share (written responses, group discussion, one-on-one conversation). For instance, concept mapping and its mixed method of individual reflection and then sharing made it possible to collect each participant’s perspectives in a non-imposing way that was
both interactive and comfortable. Similarly, photo-visioning allowed for all youth to participate, especially those that were often quiet during discussion-based activities. For example, nearly all youth took photographs for the visioning activity and those who did not want to speak out when discussing their pictures, opted to write in their journal about their pictures and have the descriptions read out loud by one of the facilitators or a peer.

Ultimately the nature of these methods and careful consideration of how to best facilitate the workshops allowed us to successfully work with a younger population and participants from diverse cultural or linguistic backgrounds, who are typically left out of the planning process due to difficulties in engagement and communication (Uyesugi & Shipley, 2005; Moss & Grunkemeyer, 2010; Head, 2011). In post-workshop surveys, all participants responded that they felt their perspectives mattered during the day’s activities and that they felt safe and comfortable to share in the group. When asked what they liked most about the day, responses were overwhelmingly positive (many participants just wrote “Everything!”). Other responses highlighted particular aspects like “working on posters,” “taking photos,” “talking with friends,” and “working as a team.”

Another outcome of our work was increasing the interest and capacity of participants to develop solutions (Blackstock, Kelly & Horsey, 2007). Many youth commented on the importance of the topics covered in the workshops. For example, one girl wrote in her journal: “We went to class to learn about healthy food access. Educating our youth on these fundamentals is important. The more educated that we are, the better the decisions we make.” At the final forum, participants also shared
with attendees that they learned more about “community access,” and “how important what we eat is” and reported that they were very grateful to have participated in the workshops.

In order to encourage a greater sense of empowerment and efficacy, we also embedded plans for future partnerships and solutions into the IM activities, and facilitated follow-up between our community partners and participants. As a result, MTM and RCDC are already integrating several of the youth’s suggested interventions and considerations into their programming plans. Through pre- and post-empowerment surveys we were able to measure empowerment using a likert scale from 1-5 (1 being strongly disagree, and 5 being strongly agree). The 12 question survey had a maximum empowerment score of 60. Pre-workshops scores ranged from 40-50, while post-workshop scores ranged from 43-55, with all but one participant reporting a higher score. These results demonstrate that the participants felt that they were able to enact change or make a difference in their community prior to our research. This may be a form of self-selection bias or it is possible that the tight community, particularly in the refugee population, encourages feelings of self-worth and/or accountability. Further, it may be a result of the participant’s age, as other researchers have found youth to feel particularly capable of bringing about change (Hicks & Holden, 2007). However, youth did feel an increase in the extent of empowerment after participation in the workshops, with a group score increase of 23, suggesting that the youth benefited from the research experience.
Adapting the Framework & Methods for Future Research

This study operated at a very localized level with a very specific population. Thus, it is important to remember that the results are only valid for this particular population, and this particular sample. However, our research does provide a case study of participatory food security methods that: 1) can help inform local action and future interventions and, 2) can be generalizable at the methodological level. The tension between localization and the desire to translate findings to other scales will persist with this type of research. When research is conducted in a somewhat consultative partnership (e.g. helping RCDC adapt and design food security interventions), working at a local scale is imperative. Future researchers will need to determine whether performing local, place-based research meets or limits their objectives for both knowledge generation and decision-support.

This study was focused on youth and resettled refugees since their perspectives are often excluded in food security research, and since they are important actors in potential programming in Canyon Corridor. But inclusion of certain populations can have important implications for results and future action (van Kerkoff & Lebel, 2006). For instance, while youth may not realize the full burden of accessing food since these duties fall primarily to adults in the family, and their capacity to act or influence higher-level factors may be limited (van Kerkoff & Lebel, 2006). In future studies, it will be important to bring multiple perspectives (in terms of age, ethnicity, socio-economic position, etc.) together in order to move toward a more coherent, inclusive perspective of people potentially affected by food insecurity. This will likely demand multiple iterations of research activities with
diverse groups, and a longer time-scale. Unfortunately conducting more
comprehensive research is often inhibited by resource limitations (i.e. research
budgets, time).

Issues common to social science and qualitative data apply to our study as
well. For example, social desirability, or reporting what participants believe the
researcher wants to hear, is always an issue with qualitative research (Bertrand &
Mullainathan, 2001), and may have manifested in stages of the problem analysis such
as photovoice. Instability of measured attitudes and/or desires (i.e. people don’t
always understand why their preferences or opinions suddenly change) is often a
concern and could have serious implications for visioning and intervention planning.
Further, people’s general inability to forecast their behavior and understand the
drivers behind their actions is particularly relevant for the visioning module of this
research (Bertrand & Mullainathan, 2001). Future research should be sensitive to and
transparent about these inherent constraints.

Another challenge in this type of research is managing the level of
engagement and reciprocity. Researchers ultimately initiated this study, so it is
another case of “user-engagement” rather than “researcher-engagement” (Talwar,
Wiek, Robinson, 2011). That is, the researchers identified a problem and then sought
out a community partnership and study site; MTM or RCDC did not identify the
problem and seek out support from researchers. While we did work closely with
RCDC to develop the problem description and research objectives, RCDC was not
as involved in designing, conducting, and interpreting the research. Thus, there is
potentially a discrepancy in the knowledge generated by us, the researchers, and the
knowledge needed for action (van Kerkoff & Lebel, 2006). While there is value in research-based knowledge in that it can provide an independent perspective, or inform problem perceptions and solutions in new ways, future studies should aim to cultivate a relationship rooted in co-learning and greater integration between the research group, the community partner, and even outside expert opinions (van Kerkoff & Lebel, 2006).

In our case, we also had to balance engagement and reciprocity with the participant group. Participants were not included in the first phase of research (i.e. topic selection, topic significance), while they were integral producers of knowledge during the other phases (i.e. generation, interpretation). Ultimately, then, this study could not be considered “mode-2” research in which community partners and/or participants are involved in all phases of the research (Talwar, Wiek & Robinson, 2011). Furthermore, our work was more extractive in the sense that we primarily reported youth perspectives rather than true co-production of knowledge which demands more input and shaping from the researchers and other experts. Still our research was a step closer to this mode than traditional extractive, consultative research or studies that only include an “add-on” level of engagement (Talwar, Wiek, Robinson, 2011).

Our activities were still disproportionately dedicated to the problem analysis module of research, with less effort dedicated to developing solutions. In this regard, our research was not a full realization of the TSR framework. This was in part due to the time scale of the research since IM often requires a more longitudinal design. Intervention research as it is applied to sustainability science is also still under
developed, and the framework and tools for sustainability-based intervention design and evaluation need to be fleshed out—drawing in particular from established fields such as public health and social work (Wiek, 2011; Fraser et al., 2009). It is our hope that future research in Canyon Corridor is now oriented to focus more on intervention planning, and that TSR research in general will continue to develop this important module and related instructional and strategic competencies.

Finally, we presented a suite of participatory methods that we believe contributes to future TSR and food security research design. Still, there is the need for further experimentation of innovative, inter-disciplinary methods that can generate knowledge appropriate to each TSR module, and that are effective with diverse populations.

**Conclusion**

In response to concerns about conventional studies of food security that focus primarily on the physical food environment, our study captured the human dimensions of food security by engaging youth—significant stakeholders and those potentially most impacted by the problem—in the assessment process. Through TSR-inspired workshops, we utilized a suite of participatory methods adapted to meet the special characteristics of our participant group, to: 1) better understand food security and the food environment in Canyon Corridor, 2) articulate a vision for the future that represented participants’ desires as well as food security principles, and 3) participate in developing relevant and effective interventions.

Our emphasis on participatory methods and the co-creation of knowledge produced several notable outcomes. First, we were able to capture youth
participants’ perspectives about a diverse set of factors that influence food security and can help inform future efforts. Second, we successfully managed age, language, and cultural constraints in order to interact with an often overlooked and difficult-to-access population. Lastly, our work empowered participants to be change agents in their neighborhood.

Based on these outcomes, this study demonstrates the potential gains from the synthesis of sustainability problem solving frameworks and these flexible, participatory methods with food security assessment and intervention efforts. It is our hope that our approach can be replicated in other communities where food insecurity is a concern.
Chapter 3
EXPLORING THE HUMAN DIMENSIONS OF FOOD SECURITY AND FUTURE VISIONS THROUGH PARTICIPATORY RESEARCH

Introduction

Food security is a prerequisite for a sustainable community and necessitates access to healthy, fresh, affordable, and culturally appropriate food (Winne, 2003). Barriers to food security vary among communities, but typically include economic, physical, and social barriers. There are many contextual factors to food security, requiring place-specific and community-level assessments. There is a heavy emphasis on “food deserts,” meaning areas lacking access to attainable healthy, fresh food in food security literature. This has resulted in a narrow focus on the impact of physical barriers and the built environment on community food security, often through the use of spatial analysis and/or market-based approaches (Beulac, Kristjansson & Cummins, 2009; Walker, Keane & Burke, 2010). Thus the social aspects of food security are left unexplored. Further, identifying certain communities as “food deserts” presupposes that this void needs to be filled, and usually with popular interventions that may not be relevant to the community’s lived experiences and practices.

There are many barriers and opportunities for food security that are not spatially fixed (e.g. family relations, social capital) that may be important but are unrepresented in these types of studies. In order to capture these barriers and opportunities, as well as promote interventions that take into account the lived
experiences of the residents, community stakeholders need to play a fundamental role in the problem analysis and visioning stages. Further, since food security tends to impact marginalized populations (Larson et al. 2009; Martin et al., 2004; Azuma et al., 2010) and children (Casey et al., 2001; Wilde, 2004) most, which are often underrepresented in community planning outreach (Uyesugi & Shipley, 2005; Moss & Grunkemeyer, 2010), a mechanism for capturing these stakeholders’ views and perspectives needs to allow for engagement that is considerate of constraints (i.e. language barriers, time, culture, attention span, etc.).

I chose to explore the human dimensions of food security through the eyes of an important stakeholder in the future food environment: youth. I facilitated TSR-inspired workshops on food security in a struggling community that has been identified as vulnerable to food insecurity by a past geographic and market-based study. My objectives were to utilize community-based participatory research (CBPR) methods to 1) understand how the youth of Canyon Corridor, my study site, describe their food environment, and thus capture contextual aspects of food security 2) adapt CBPR methods to engage youth in a visioning session to elicit their ideal community food environment and 3) determine if these applications of CBPR can empower youth of Canyon Corridor to mobilize towards a more secure food environment. I discovered that while the youth did identify many barriers to food security, as often identified in literature (i.e. transportation, cost, availability), this community also had many strengths, particularly social capital, that allowed them to overcome what would be food insecurity. Despite their conclusions on food security,
youth did desire many changes for the future food environment and felt increased empowerment after the workshops.

**Barriers to Food Security**

Food security is one of several necessary conditions for a healthy, well-nourished society (Nord, Andrews, & Carlson, 2002). Food security is defined as “access by all community members throughout the year to supplies of safe, nutritious and affordable food sufficient for them to lead active, healthy lives” (Nabhan, & Taylor, 2004). The availability of culturally appropriate food is often deemed an important aspect of food access as well (Nabhan, 2003). The latest USDA Report on food security found that 14.6% of U.S. households experienced food insecurity in 2008, which is the highest rate since the survey began in 1995 (USDA, 2009). The issue of food insecurity involves economic and psychosocial barriers as well as physical access barriers, such as proximity to food sources (Raja et al., 2008; Munoz-Plaza, Filomena, Morland, 2007). Psychosocial barriers, such as safety concerns (Doyle et al., 2006; Azuma et al., 2010), nutrition knowledge deficiencies (Munoz-Plaza, Filomena, Morland, 2007), lack of social capital or capacity (Morland, 2010), mistrust in food store practices (Munoz-Plaza, Filomena, Morland, 2007), fear and safety issues (Lee, 2006; Quinn et al., 2007) language barriers (Vahebi et al., 2010) and pressure or lack thereof to eat healthy or be thin (Guthman, 2011) have been less explored than physical barriers to access, especially in relation to food security of children and youth.

The term food deserts has been utilized to describe communities lacking access to food outlets sufficient for a healthy lifestyle. Access to a quality food outlet
is often normalized as being within a one-mile radius, or a five-minute walk, bike, or drive from one’s home (USDA, 2009; Raja et al. 2008). Areas deprived of access to such a source are deemed food deserts, and many studies have linked this to food insecurity (Hamm & Bellows, 2003; Christian, 2010) and also increased chances for diet-related diseases (Morland & Evenson, 2008; Morland, Diez Roux & Wing, 2006; White, 2007; Powell et al., 2007; Baker et al., 2006; Fleischhacker et al., 2009). The designation of food desert varies however, as some scholars consider areas simply lacking supermarkets to be a food desert, while others consider limited access to any outlet selling healthful foods to be an indicator (Raja et al., 2008). Due to their size and market, supermarkets tend to offer the products necessary for an individual to meet dietary nutritional guidelines.

For these reasons, the absence of a supermarket is correlated with the inability of individuals to immediately obtain foodstuffs necessary to lead a healthy lifestyle. However, as other scholars have pointed out, supermarkets are not the only food outlets capable of promoting a healthy, well-nourished community. Smaller grocery stores, cultural food stores, and alternative food networks may also serve this purpose (Raja et al., 2008) and these latter food networks may be more accessible to youth and ethnic minorities than other food outlets. Thus an area lacking both supermarkets and healthy food outlets is a more comprehensive definition of a food desert. These types of assessments typically utilize spatial analysis, mapping the food outlets in a given area and comparing with social and economic demographics utilizing geographic information system (GIS), market-based approaches that focus on the availability, affordability, and quality of healthy food (i.e. Nutrition
Environment Measurement Survey or NEMS), or a combination of these approaches (Beaulac, Kristjansson & Cummins, 2009; Walker, Keane & Burke, 2010). While these types of assessments may provide a better understanding of the physical food environment, they do not capture the human aspects of food security (Guthman, 2011).

Research suggests that while some communities may not be associated with a designated food desert, availability of personal transportation is a most significant indicator of access (Coveney & O’Dwyer, 2009; Azuma et al., 2010). Individuals who do not possess personal vehicles have limited food access, and thus limited food security, even when public transportation is viable. Even if public transportation is available, there are many difficulties identified when using public transport for grocery purchases (Coveney & O’Dwyer, 2009; Azuma et al, 2010). These difficulties include: lack of desire or ability to walk to and from the stop as well as the market, carrying and managing heavy and bulky bags, and time constraints (Coveney & O'Dwyer, 2009). Therefore, if personal transportation is an issue, food security may be jeopardized regardless of the food outlets available.

Income and poverty levels as well as the national average cost of the family food basket are also indicators of barriers to food security in the economic realm. There are multiple aspects to this. Areas deemed food deserts are often exposed to high levels of convenience stores and not only do convenience stores tend to offer fewer options of nutritious food, particularly whole grains and fresh produce, they are also pricier than traditional supermarkets (Raja et al., 2008). Thus low-income families living in areas that lack adequate access to quality food outlets are
particularly disadvantaged, having to spend more money than those with access to a supermarket for often lower-quality and less nutritional food with limited diversity (Azuma et al., 2010).

**Youth & Food Security**

Children and young adults are disproportionately affected by issues of food insecurity and food insufficiency. Similar to issues of food access and security, food insufficiency is defined as an inadequate amount of food intake, largely due to lack of resources and access. Studies suggest that a large number of children in the United States live in families that are food-insufficient. Casey et. al (2001) determined that low-income households with children were more prone to food-insufficiency than low-income families without children. Children only represent 27% of the U.S. population, but they account for 40% of Americans living in poverty. This high percentage of impoverished children has serious nutrition and food security implications for American youth. In 1998, the U.S. Census Bureau determined that 20% of all youth lived in food-insecure households (Casey et. al, 2001). According to the Third National Health and Nutrition Examination Survey, between 2.4 and 3.2 million children under the age of 12 years old lived in food-insufficient families between the years of 1988 and 1994. Additionally, 0.7 to 1.3 million teenagers, ages 12-16, also lived in families with issues of food-insufficiency. While food-insufficiency is clearly an issue of nutrient-deficiency and hunger, it has also been associated with childhood obesity due to the disproportionate presence of fast food and convenience stores in low-income neighborhoods (Casey et. al, 2001).
Households with children have substantially higher chances of facing food insecurity in comparison with households without children (Wilde, 2004).

Diet is one critical aspect of mitigating diet-related diseases such as obesity. However, youth have very limited control over their diet. Eating behaviors are established early in a child’s life and are often maintained into adulthood (Hursti, 1999). Although many factors influence a person’s eating habits, studies suggest that the family food environment is the most influential determinant in youth eating habits. The predominate factors of the family food environment that influence youth eating habits include: parental food preferences and beliefs, children’s food exposure, role modeling, media exposure, and child-parent interactions around food (Campbell & Crawford, 2011). The level of food security experienced heavily impacts the family food environment, particularly for marginalized communities. Youth are not the primary food providers, yet they suffer the consequences of their food environment, many of which have long legacy effects, such as obese parents raising obese children (CDC, 2011).

**Critique of Emphasis on Built Environment in Food Security Literature**

The issues of food insecurity, insufficiency, and diet-related diseases are part of a complex web of causes and effects. Some argue that the emphasis on the built environment and its relation to food security, and in extension obesity or diet-related diseases, dehumanizes the issue. It assumes that people play no active role in influencing their weight and health, and they are helpless to the forces placed upon them (Guthman, 2011). Radimer et al. (1990; 1992) argue that food insecurity is a complex and meaningful “managed process” in which people are not simply passive...
victims but rather active participants. They argue that while related to poverty and malnutrition, food insecurity is a distinct problem. Further, when researchers refer to certain areas devoid of supermarkets as food deserts, this presupposes that these areas need to be filled, particularly with pre-determined solutions to food insecurity and obesity, such as more grocery stores and parks, which may have no bearing to the community’s actual practices and lived experiences (Guthman, 2011). This is exemplified by more recent research showing that people do not simply start eating better and exercising more once their built environment changes (Guthman, 2011).

While many have argued that food insecurity is an issue associated with race and injustice (Larson, Story & Nelson, 2009; Munoz-Plaza et al., 2007; Walker, Keane & Burke, 2010; Raja, Ma & Yadav, 2008; White, 2007; Baker et al., 2006; Fleischhacker et al., 2009; Azuma et al., 2010; Vahabi et al., 2010), Guthman (2011) takes it further and argues that by devaluing certain communities for their lack of food outlets while simultaneously glorifying other places for their attributes, such as suburbia or gentrified urban cores, people only add to the problem. Particularly because such “good” places are products of strategic economic development in attempts to attract capital, therefore making them unobtainable to most, particularly those with low economic status. Suburbs developed as a means to flee the blight of the dangerous city cores, often referred to as white flight, and thus these desired places have their roots in race and class inequalities (Szasz, 2007; Guthman, 2011). Therefore, Guthman (2011) argues that without addressing these underlying justice issues, policies aimed at alleviating food insecurity and its associated impacts will be unsuccessful. This is exemplified in a case covered by Morland (2010) in which a
food co-op was started in a low-income community in New York to address issues of food insecurity. Unfortunately, the co-op was unsuccessful and eventually closed due to the members’ lack of capital and knowledge to sustain the shop (Morland, 2010). This suggests that other interventions, focusing on community development, may be necessary prior or simultaneous to attempts at advancing food security.

Drawing from Guthman (2011), it may be less important to evaluate food deserts relative to other “non desert spaces” but rather in relation to how residents view their lives and aspirations. Many barriers and opportunities that exist for food security are not spatially fixed and therefore overlooked when only the built environment is emphasized. Thus, in order to truly address the complexity of food insecurity and diet-related diseases, researchers need to look at the human aspects of the issues, to create relevant interventions and this requires engaging the stakeholders (Cohen, 2002; Coates et al., 2006; Webb et al., 2006).

**Food Security as a Symptom of an Unsustainable Food System**

The issue of food insecurity/insufficiency and childhood obesity and other diet-related diseases are not only problems for public health and planning; they are also issues relevant to sustainability. Sustainability problems are often referred to as “wicked” because of society’s inability to address such problems due to their complexity and our limited capabilities and understanding of the system (Wiek & Lang, forthcoming; Perrow, 1984; Doerner, 1996; Diamond, 2005). Problems themselves are social constructs, and have a heavy basis in norms, values, and preferences, thus making even the definition of something as a problem a normative judgment (Wiek & Lang, forthcoming). Having a comprehensive understanding of
what a sustainability problem is and how an issue fits into this framework is crucial for designing mitigation strategies that will address the complex, multi-faceted causes and consequences of the problem (Wiek & Lang, forthcoming). Wiek and Lang (forthcoming) have identified key criteria of a sustainability problem, which are italicized in the sections below and discussed in terms of relevance to food insecurity.

The issue of food security is “life-threatening and threatens essential public (health) and collective (justice) “goods.” In the U.S., “nearly 8% of American adults have diabetes; 32% have hypertension; and 20%–30% are obese” (Morland, 2010). Obesity and the array of other potential diet-related health risks that have been linked to food security and access, hinder the affected individual from achieving a sufficient livelihood and experiencing all potential opportunities that a healthy person would enjoy (CDC, 2011). Obese individuals have higher risk factors for cardiovascular diseases, such as high blood pressure or high cholesterol. They are also more prone to other ailments including: bone and joint problems, sleep apnea, and social and psychological issues like poor self-esteem and stigmatization (CDC, 2011). Further, many of these ailments decrease the lifespan of the affected individual. The issue also relates to justice as marginalized populations have limited access to healthy food outlets, and many studies relate this to negative health impacts (Larson et al. 2009; Martin et al., 2004; Azuma et al., 2010). Thus, intra-generational equity is compromised since certain cohorts are disproportionately plagued with food insecurity.

Food insecurity has long-term impacts that threaten the viability of social-ecological
systems. There are many legacy effects associated with food security. Food insecure communities have been linked to increase occurrences of diet-related diseases. Obese parents are more likely to raise obese children, and compared to normal weight youth, obese youth are more likely to become obese adults (CDC, 2011). Thus they are at an increase risk for a slew of health problems such as: heart disease, type II diabetes, stroke, many forms of cancer, and osteoarthritis (CDC, 2011). This jeopardizes inter-generational equity, as the problem may plague future generations. In view of the long-term implications of food security on health and equity, the issue can be described as a sustainability problem (Wiek, 2010; Du Pisani, 2006).

Many sources argue that the issue is urgent and irreversible in the short-term as obesogenic environments have sprouted all throughout the U.S. and the associated negative health outcomes are severe (Litchfield, 2010). Obesity, which has reached startling numbers with 35.1% of adults classified as obese (Hill & Wyatt, 2009), and in the last thirty years, and occurrences of childhood obesity have more than tripled (CDC, 2011). The issue of obesity and diet-related diseases are now considered a health epidemic (Willmore, 2007; Hill & Wyatt, 2009; Litchfield, 2010) and health professionals argue that this trend will be difficult to reverse in the short-term despite new federal initiatives at promoting healthy environments (Litchfield, 2010).

The issue is complex, with multiple causes and effects, feedbacks, and indirect effects, and is cross-sectoral and cross-level. There remains immense confusion over the connections between access, consumption, poverty, malnutrition, and overall food security (Coates, 2006). There are economic aspects to the issue, including low-income communities being disproportionately affected (Azuma et al., 2010) and the rising
healthcare costs due to diet-related illnesses (Litchfield, 2010), environmental aspects include negative impacts from an increasingly globalized and processed food system (Heller & Keoleian, 2003), and social ramifications include degraded health outcomes (Morland, 2010; CDC, 2011; Morland & Evenson, 2008; Morland, Diez Roux & Wing, 2006; White, 2007; Powell et al., 2007; Baker et al., 2006; Fleischhacker et al., 2009) and social inequality (Larson, Story & Nelson, 2009; Munoz-Plaza et al., 2007; Walker, Keane & Burke, 2010; Raja, Ma & Yadav, 2008; White, 2007; Baker et al., 2006; Fleischhacker et al., 2009; Azuma et al., 2010; Vahabi et al., 2010). Further, food insecurity is prevalent in the United States, the latest USDA Report on food security found that 14.6% of U.S. households experienced food insecurity in 2008 (USDA, 2009), is prevalent in Arizona with 14% of Arizonians lacking food security in 2008 (USDA, 2009), and global food security remains one of the most omnipresent challenges today as an estimated 800 million people are malnourished and hungry (IFPRI, 2001).

The issue of food insecurity is extremely place-based and contextually embedded. There are many contextual barriers to food security, beyond the built environment, including: safety concerns (Azuma et al., 2010), nutrition knowledge deficiencies (Munoz-Plaza, Filomena, Morland, 2007), lack of social capital or capacity (Morland, 2010), mistrust in food store practices (Munoz-Plaza, Filomena, Morland, 2007), fear and safety issues (Lee, 2006; Quinn et al., 2007) language barriers (Vahabi et al., 2010) and pressure or lack thereof to eat healthy or be thin (Guthman, 2011). Further, research shows that food insecurity is often culturally unique and may easily vary among households in a given community (Frongilo, Chowdhury, Ekstrom, 2010).
The connections between food security, the built environment, and health impacts are contested and controversially discussed. There is numerous literature that links a lack of access to supermarkets or grocery stores to food insecurity (Hamm & Bellows, 2003; Christian, 2010) and diet-related diseases, such as obesity (Morland & Evenson, 2008; Morland, Diez Roux & Wing, 2006; White, 2007; Powell et al., 2007; Baker et al., 2006; Fleischhacker et al., 2009). Thus interventions have focused on changing the built environment (i.e. adding supermarkets, gardens, etc.), rather than interventions that are relevant to the lived experiences of impacted communities, which have not always resulted in desired outcomes. This has resulted in the argument that the focus on the built environment is not adequate for understanding food security, particularly the human dimensions, and thus don’t craft interventions that are relevant to the lived experiences and preferences of impacted communities (Guthman, 2011).

While food insecurity results in outcomes that threaten the wellbeing of our social and economic systems, I argue that it is a symptom of larger sustainability problems: the broader food system and social equity. Due to the complexity in causes and outcomes of food insecurity, many of which result from entrenched patterns and social structures, we see that food insecurity has evolved from an individual problem to a structural problem. Thus we find that addressing this issue is necessary for the public good, making food security a social responsibility. However, creating relevant and effective interventions to address food insecurity remains difficult. This is best exemplified by some studies looking at the effectiveness of
popular interventions to food insecurity, such as increasing access to healthy food, which have not resulted in the desired diet outcomes (Guthman, 2011). Thus it appears that such interventions are not adequately addressing the heart of the problem, rather trying to mitigate related symptoms. This also suggests that indirect interventions, such as efforts to enhance social capital and community development, may have positive outcomes on food security.

**Transformative Sustainability Research**

With the classification of food security as a sustainability problem, frameworks for sustainability problem solving become relevant and potentially useful. TSR is a framework for knowledge generation and application that can be applied to food security. There are three modules within TSR: 1) *problem analysis*, generating (social) knowledge about complex sustainability problems, 2) *visioning* a future sustainable state, and 3) *intervention planning*, developing strategic programs to move us from the current state toward the vision (Wiek, 2011). Foresight is required to move from the current state problem analysis towards the vision, or desired state. Then to move towards the vision, backcasting is utilized to determine the steps necessary to move from problem analysis to vision, and this requires intervention research (Wiek, 2011; Loorbach, 2010). This framework demands several types of knowledge: descriptive-analytical (problem analysis), normative (visioning), and instructional (intervention planning). (For a more comprehensive overview of TSR please see Wiek, 2011).

TSR emphasizes generating knowledge that creates solution options. The *transformational* aspect is moving beyond the “knowledge-first” and problem-centered
approach of sustainability research to the solution space (Wiek, 2011; Sarewitz et al., 2010). While TSR is a solution-oriented framework, it does not involve the actual implementation of interventions, rather it focuses on the creation of knowledge that informs intervention design, monitoring, evaluation, and adaptation. The identified solution-space should be grounded in a strong understanding of the problem and orientation for the future.

The TSR framework emphasizes the human aspects of sustainability problems and potential solutions, such as identifying the relevant stakeholders in the system, exploring the values, motives, and constraints that contribute to the problem, and the implication of such factors for crafting relevant and effective solutions (Wiek, 2011). Therefore, TSR promotes engagement with a diverse set of stakeholders throughout the problem analysis, visioning module, and intervention design (Wiek, 2011; Blackstock, Kelly & Horsey, 2007). This is consistent with the values of participatory research to integrate different sources of knowledge and values, focus on social learning, and ultimately link knowledge with action through engagement (Talwar, Wiek & Robinson, 2011; Loorbach, 2010; van Kerkoff & Lebel, 2006).

**Need for Community-Based Participatory Research in Food Security**

Community food security (CFS) is a progressive framing for food security that describes a “condition in which all community residents obtain a safe, culturally acceptable, nutritionally adequate diet through a sustainable food system that maximizes community self-reliance, social justice, and democratic decision-making” (Hamm & Bellows, 2003). CFS advocates argue that food insecurity research is
often removed from the community context, and lacks people-based assessment of the problem (Winne, 2003; Jacobsen, Pruitt-Chapin & Rugeley, 2009). One consequence of a lack of stakeholder participation and contextual emphasis in food security research, is that stakeholder visions are not explored and designed interventions are not contextually explicit, therefore not resulting in the desired outcomes. This reflects a severe disconnect between problem analysis, visioning, and intervention planning, ultimately resulting in an inadequate understanding of the problem and policy failures. As discussed previously, TSR seeks to address similar issues in sustainability research. Thus, TSR poses the potential as a relevant framework for exploring CFS.

The outcomes mentioned above (i.e. food insecurity, child obesity, diet-related diseases, food deserts, etc.) result from an unsustainable food system. Since this is a sustainability problem, it is host to many factors that make finding a solution difficult and a cookie-cutter “one fixes all” approach will not do (Wiek, 2010). There are many contextual factors to food security, as access differs for each neighborhood, and barriers, especially those that are non-physical, may be difficult to assess. Further, research shows that food insecurity is often culturally unique and may easily vary among households in a given community (Frongilo, Chowdhury, Ekstrom, Naved, 2003; Frongillo, 2003; & Wolfe & Frongillo, 2001; Maxwell & Smith, 1992). For these reasons, interventions that address food security need to consider these contextual factors, and to determine such factors, assessments need to occur at the community-level (Coates, 2006). Further, to explore the non-physical aspects of food insecurity, it is essential that community members play a
fundamental role in the research process, which is lacking in many food security studies (Winne, 2003; Jacobsen, Pruitt-Chapin & Rugeley, 2009).

The lack of public participation and buy-in prior to strategy implementation has resulted in many failures (Moss & Grunkemeyer, 2010). Researchers are increasingly noting the importance of local and non-academic knowledge in sustainability research (Talwar, Wiek, & Robinson, 2011). Participatory research (PR) is one such way to incorporate stakeholders into the research process and fill the gap between research and practice (Cargo & Mercer, 2008). Studies in participatory research show that stakeholders are more committed to taking action if they are engaged up front and throughout the research or planning process (Cargo & Mercer, 2008). It is advocated among other research approaches for “combining research with education (or co-learning) and coordinated collaborative action to democratize the knowledge production process” (Cargo & Mercer, 2008 pg 327). PR is an umbrella term for a large assortment of methods and approaches that emphasize the value of stakeholder engagement and inclusivity throughout the entire research process.

Community-based participatory research (CBPR) is an extension of PR, which is focused specifically at the community-level. This approach emphasizes “community health and well-being through the establishment and maintenance of research partnerships between communities and academic researchers” (Hergenrather, 2010, pg. 225). It is primarily different from other research methods in that researchers do not extract information and impose their findings on communities, rather CBPR emphasizes the process of co-learning,
sharing of decision-making, and knowledge transfers to reach a collaborative problem analysis and rooted interventions (Hergenrather, 2010; Green & Mercer, 2011; Blackstock, Kelly & Horsey, 2007).

**From Problem Analysis to Visioning**

If a community is to be sustainable, it requires the support of a vision that represents the community’s shared goals and values while providing a clear sense of direction (Berke & Conroy, 2000; Krizeck & Power, 1996). “The word vision refers to a visualization of a predicted future state of affairs, perhaps to a desired outcome in the long term” (Nadin, 2002, p. 127). Visioning is a method of orienting thinking towards the future and is one of the modules of TSR, but is also practiced in disciplines such as public policy and planning. It is a critical part of stakeholder engagement that precedes strategy planning and implementation (Wiek, 2011).

Visioning differs from simply predicting the future as it aims to create an ideal future state that is not confounded by current trends but can be realized through proper planning and strategies (Wiek, 2011). Stakeholders are guided to envision an ideal future state that is not limited by the present challenges, but rather inclusive of all desired aspects, meeting each and every goal, and addressing all issues outlined in the current state assessment/problem analysis phase of TSR (Wiek, 2011). If visions are to be the guidance for future strategies and policy implementations, sustainability principles or some form of criteria must be applied (Wiek and Iwaniec, under review; Wiek, 2011).

Moss and Grunkemeyer (2010) relay:

“Discovering and articulating a shared, consensus community vision is a
critical first step in building sustainable communities. Using this shared vision to guide community goal setting and planning results in increased support, buy-in and individual and collective action. Using sustainable cornerstones in the design and implementation of visioning and planning creates a shared and balanced long-term understanding of the community’s desired future, leading to sustainable outcomes.”

While visioning is not the only stage that requires public buy-in, it has been noted for its potential to promote equity and democracy in the public domain if the determined “public interest” is representative of multiple and diverse viewpoints (Burayidi, 2000; Sandercock, 1998). Visioning can be a difficult exercise, as people are accustomed to thinking realistically and often feel constrained by the current state. For example, people shoot down creative ideas to address issues because limited resources bind them, whether that is money, power, time, human capital, etc. Further, truly transformative ideas are difficult to develop when working with stakeholders that have never been exposed to innovation or never encouraged to think about the future free of constraints (Wiek, 2011). Further, in order for diverse perspectives to be included, activities within visioning need to be able to bypass language barriers. Since the future lacks the tangible qualities necessary for empirical research, it is therefore routinely left out of public education and ignored in social science studies (Adam, n.d.). However a clear picture of where we want to be is necessary to move forward and assess the effectiveness of policy and strategy implementation (Wiek, 2011).
Participants

Sixteen youth, aged twelve to eighteen years old, participated in the workshop. A total of five boys and eleven girls participated; fourteen of the participants were Burmese resettled refugees and two were Hispanic girls, who were also sisters, from the community. All participants spoke a language other than English at home, and most were not proficient in English, particularly Burmese youth resettled within the last few years. The Burmese youth participants had all been resettled in Phoenix, and their occupancy ranged from two to eight years, although the majority of Burmese youth had been resettled for about four years. The Burmese participants that had been in Phoenix for the longest were the most active and vocal participants, often playing a leading role and helping with translation. Those more recently resettled tended to be quieter, younger, and less comfortable with the English language.

Although the goal of this research did not include gathering thorough background social and cultural data on the participants, the youth did share some anecdotally. For example, when discussing cost of food, financial and job security discussions emerged. One of the Burmese girls said that their family was not well off and that many resettled refugees had difficulties finding and maintaining jobs, particularly ones that translated to their skills and careers back home. She also said that many families had to be placed elsewhere in the country because they could not find employment in Arizona. During a break, six of the Burmese youth talked with regarding their schooling and social experiences. Two of the girls who had been resettled in Phoenix the longest, eight years, recalled a time when they (Burmese
youth) were the minorities and often bullied in school. However, since the area has since become such a large resettlement area, they no longer feel out of place and rarely get picked on. Thus although the Burmese refugee community appears to struggle financially, as does the majority of Canyon Corridor residents, they experience a strong social foundation. Quite similarly, Barron et al. (2007) discusses the Burmese culture to be very community-centric with strong family values. Every Burmese participant at one point or another during the workshops reiterated this value. For example, one Burmese boy said that “family is everything and I worry about being a good son.”

Despite our efforts to target youth from a diversity of ethnic and cultural backgrounds during recruitment, most responses came from the Burmese refugee community. This was in part due to the high level of self-coordination, motivation, and interest of this population (Barron et al., 2007), as well as their close residence to the Community Life Center. While our sample is not representative of Canyon Corridor’s entire population, the large occurrence of Burmese youth participants does represent the significant refugee and youth populations in Canyon Corridor. All procedures for the recruitment, enrollment, and engagement of participants are detailed in an institutional review board-approved protocol (see Appendix C: IRB Requirements).

Methods

Overview of Methods

Participatory Workshops. My research partner and I facilitated TSR-inspired community food security research activities over three five-hour Saturday
workshops October-November 2011. The workshop activities were designed in three modules: problem analysis, visioning, and intervention research. The first and second workshops were designed to capture youth participants’ perspectives of the current state of food security in Canyon Corridor, during which both my partner and I utilized different CBPR methods, including participatory and sketch mapping, and photovoice. During the third workshop, I elicited participants’ perspectives of future visions of the food environment, capturing vision elements about what they thought the food environment ought to look like in 2020. Afterwards, the group assessed whether these elements addressed food security principles and ultimately developed consensus around a vision statement. The final portion of the third workshop was administered by my research partner and devoted to strategy intervention and explored how to move from the current state to the proposed vision through strategic interventions.

For the remainder of this piece I will only discuss the activities I facilitated (i.e. problem analysis with photovoice and photo-visioning) and the findings that resulted from these activities. (Please see Talbot, thesis in prep. for details and findings related to the mapping activities and strategy intervention activity.)

Photovoice. In order to address my first question, I chose to utilize a CBPR method termed photovoice to better understand how the youth in this community describe their food environment, as well as the more contextual factors of food security for this neighborhood. I chose my method for several reasons: 1) my target group was youth and photovoice has been recognized for its ability to engage youth in the research process, 2) we live in an age of technology and utilizing cameras is a
good way to engage youth, keep them interested, and promote creativity and/or a skill (i.e. exposure to photography) 3) Canyon Corridor is a diverse community, as it is a formal refugee resettlement site with over 27 languages spoken (CCCC, 2011), and photovoice is able to bypass many language barriers.

Photovoice is a CBPR method, which allows a unique relationship to form between researchers, participants, and communities (Wang & Burris, 1994; Wang & Burris, 1997). Photovoice involves providing research participants with cameras with which they document particular aspects of their lives. It has been noted as a means to involve those often least engaged in policy and overlooked populations (Royce, Medina, & Messias, 2006). Depending on the goal of the project, participants may photograph a multitude of things or focus on a specific issue/aspect of their daily routine. Photovoice recognizes that the participants are the experts on their own lives and provides means for powerful reflections, conducting needs assessments, and reaching policy-makers (Wang, Yi, Tao, & Carovano, 1998). The captured photographs act as catalysts for dialogue about community and personal issues (Wang & Burris, 1994; Wang & Burris, 1997).

Photovoice is also a creative method to record and discuss hot topics or personal issues. The photographs provide powerful anecdotes for fostering community growth, promoting grass-root change, and reaching policy makers. One of the main benefits of photovoice is that the participants’ voices (perspectives & visions) are truly heard (seen) and the impacted individuals define the issue or topic, rather than an outside researcher, and empowerment is promoted among participants (Royce, Medina, & Messias, 2006; Strack, Magill, & McDonagh, 2004,
Wang & Burris, 1994; Wang & Burris, 1997). As with many PR approaches, photovoice leads to more successful outcomes, such as policies and strategies, as stakeholders are engaged throughout the entire process and co-create the material (Cargo & Mercer, 2008). Further, photovoice has been successfully used with minority communities, special needs’ populations, children, and other underrepresented groups (Strack, Magill, & McDonagh, 2004, Wang & Burris, 1994; Wang & Burris, 1997).

**Photo-Visioning.** To address my second research question and I chose to explore a more participatory form of media—cameras, to elicit visions about food from the youth participants. Focusing on the future and creating future visions allows youth to think critically about challenges we face, the various value positions embedded within these dilemmas, and craft preferred futures for both themselves and their community (Hicks & Holden, 2007).

I utilized characteristics of photovoice to facilitate a visioning exercise with cameras, which I termed photo-visioning. Rather than having participants take photographs of what is currently present, youth were asked to take photographs of what they wanted to see in the future. While cameras are commonly used to document and analyze the current state, they are not frequently used to elicit the desired future state of research participants. This is largely because cameras capture the here and now, while it is difficult to capture a photograph of the future. In order for the media to be doing more than just informing stakeholders, it needs to represent the ideas, perspectives and visualizations of the stakeholders themselves in new ways. Photographs of the present can stimulate dialogue of the future (i.e. I
don’t want this or I want more of this). Further, there are many ways one can be creative and display what they want to see in the future and capture it in a photograph. Examples of this include: using props such as legos or playdough to create a future image or dressing up to act something out. Youth were asked to display what they want to see in the future and capture it in a photograph, utilizing props. The youth were also asked to utilize photographs of the present to stimulate dialogue of the future (i.e. I don’t want this or I want more of this).

**Empowerment.** While I did not attempt the third module of TSR, as this was covered by my partner, (see Talbot, thesis in prep) I was interested in the ability youth felt to take their visions to the next stage. Thus I really wanted to see if youth had gained a sense of empowerment throughout the process, which would encourage future action. Empowerment refers to an individual’s ability to take action in their life and improve their situation, often through gaining knowledge and control over relevant personal, social, economic, and political forces.

There are multiple levels of empowerment, often defined as individual, organizational, and community (Israel et al., 1994). Consequentially, individual empowerment involves control and ability to make decisions over one’s own life (i.e. self-efficacy) as well as having a positive outlook about oneself (self-esteem), and the competence to utilize resources for social action (Israel et al., 1994; Zimmerman & Rappaport, 1988; Kieffer, 1984). Organizational empowerment pertains to one’s power and ability to impact or influence the organization in which they belong to, however it also involves the extent of control and power experienced by the organization within the larger system (Israel et al., 1994; Kindervatter, 1978). Lastly,
community empowerment emphasizes the community’s ability to act, address issues, create change, and influence decisions through organization of resources and skills available (Israel et al., 1994). All three levels are closely intertwined and impact one another.

I measured empowerment by implementing pre- and post-workshop surveys designed and tested for reliability by Israel et al. (1994). The surveys utilized a likert scale from 1-5 (1 being strongly disagree, and 5 being strongly agree) and measured all three levels of empowerment. (Please see Appendix for a copy of the empowerment survey administered.)

**Photovoice Workshop**

After engaging in a workshop that introduced the youth to issues of food security and specifically discussing its relevance for Canyon Corridor, the youth were given digital cameras to complete their photovoice project (Please see appendix for detailed outlines of each workshop). Each youth was asked to give their camera a name and write it on a sticker on their camera and all of the names were recorded. From there on out, pictures were referred to by the camera’s name from which they oriented. This allowed the youth to ‘connect’ with their cameras and also protected the youth’s identities via coding, as suggested by IRB. They were given a short lesson on basic photography skills and photograph aesthetics by a photography instructor volunteer. For example, the photography instructor went over basic functions of the camera (i.e. turning it off and on, zooming, deleting pictures, etc.) as well as aspects that produce an aesthetically pleasing photograph. Afterwards, the youth were invited to practice taking photographs and receive feedback from the instructor.
After their practice session, the youth were given further instructions on their photovoice project. They were asked to capture pictures of any aspects they deemed relevant to their local food environment. Pictures that portrayed when, where, what, and why they ate were important topics to cover, but they were encouraged to also include pictures of food sources, both good and bad, as well as barriers such as safety concerns, economic constraints, racial tensions, language barriers, etc. Very limited prompting was included so that the pictures reflected the youth’s perspectives, rather than what they felt they should take a picture of. Two youth did give an example of something they were planning to take a picture of (i.e. their traditional meal and their favorite store) in order to ensure that everyone understood what was being asked of them. The youth were asked to write about each picture in their provided journal.

Youth had two weeks to take their pictures. The Saturday before the second workshop, the youth brought their cameras to the community center so that I could download all of the photographs and have them developed prior to our discussion of the pictures in the second workshop.

During the second workshop, the youth were asked to pick five photographs that they wanted to share with the group. As the youth shared their photos, they were asked to expand on the meaning behind their photographs, and answer the questions utilizing the prompt PHOTO, a series of questions successfully used in another photovoice project in Phoenix (Szkupinski-Quiroga, & Sandlin, 2009). All of the PHOTO questions were written on a large flip chart for reference and one of the older participants helped with translation.
Describe your PHOTO.

What is HAPPENING in your picture?

Why did you take a picture OF this?

What does this picture TELL us about food and access in your community?

How does this picture provide OPPORTUNITIES for us to improve food access in your community?

While each youth was sharing their photographs, note-takers (external to the community) were capturing the dialogue so that none of the valuable discussion was lost. This recording, in combination with the youth’s journals, served as the analysis of the photographs.

Afterwards, the youth developed montages that represented the main themes from the photographs, which represented the current state of Canyon Corridor’s food environment. As they sorted through the photographs, they determined titles for the various groups of photos they identified, and discussed the implications these photographs suggested for food security in Canyon Corridor. They color-coded the pictures according to whether they felt the picture represented something positive, negative, or inconsequential to their food security. After discussing the montages and the photographs’ ratings, they drew conclusions about their community’s food security.

**Photo-Visioning Workshop**

After exploring some of the more contextual factors to food security in Canyon Corridor during the first two workshops, and having a better understanding of how, where, and why the youth accessed food in their community, the youth were
asked to think about what they would like to see for food and how they would like to access food in their community in the future. Specifically they were asked to keep in mind the photos they had classified from their photovoice project as bad for food access and think of ways to help address these problems, and to think of things that would help enhance their community’s food security. They were encouraged to not let the present, or how/why/where they currently accessed food, influence what they wanted to see in the future, even if they felt their ideas were unrealistic.

To facilitate the visioning process, the youth were first shown pictures of different strategies that other communities had used to help advance food security. These pictures were shown to expand the youth’s knowledge on strategies in place elsewhere and to provide a foundation for the youth’s visions. A few examples include: community gardens, farmers markets, mobile markets, and cooking and nutrition classes. Next, the youth were asked to express their creativity and use their cameras as tools to portray their future visions in a picture. The youth brainstormed a few elements for their vision and shared with the class how they would express these ideas in a photograph.

During the final workshop, the youth were shown a slideshow of the visioning photos, and each youth described their photograph and how it relayed what they would like to see for the future of food in their community. Particularly the youth were asked:

- What were you trying to show or capture in your picture?
- What does this tell us about your vision for food in your community?
- What would we see for food in 2030?
How is this different or similar to food in your community now?

Afterwards, the youth were encouraged to share any additional visions they had that were hard to show in photos or not yet discussed. All elements of the visions were written on sticky-notes to facilitate the remainder of the activities.

Once everyone had shared their visioning elements, which had been written on sticky-notes, the youth arranged the vision elements into different categories and gave them each a title. This allowed the youth to determine the broad, big picture aspects of their collective visions. Next, the youth thought about which parts of food security were addressed by each category. The youth went through each category and determined whether or not it helped advance food security in the community by looking specifically at the criteria: healthy, fresh, affordable, and culturally appropriate (i.e. Winnie, 2003). Each criterion was written on a different colored sticky-note and placed by the appropriate categories. Since the aim of this research was to assess the community’s food security through the use of a sustainability framework, food security criteria stood in for sustainability criteria in the vision assessment phase. Afterwards, the youth broke into two groups to write a descriptive narrative of food in Canyon Corridor in ten years that incorporated their vision elements.

**Results & Discussion**

**Photovoice**

The major themes that arose from the photographs, discussions of the photos, and collages will be summarized below. Please refer to the appendix to see
all of the photographs accompanied by a caption explaining the meaning and reasoning behind the picture in the photographer’s own words.

The youth as a whole took many photographs of food they deemed to be healthy, such as vegetables, fruit, milk, butter, and meat. However, during discussion two of the Burmese girls, who had been resettled for eight years now, admitted that they didn’t necessarily eat a lot of these items, particularly fruit and milk, but that they recognized their importance for a healthy community. When asked, the other Burmese youth agreed with the girls, but this did not hold true for the Latina participants. Vegetables and non-red meat appeared to have a strong presence in most of the youths’ diets due to their appearance in their cultural dishes at home. When discussing their families eating patterns, one girl commented on the importance of rice in their culture. She said “one day without rice and people start to shake.” This mirrors a report written about Burmese refugees, which relayed that “rice is central to daily existence throughout Burma – so essential that it is regarded virtually synonymous with life itself” (Barron et al., 2007, p.3). Interestingly, there were only two photographs of cultural dishes, and no photographs of rice. The absence of cultural dishes is notable given that the one of the oldest Burmese girls said that their community never eats “American food” at home.
"I took this by the milk because it makes your bones stronger. It’s important for health. I don’t like milk though. My family doesn’t drink milk unless the doctor tells us to. This is at Ranch Market, Circle K does not have fresh milk."

The youth also appeared to be very influenced by media/school/popular culture on healthy foods. Meat was seen as healthy because “it is on the food pyramid.” There was a picture of beef, but the Burmese boy said, “[they] do not eat a lot of beef.” Lots of kids took pictures in front of fruit and vegetables (eleven photos total). One of the Burmese boys took a picture in front of pineapples because “they give vitamins to your body.” One of the older Burmese girls recounted the American proverb: “An apple a day keeps the doctor away.” She also noted that she photographed dairy because “it is healthy and good for strong bones.” This recognition of the expected/ideal American diet, often depicted by the food pyramid and presented in schools and media, explains the presence of fruits, dairy, and red meat (particularly beef) in the youth’s photos despite their absence in the youth’s
diets. Many studies have identified the large influence media, role models, and social forces have on food values, particularly for youth (Campbell & Crawford, 2011; Halford, et al., 2007; Neumark-Sztainer et al., 1999), and Campbell and Crawford (2011) also site role model and parental values and beliefs important factors for youth conceptions of food. Further, these pictures of an ‘ideal’ American diet may represent the youth’s desire to fit in with their peers and acculturate.

Unsurprisingly, there was a large quantity of pictures of the community garden at the life center. This is likely due to the photograph practice session that took place in the garden. However, the youth still chose these pictures to discuss and include in the collage over many other pictures taken elsewhere. This is intriguing because none of the kids participate in the center’s garden and none of the youth garden at home. Three of the participants (Burmese and Latina) have mothers that garden at their home, but none of them help in the garden. When the youth were asked why they took these pictures, one boy and one girl replied that they showed fresh, healthy vegetables. Thus the relevance of the community garden within their community did not play into their selection of the photos and again an exogenous, US-centric concept of healthy dominated the reasoning.

Cooking and eating at home were popular themes in the youth’s photos, for both the Burmese and Latino participants. The youth saw cooking and eating at home as helpful for food security because they can cook and eat whatever they want, and they thought that most of the food was healthy. For example, one of the Latino girls showed a photograph of her mother making lemonade and said that her family does not drink soda because it is bad for you. These pictures also prompted
discussions about the importance of family and the strong community present in Canyon Corridor. Three girls said that eating as a family was an important value in their culture. As drawn from discussion, all refugee youth still eat traditional meals at home and their diet reflects the Burmese cultural norms (for example limited fruit and milk, high quantities of rice, and cultural staples such as mohinga). This is very much in line with research suggesting that the family food environment is the most influential determinant of youth eating habits (Campbell & Crawford, 2011).

Similarly, all of the youth said that their parents primarily did the grocery shopping and thus decided the food available for the youth to eat at home. Some expressed a desire to participate in grocery shopping or have more say in the food bought.

*Picture 10.* I want to go grocery shopping.

“I eat a lot of vegetables. We go to Ranch Market by car, but just my parents go shopping. I want to go grocery shopping sometimes.”
Many of the youth discussed the importance of transportation and personal vehicles for helping food security, and six photographs from the Burmese participants specifically mentioned issues with transportation. Most of the stores were not within walking distance of the youths’ homes. Further, two Burmese boys discussed the heat and difficulty of carrying multiple bags as reasons for needing a personal vehicle to go food shopping. These issues around transportation mimic Coveney and Dwyer’s (2009) discussion of personal vehicles as necessary for food security and the difficulties of public transit and grocery shopping. Since not everyone in the community has a car, many of the youth’s families carpool and share vehicles. This is one way the community has been able to overcome a serious barrier to food security.

There is a very strong communal spirit among the refugee population. Two female youth from Serrano Village discussed their open-door policy, where all members of the community are always welcome to dine and even stay with one another at anytime, even without calling first. One girl had a few pictures of herself eating at another family’s home. She commented that there are no secrets in the community and no need for privacy. Barron et al. (2007) report that the Burmese population have very strong family and cultural values, thus this may explain the common themes of family and community in the youth’s photographs. The Burmese culture is also known for placing great emphasis on their elders and ancestors (Barron et al., 2007). One of the Burmese boys suggested this when he relayed that he was worried about being an honorable son and making his elders proud. This strong sense of family and community spirit has resulted in immense social capital
and appears to be very beneficial to the population’s food security and sense of safety. Similarly, other research has suggested that social capital is positively correlated with food security (Martin et al., 2004).

“This was at my friend’s house. It is mohinga with fry beans and juice. We eat it with noodles. It’s my favorite meal because it is healthy and delicious. We eat at friends’ houses a lot, don’t even have to call, just go over, can sleep there too. There are no secrets in our community. There are no specific times to eat, it’s always just prepared. People are always eating some type of food in the community and it’s always around so food is easy.”

There was a picture of McDonald’s, which several youth saw as both good and bad. McDonald’s is close to their house and therefore convenient, especially for those who do not have a vehicle. However, one Burmese boy said that McDonald’s was not healthy. One Burmese girl said that it was more valuable to purchase food from grocery stores and make meals at home rather than buy food at a fast food restaurant. She said you could spend the same amount of money at a grocery store
and eat all day where as you only eat once at McDonald’s. She did note the convenience it offered though, which is similar to research that highlight convenience as a main determinant of diets (Munoz-Plaza, Filomena, Morland, 2007).

The youth primarily shop at four stores: Lee Lee Oriental Supermarket, Fry’s Food Store, Ranch Market, and Food City. Fry’s Food Store, Ranch Market, and Food City are nearby the community, but not within walking distance according to the youth. However, Lee Lee Oriental Supermarket, which is the predominant grocery store destination for the refugee youths’ families, is inconveniently far—about a forty-minute trip one way. Thus, the store sends a shuttle when the families want to do their shopping. This is a great mechanism to overcome the transportation and distance hurdles. Fry’s was identified as the best store for American food by one of the older Burmese girls, and was noted for the organization, cleanliness, and freshness of the food items. She then said that Food City was not as clean or fresh.

The youth determined nine themes from the group’s photographs (See Picture 4). They include: meat, dairy, home cooking, water, fruits, vegetables, garden, community fun, and transportation. The youth also put stickers next to each picture according to the extent that the photograph portrayed something that advanced or hindered their community’s food security. Pictures with green stickers next to them meant that the youth thought the picture showed something that helped their food security. Yellow stickers show that the youth thought the subject neither helped nor hurt their food security. Finally, red stickers meant the youth thought the photo showed something that hurt their food security.
The photographs from this exercise are overwhelmingly marked with a green sticker. In fact, 48 of the photographs are marked with green stickers, one picture is marked with both green and yellow, and there are only two red stickers, one of which is also marked with a yellow sticker. Thus it is not surprising that after this exercise, the youth unanimously agreed that they have good food security in their community. This is indeed interesting as it strongly contrasts NEMS results for this community (Taylor, Schoon, & Talbot, 2011) and many of the comments made by the youth, such as lack of transportation, issues of availability of both culturally-appropriate and fresh foods, economic barriers, etc. which are all sited as barriers to food security in literature (Coveney, & O'Dwyer, 2009; Jacobson, Pruitt-Chapin, & Rugeley, 2009; Larson, Story, & Nelson, 2009; Raja, Ma, Yadav, 2008; Winnie, 2003).
**Photo-Visioning**

Table 3  
*Individual Visions & Youth Determined Categories*

<table>
<thead>
<tr>
<th>Healthy Life</th>
<th>Food Businesses</th>
<th>Personal/Wellbeing</th>
</tr>
</thead>
<tbody>
<tr>
<td>-Less fast food</td>
<td>-Lee Lee’s Market closer</td>
<td>-More people drinking milk, especially Karen community</td>
</tr>
<tr>
<td>-More exercising (fitness center, walking)</td>
<td>-Lee Lee’s and Fry’s have fresh fruit</td>
<td>-Family meals sitting around the table (no TV!)</td>
</tr>
<tr>
<td>-People in good shape</td>
<td>-More stores like Wal-Mart, Food City, &amp; Ranch Market</td>
<td>-All people have food to live</td>
</tr>
<tr>
<td>-More fruit planted</td>
<td>-More China Buffets or other Asian buffets closer</td>
<td>-Mobile carts/stores with fresh, local vegetables</td>
</tr>
<tr>
<td>-Less meat</td>
<td>-Mobile carts/stores with fresh, local vegetables</td>
<td>-</td>
</tr>
<tr>
<td>-People eating healthy food</td>
<td>-People happy because of food</td>
<td>-</td>
</tr>
<tr>
<td>-More organic/natural food (no sprays)</td>
<td>-New healthy food in schools</td>
<td>-</td>
</tr>
<tr>
<td>-People happy because of food</td>
<td>-Less meat</td>
<td>-</td>
</tr>
<tr>
<td>-New healthy food in schools</td>
<td>-</td>
<td>-</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Community</th>
<th>Gardening</th>
<th>Less Expensive</th>
<th>Other</th>
</tr>
</thead>
<tbody>
<tr>
<td>-More schools &amp; colleges</td>
<td>-Farmers’ markets</td>
<td>-Cost between organic and normal foods should be equal</td>
<td>-No wasted food</td>
</tr>
<tr>
<td>-Bigger community center</td>
<td>-Gardens with apartments (public space, instead of pools)</td>
<td>-Gardening to save money</td>
<td>-More plants and animals in the community (horses, cows, pigs)</td>
</tr>
<tr>
<td>-More people coming to community center</td>
<td>-Plant in backyards</td>
<td>-</td>
<td>-Cooking outside (fresher, more space)</td>
</tr>
</tbody>
</table>

(For the photographs and their associated vision descriptions as well as the group narratives, please see Appendix G.)

As a group, the youth arranged their personal visions into group categories, which they titled: healthy life, food businesses, personal/wellbeing, community, gardening, less expensive, and other.
The youth determined that the healthy life category met the criteria for food security (i.e. healthy, fresh, and culturally appropriate). They felt that food businesses would meet the criteria of healthy and affordable, and would maybe meet the criteria of fresh and culturally appropriate, depending on what food the store sold. The youth decided that personal/wellbeing category met the criteria for healthy and culturally appropriate. They believed that gardening would meet all four criteria.
(healthy, fresh, affordable, and culturally-appropriate), but that the community category was not applicable to food security because it didn’t have much to do with food. This suggests that the youth do not immediately realize the valuable role their community (social capital) plays in their own food security (i.e. shared meals, carpools, social support, etc.), although it appears to be one of the most beneficial influences on this community’s food security. It is possible that since strong family and community values are cultural norms, the refugee youth may be so accustomed to them that they do not immediately stand out. Finally, the youth felt that the category of less expensive would possibly meet the criteria of healthy, but would definitely meet the criteria: fresh, affordable, and culturally appropriate. Not every category advanced all four criteria, but the youth determined that as a whole, all categories combined into one group vision, food security was advanced.
Health was the most recurrent theme among the visions of the youth and was also an underlying reason for many of the other visions discussed amongst the group. Thirteen vision elements directly related to health, and we authored by both boys and girls, Burmese and Latina. The youth had a strong desire for a healthy community—comprised of healthy food, both nutritional and safe (free of chemicals), less fast and unhealthy food, and more people exercising. Such visions also suggest a concern for community wellbeing.
“I would like to see less fast food places. There are way too many and it can be tempting sometimes to go. I want farmers’ markets instead.”

Access and convenience, referring both to distance and time, as well as affordability were also consistently mentioned in visions. For example, some of the Burmese youth, two boys and two girls, want to see more food stores like Lee Lee Oriental Supermarket, Wal-Mart, Food City, and Ranch Market closer to their community. One Burmese girl had a desire for mobile food carts that will come to the community so residents don’t have to deal with transportation, a common issue discussed by the youth in the current state assessment, which is also a common barrier to food security (Coveney & O’Dwyer, 2009). Gardens were also discussed during visioning which too pose a transportation-free and convenient way to get food. Further, desire for healthier convenience emerged, exemplified by one Burmese girl’s vision: “more fruit because it is quick to grab and eat and healthy as opposed to other quick food like fast food.” The desire for affordable food was
apparent in the types of stores desired, as well as more explicit visions such as gardening to save money and cheaper organic food, both of which came from female Burmese participants.

Community cohesiveness and wellbeing, as well as family values, also seemed to underlie many of the visions. One of the younger Burmese boys wanted to see a bigger community center with more people attending the center as well as more attendance at church services. Also, although the youth didn’t explicitly say it, their concern for others’ health and desire for people to be healthy and have the food they need suggests a concern for community wellbeing. In past workshops the Burmese youth discussed their family values and the power of this institution was very apparent, and also supported by cultural studies (Barron et al., 2007). One refugee participant took a picture of kids around the table because she wanted to see more families eating around the table and not watching television while they ate. Three other photographs, taken by Burmese youth, showed families sitting down and eating meals together. The visions that the youth labeled as personal wellbeing, relate more to community wellbeing as they are focused on others rather than just the individual.
The youth were largely focused on outcomes, such as health and better access to fruits and vegetables, as opposed to big picture ideas. One interesting outcome was the inclusion of vision elements that are contrary to the youth’s current practices. For example, several youth, both Burmese and Latina, repeatedly said they wanted to see more fruits and vegetables, when many of the Burmese youth do not eat fruit very often. Another refugee participant wanted to see his community drink more milk so that they have strong bones that do not break. Similar to the fruit example, the Burmese youth had previously commented on their communities’ lack of milk consumption, even though they thought it was important for health. Four of the Burmese youth said they wanted to see more gardens, yet they do not currently garden and do not participate in the community center’s garden. One Burmese girl
said she would like to have a garden within their apartment complex and that it was possible that they would participate more if the garden were directly within their complex, which is essentially ‘their community.’

Whether these behavior changes would occur if such vision elements were realized, is questionable, as people tend to be bad at forecasting their behavior (Bertrand & Mullainathan, 2001). This represents the struggle between the need for a common, desirable vision, one not tied down by current restrictions, to guide action and the constraints of crafting futures that are able to produce such desires while also being possible. This requires careful mediation between participants’ expectations and possible future scenarios.

“I want to see planting more vegetables in your back yard. But we cannot because we live in apartments. Every apartment should have a garden area that the manager provides! – if apartments can have swimming pools why not garden – I don’t want to see swimming pool I want to see gardening with veggies.”

The youth determined that their group vision met the criteria for food security (i.e. access to healthy, fresh, affordable, and culturally appropriate food).
Looking at the large variety of visioning elements, there appears to be potential for advancing food security in Canyon Corridor. Elements such as: less fast food, people eating healthy food, more organic/natural food, and new healthy food in schools clearly address the criterion for health in food security. Mobile carts/stores with fresh, local vegetables, farmer’s markets, gardens in apartment complexes, more fruit planted (so that people can grab a quick, healthy snack) and planting in backyards addresses the access to healthy, fresh food that is crucial to food security. The affordable criterion is addressed by elements such as gardening to save money, cheaper organic food, and the types of stores desired. However, affordability was the least addressed aspect of food security in the youth’s visions, probably due to their limited role in purchasing the family’s food.

There are elements to the visions that do not necessarily address food security or may hinder advancing food security. An example is an increase in China Buffet restaurants. While this may address cultural-appropriateness, health is likely to be negatively impacted, due to the increased fat and calorie content of restaurant food and the buffet style, and the affordability of frequently consuming food from China Buffet is questionable. Although the youth participants were not explicitly told to envision a more sustainable future (nor were they exposed to concepts of sustainability), the visioning elements could be interpreted from a sustainability lens. For example, several Burmese youth wanted to see more large chain stores in their community. While supermarkets have been noted for their ability to advance food security (Raja et al., 2008), many of their potential repercussions are contrary to the sustainable food movement, which advocates local, organic, sustainable, healthy,
equitable and fairly traded foodstuffs (Kloppenburg, 2000). Cooking outside is another element that one Burmese girl wanted to see more of in the future, because she thought it to be fresher, that could have negative implications for sustainability depending on the type of fuel used. For example, shifting all cooking to outside would likely require fuel sources such as wood or charcoal, which have negative health ramifications, contribute to air pollutants, and possibly deforestation.

Despite the narrow assignment objective, the youth incorporated many elements beyond food security into their visions. Examples include one of the Latina participants desire for more colleges and animals, and one Burmese boy’s vision for a larger church. This may suggest the difficulty in narrow visioning activities (i.e. only visioning for food as opposed to the community as a whole). Although the youth did not blatantly draw such associations between their individual and community futures, the indirect connections they made through the photographs may represent the close relation between quality of life and food. The participants were implicitly identifying broad social factors that impact food security that at first seem disconnected from the issue. An example is crime. Without addressing problems of crime in the community, members may not feel safe and thus are less likely to participate in a community garden, an issue pointed out by the youth during intervention planning (see Talbot, thesis in prep). Other research has suggested fear of safety is a barrier to food security (Doyle et al., 2006; Azuma et al., 2010). Similarly, businesses may not want to put up shop in areas that are known for having high crime and vandalism. Food security and quality of life go hand in hand and in many cases need to be addressed simultaneously to truly make progress in either arena.
There are very limited publications on sustainability visioning and most visioning literature is based in public planning. Further, articles that do specifically address sustainability visioning present guidelines and overviews of what the process should accomplish, rather than specific examples of ways to conduct visioning sessions. Thus my visioning activities were strongly rooted in the experience with visioning I have gathered from my sustainability education and conducting sessions for class projects. While media, such as photographs, videos, and music have been utilized for visioning sessions, there has been a lack of participatory media (i.e. participants using media to create visions) and most media is not conducive to bypassing language barriers, as it is typically presented in one language. To my knowledge, no studies exist in which participants utilized cameras to portray their visions, thus promoting participatory media in this phase of research and allowing for diverse participation.

Overall, the youth responded fairly well to the photo-visioning method. There was some confusion present, as a few of the younger Burmese girls thought they were supposed to capture things that they thought would occur in the future rather than what they wanted to see in the future. The youth primarily took photographs of things they liked or disliked and talked about how the pictures showed something they did or did not want to see in the future. Thus, there was not a lot of creativity employed, such as portraying a future state with materials, and the visions were not transformative in nature. This suggests a difficulty in getting past the notion of cameras being only applicable to capturing the current state. However, similar to other photovoice studies, I believe that with an extended project and
multiple iterations of taking photographs and sharing, the participants would have a better understanding of the concept and ways of portraying the future in the photographs would improve in their creativity.

A major strength of photo-visioning is its ability to overcome language barriers, and therefore include the perspectives of populations often underrepresented. For example, some of the Burmese youth participants, particularly the younger ones, were shy and rarely spoke during the discussion-based portions of the workshops. This was typically due to cultural tendencies and language barriers. However, nearly all youth took photographs for the visioning activity and those who did not want to speak out, opted to write in their journal about their pictures and have the descriptions read out loud by myself or translated and read out loud by a peer (if written in a different language). As discussed previously, there were issues with confusion on the goal of the photographs (i.e. capturing what they thought would occur rather than what they wanted to see), and therefore future activities of this nature need to be more explicit and possibly send written instructions home with participants.

Photo-visioning did allow me to address one of my research objectives, that being capturing the youth’s visions for food. However, given the difficulties that arose, some of which are likely inherent to the method (i.e. limitations of capturing the future in a photograph), I am not convinced it was the ideal method for eliciting visions in this case study. The photo-visioning method did have significant benefits, in particular, it provided a meaningful platform for discussion about the desired future state, successfully overcame language barriers, and allowed youth to share at
their level of comfort. However, these same outcomes could have been achieved if
the youth were asked to draw pictures of what they wanted for the future instead of
taking photographs, which proved to be a difficult task. Further, this more simplified
means of eliciting visions may have allowed the youth to be more imaginative, as
they wouldn’t be restricted by trying to capture things physically in a photograph.

Despite these limitations in the study, I do believe there is utility in the
photo-visioning method. It may be beneficial in visioning futures that are easier to
separate from the physical environment. For example, photo-visioning could be
beneficial if the assignment were to portray who or what they wanted to be when
they grow up, by dressing in costume and taking a photograph. This would be a far
easier activity suited for photo-visioning, especially with young participants. Another
alternative is employing this method with participants who have a background in
photography and/or art studies or others who are more familiar with abstract
concepts and feel more comfortable portraying such things in a photograph. Also,
similar to many photovoice projects which occur over several weeks with multiple
photographing sessions (Strack, Magill, & McDonagh, 2008; Szkupinski-Quiroga &
Sandlin, 2009; Streng et al., 2004; Wilson et al., 2008), I suggest that photo-visioning
would be more valuable if the project occurs over a longer time period with iterative
check-in and discussion phases. This would allow the participants to reflect on their
photographs, discuss their means of portraying issues, and improve their display of
the concepts.

While the youth and community partners had very positive responses to the
visioning activity and outputs, trouble may arise if no tangible outcomes result from
these consultations. Because the visioning process is participatory and requires time and energy from the stakeholders, they are far more likely to be “left feeling cynical and bitter” (Seelig & Seelig, 1997, p. 21) if they do not see their hard work materialize. Many studies have documented the potential for such a downfall and emphasize the importance of material outcomes following public consultation (Richards & Dalbey, 2006; Seelig & Seelig, 1997; Uyesugi & Shipley, 2005). In order to try and evade such an outcome, we organized a final community event, which the youth participated in, where the photographs and findings were displayed. We also authored a final report from which community leaders are incorporating our findings into their action plans.

**Empowerment**

Table 4  
*Empowerment Survey Results*

<table>
<thead>
<tr>
<th>Participant</th>
<th>Score Pre-Workshops</th>
<th>Score Post-Workshops</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>48</td>
<td>55</td>
</tr>
<tr>
<td>2</td>
<td>45</td>
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</tr>
<tr>
<td>3</td>
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</tr>
<tr>
<td>8</td>
<td>46</td>
<td>47</td>
</tr>
<tr>
<td>Total</td>
<td>373</td>
<td>396</td>
</tr>
</tbody>
</table>
A higher score indicated a stronger sense of empowerment. Only eight participants in total had both a pre and post survey that could be analyzed. A few of the Burmese youth did not participate in every workshop and many of the boys had to leave early the last day for soccer practice. Analysis of the empowerment surveys suggest that youth benefited from the workshops and felt an increase in their ability to make change. As a whole, the eight measured participants’ sense of empowerment increased by a total of twenty-three. It should be noted that prior to the first workshop, the youth already felt that they were able to enact change or make a difference in their community, as noted by the high initial score, 373 out of 510. This mirrors other research, which has found youth to feel particularly capable of bringing about change (Hicks & Holden, 2007). However, youth felt an increase in the extent of empowerment after participation in the workshops, suggesting that the youth benefited from the research experience.
Conclusion

Through the implementation of a PR method termed photovoice, I was able to discover many of the contextual, people-focused aspects to food security as experienced and described by a group of youth from the community. One major theme was the notion of healthy food, from a U.S.-centric perspective, and its distinction from the regularly consumed items that are more culturally appropriate for the Burmese youth. The youth did identify major barriers to food security, such as lack of transportation, issues of availability of both culturally appropriate and fresh foods, and economic barriers. However, despite our discussions of food security and the photovoice activity, the youth unanimously agreed that their community has good food security. This strongly contrasts a previous geographic and market-based study, which suggested that Canyon Corridor is vulnerable to food insecurity (Taylor, Schoon, & Talbot, 2011). Thus this shows the need for incorporating methods that also acknowledge the role of social and individual factors and how they interrelate with the physical environment in relation to food security (Lytle, 2009; Brug et al., 2009; Cummins, 2007b; Guthman, 2011).

Similar to other research in public planning, this study identifies the importance of case study research, particularly at the community-level, for food security research (Guthman, 2011) and planning and policy (Uyesugi & Shipley, 2005) as they acknowledge the contextual factors and diversity present. However, it is possible that the youth’s lack of proximity to the issue, since the parents primarily do the grocery shopping (van Kerkoff & Lebel, 2006), impacted their final assessment of their food security. Another possibility is that in comparison with the
refugee’s homeland experience, the youth feel far more food secure. However, as discussed previously, the refugee population has a strong sense of community connectedness and family values resulting in social capital, a characteristic common to the Burmese population (Barron et al., 2007). Carpooling, shared meals, and communal responsibility for the wellbeing of all are a few of the dynamic mechanisms this community has developed to address what possibly would be issues of food insecurity. This reflects findings in food security research conducted by Martin et al. (2004), which found that social capital is a significant contributor to food security at both the household and community level and greatly decreased experiences of hunger. Although it is difficult to determine causal relationships, this increase in social capital, which results in increased food security, may be directly related to shared values in the Burmese community. Therefore a future direction for food security studies may be to determine if other cultures who emphasize family and communal values also enjoy increased social capital and food security.

Photo-visioning did allow me to address one of my research objectives, that being capturing the youth’s visions for food, and did have significant benefits, such as: inspiring discussion about the desired future state, overcoming language barriers, and allowing youth to share at their level of comfort. However, due to the difficulties that arose, some of which are likely inherent to the method (i.e. limitations of capturing the future in a photograph), the visioning portion of this study may have been better accomplished via other methods, such as drawing pictures. This more simplified means of eliciting visions may have allowed the youth to be more imaginative and reduced confusion.
Despite the present food security barriers, the Canyon Corridor youth participants feel food secure. However, the youth did identify many additional elements they would like to have or improve upon for food in the future. This study was focused on youth and resettled refugees, which was requested by the community partners since their perspectives are often excluded in community research (Uyesugi & Shipley, 2005; Moss & Grunkemeyer, 2010) and they are important stakeholders in potential programming in Canyon Corridor. However, the focus of this certain population can have important implications for results and future action (van Kerkoff & Lebel, 2006). For instance, while youth should be included in food security and community development research, it is important to keep in mind that they may not realize the full burden of accessing food since adults are primarily responsible for this activity, and their capacity to impact higher-level factors may be restricted (van Kerkoff & Lebel, 2006) despite their belief of their influence and ability to enact change (Hicks & Holden, 2007). Further, due to the high presence of Burmese refugee participants, the findings may not be applicable to the community as a whole. In future studies, it will be important for RCDC to bring multiple perspectives (in terms of age, ethnicity, socio-economic position, etc.) together in order to move toward a more coherent and representative understanding of food security, as well as a comprehensive future vision for food in Canyon Corridor.
Chapter 4

CONCLUSION

This case study exemplifies the need to reframe the way we think about and address food insecurity. There is a need for exploring the human dimensions to food security, and this requires expanding beyond the physical and market-based approaches that are traditionally employed in food security research. As this research highlights, communities have important assets and barriers that are not easily measured or mapped. However, such attributes have substantial impact on a community’s food security, as this research found social capital to be a major contributor to the food security of this population. This is also important because such findings negate previous conclusions drawn about this same community via a geographic and market-based study. Again this points to the need to expand our means of assessing and understanding the issue.

To get at the root of complex issues such as food insecurity, those who are impacted most must be invited to the conversation. With community involvement, the narrative of food security changes and these issues so often referred to in research (i.e. food deserts, food insecurity, vulnerable populations), are given a face. They become more than just words used to describe places or people with certain characteristics and the issue becomes humanized. We see that there is more to food insecurity than a lack of supermarkets or lack of access to food. We also see that so-called “vulnerable populations” may not be as helpless as previously conceived, and are rather autonomous figures utilizing their often limited means in creative ways, but they are not simply “acted upon” by their environment.
This research worked with youth and resettled refugees because they are important stakeholders often excluded in the planning process and food dialogue, and since they are also important actors in potential programming in Canyon Corridor. These stakeholders need to be engaged because studies suggest they are impacted most by food insecurity (Larson et al. 2009; Martin et al., 2004; Azuma et al., 2010; Casey et al., 2001; Wilde, 2004), and they have significant desires and needs for food, that vary from those more regularly engaged and not met by traditional interventions. Further, they are impacted by policies implemented regarding food, and youth may bear the burden of resulting legacy effects. Despite popular belief, I found the group of youth I worked with to be interested in the future of their community and eager to get involved. However, these groups are often left out due to difficulties in engagement and communication (Uyesugi & Shipley, 2005; Moss & Grunkemeyer, 2010; Head, 2011). Thus in order to engage such populations, methods need to be creative and adapted to consider the specific constraints associated with these populations (i.e. language barriers, time, culture, attention span, etc.).

I utilized a hands-on approach to food security research through the implementation of participatory research methods adapted to suit the specific needs of my participants. My two methods in particular were photovoice, an approach adopted by Wang, and photo-visioning, a blending of photovoice with visioning goals. Engaging youth was vital in crafting the food security picture for this community. Not only did it provide valuable intervention-relevant information that could not have been discovered through more traditional approaches but it also
provided input from a stakeholder group with distinctive perspectives. My methods were successful in eliciting the desired information in a format that was comfortable and collaborative, although there is room for adaptation and improvement. The photographs alone did not provide exceptionally meaningful data, but rather their ability to generate meaningful and insightful discussion became their true utility. As discussed in the previous chapter, the visioning portion of this project could have been accomplished with simpler means, such as drawing pictures, which would have reduced constraints and increased creativity. Despite these shortcomings, the activities did produce meaningful information for our community partners. Further, this case may be utilized as a framework for studying community food security in a participatory manner that provides insight into the lived experiences of those most impacted and evidence for expanding our assessment of food security to include the human dimensions.

Outcomes

Participant Outcomes

Participatory research has been noted for its ability to empower and/or mobilize populations (van Kerkoff & Lebel, 2006) while stakeholder engagement has resulted in increased interest and capacity of participants to develop solutions (Blackstock, Kelly & Horsey, 2007). My partner and I modified research methods used in the workshops to ensure that the youth were co-creators of the knowledge and final products to promote interest and capacity. I attempted to gauge the sense of empowerment gained by the youth, if any, from the knowledge generation and participatory workshop activities. Although the youth already believed that they were potential change-agents in their community, they expressed a sense of increased
empowerment upon completion of the final workshop and desire to participate in strategy implementation, as identified in pre- and post-empowerment surveys (Please see Appendix). This may be a form of self-selection bias or may be relevant to the cultural background, or could be a result of their young age (Hicks & Holden, 2007). However, youth felt an increase in the extent of empowerment after participation in the workshops, suggesting that the youth benefited from the research experience.

Since participants were included as the primary actors in the research, this analysis was not developed by researchers after the workshop, but reflects the ‘voice’ of the participants themselves (Burke et al., 2005). This level of engagement is meant to help increase the capacity and interest of participants to develop solutions (Blackstock, Kelly & Horsey, 2007), as well as help link knowledge with action (van Kerkoff & Lebel, 2006). Based on the activities following the workshops (i.e. developing an action plan, the community forum, follow-up meetings) and the empowerment survey results, it does appear that participants were empowered to apply the workshop findings to concrete action in their community.

Throughout the three-month process, the youth were educated on many food-related topics. They were educated on the concept of food security, brainstormed causes and effects of food insecurity, and discussed many of the implications as felt in their community (See Talbot, thesis in prep). Knowledge generation, or at least an understanding of the system, is necessary prior to action. Given the youth’s desire to enact change, the education and exposure to current state assessments, visioning, strategy planning, etc. for Canyon Corridor may have provided a knowledge base from which the youth can move forward effectively.
By participating in our research, youth were given the chance to have their perspectives and future visions recorded and disseminated to the community and its leaders. Thus, they have representation in the discussion of Canyon Corridor’s future, particularly in the relation to food, which they likely would not have had otherwise. This exercise may have also encouraged some of the youth to participate more in the community development work RCDC promotes, which would create a more lasting representation for this important stakeholder group.

I felt it was very important for the youth to benefit from our work together, and to walk away also with tangible benefits, other than potential empowerment and education. It was this factor that encouraged the use of digital cameras as opposed to disposable, which are approximately sixteen times cheaper. I knew it was a strong possibility that none of the youth owned a digital camera and possibly had never used one before. Thus, I included a lesson from a seasoned photographer into the second workshop so that the youth were also taught some photography skills. After everything was finished, the youth were allowed to keep their cameras, and it is my hope that some of the youth also walked away with a new skill or passion for photography.

**Community Outcomes**

The research my partner and I conducted provided valuable insight for RCDC and MTM. Our contextual, people-based problem analysis identified important intervention-relevant factors (e.g. communal meals, sharing resources) that were not captured in more traditional assessments and proposed solutions. Youth and minority populations are often unintentionally underrepresented in public policy
and planning outreach, therefore reducing the efficacy and representativeness of such community development research (Uyesugi & Shipley, 2005; Moss & Grunkemeyer, 2010; Head, 2011). Our research provided insight into the perspectives of a particular group of youth who are not actively engaged in RCDC’s programming. The youth participants are also some of the community’s future stakeholders and so our findings provide feedback from a group who may be the future recipients of today’s proposed interventions. Their perspectives and input is crucial to crafting programs that are relevant to the contextual factors affecting food security. This new insight can prompt more strategic interventions that are relevant for some of the residents, particularly the resettled Burmese refugee population, in Canyon Corridor. Our findings have already been incorporated into RCDC and MTM planning and future strategies for increasing access to nutritional food and promoting healthful communities.

We produced several deliverables for our community partners. We held a final event at Grand Canyon University to share our findings and outcomes from the three workshops. Grand Canyon University is located within Canyon Corridor and often hosts events for RCDC. The final event provided an avenue for the community and other stakeholders to benefit from the information gathered and for the youth to show off their hard work. We produced many display materials that catalogued the entire process of our TSR-framed workshops. Displays included descriptions of activities, background information, products produced by the youth (pictures, conceptual maps, etc.) and important findings. Some of our materials were
displayed at the RCDC community life center and viewed at a recent site visit of Congress for Cities.

Our final deliverable was a report that included a description of the workshops, our findings, a synthesis of results, and concluded with recommendations for moving forward. (Please see Appendix for the Final Report) Our community partners found the report interesting, informative, and beneficial to their work. RCDC has since made an effort to include more youth in their meetings and planning, which we hope is a practice that will continue on into the future.

There is already a strong community network devoted to addressing community development issues in Canyon Corridor. Our findings can supplement any future strategies of such organizations by providing evidence and justification for future grant and project applications, particularly those emphasizing food security, healthy living, youth empowerment, and community development.

Research Outcomes

My research partner and myself were among the first in the school to closely collaborate on our thesis research. Being in a program that is trans-disciplinary and transformative, partner and group theses are encouraged as a means to cover more ground and promote more holistic research. Because of our partnership, we were able to cover all three modules of the TSR framework (current state assessment, visioning, and strategy intervention) and therefore able to produce more valuable research for our community partners than would have been possible alone in the given amount of time. It is our hope that our work will act as an illustration of the
potential group and partner theses offer and encourage more collaboration in future thesis and dissertation research.

This research provides support for addressing the human dimensions of food security in research by incorporating methods that also acknowledge the role of social and individual factors and how they interrelate with the physical environment in relation to affect food security (Lytle, 2009; Brug et al., 2009; Cummins, 2007b; Guthman, 2011). This research also supports case study/community-specific assessments, as similar to other participatory research, which identify the importance of case study research, particularly at the community-level, for planning and policy as they acknowledge the contextual factors and diversity present (Uyesugi & Shipley, 2005). For instance, past assessments have identified Canyon Corridor as a food insecure area (Steele et al., 2010; Taylor, Schoon & Talbot, 2011), however, our research found that our participant group is able to overcome what would be food insecurities due to the strength of community and high levels of collaboration. Thus, our study suggests the importance of participatory, human-focused research to inform intervention planning and implementation. In terms of this research’s contribution to TSR, we presented a suite of participatory methods that can be adapted in future TSR research plans. In particular, our adapted methods proved effective at eliciting information from a younger population, and participants from diverse cultural or linguistic backgrounds.

My research also contributes to visioning methods through my implementation of photo-visioning, which combined aspects of the photovoice method with the objectives of the visioning process. Photo-visioning proved to be a
beneficial means of eliciting visions from the group of youth, and was able to overcome the language barrier present for some of the youth. This suggests that photo-visioning has the potential for including populations routinely missed in public outreach and incorporating more participatory media into the visioning process for sustainability.

**Recommendations & Next Steps**

Incorporating participatory aspects into program design is essential for community development. Without buy-in from community members, proposed strategies are less likely to address the contextual problems and therefore less likely to succeed. One sub-population that is consistently left out of community decision-making is youth (cite), yet it is important to engage this population as they consist of the next generations’ stakeholders and the recipients of today’s policy implementations. From my experience with this small group of youth participants, they show a strong interest in becoming involved with community issues and future movements. Therefore, I strongly encourage inclusion of youth perspectives into future program design.

While youth are an important stakeholder to engage, there are many other sub-groups of Canyon Corridor. Due to this community’s diversity, there are likely many specialized needs that will require further research to determine. I recommend that RCDC attempt to identify these stakeholders and utilize participatory research methods to elicit their perspectives on food security so that proposed interventions will be representative of the community’s needs and wants.
Conducting research at the community level can be very resource-intensive and may require more time than community leaders can give. Thus I recommend that RCDC continue a relationship with the School of Sustainability at ASU. Through various avenues (e.g. thesis research, internships, research credit, capstone) RCDC can obtain students to conduct additional research, assess the sustainability of proposed interventions, and help with actual strategy implementation while conserving precious organization resources.

As far as implementation, further community engagement is needed to determine the extent to which RCDC should incorporate our research findings into their interventions. One next step is to organize a steering committee that will help coordinate these efforts and provide the momentum to take action. Canyon Corridor already has great resources, such as The Canyon Corridor Neighborhood Alliance’s (CCNA) Revitalization Committee and Maryvale on the Move, which already focus on community development and healthy living. Through these organizations, RCDC can hopefully recruit a diverse set of participants, representative of the community’s population, including young people. These groups can continue to clarify food issues, community goals, and potential strategies to reach these goals and create actionable plans for change. Since few plans come without trade-offs, it is important that this committee develop a set of criteria that can help capture potential trade-offs between different strategies, and help prioritize efforts based on their overall affect on the community. Finally, it is important that this committee incorporate ways to monitor any enacted programs, evaluate their success, and adjust if necessary.
REFERENCES


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Wiek, A., Lang, D.J. (in prep). Transformational Research for Sustainability: A Practical Methodology.

APPENDIX A

COLLABORATION CONSENT
March 1, 2012

Sections of “A Transformational Sustainability Approach to Community Food Security” were co-written by my colleague, Katie Talbot due to the collaborative and cumulative nature of our research. Any analysis Katie Talbot conducted independently is cited appropriately. Katie Talbot grants her permission that this chapter be included in this thesis.
Our names are Briar Schoon and Katie Talbot and we are graduate students under the direction of Dr. Hallie Eakin in the School of Sustainability at Arizona State University. **We are conducting a research study to understand the factors that influence food access for Canyon Corridor youth.**

**We are recruiting individuals between the ages of 14 and 16 to participate in this study.** Participants will be invited to participate in three Saturday workshops [Oct. 1st, Oct. 22nd, Nov. 5th] that will be held at Rehoboth Community Life Center.

Breakfast and lunch will be provided at each workshop. Participants will also be asked to conduct specific activities independently. Participants in the workshops will map issues related to access, discuss short films about urban food access, and use photographs to document what influences how/what/where/when/why they eat and to envision how they would like their community to relate to food in the future. This study will take approximately 15-20 hours total over a period of 2-3 months. **Participants in this study will be compensated with a $15 Visa gift card.**

Parental permission is required.

Participation in this study is voluntary. **Please see XXX or XXX at Rehoboth CLC to sign up.** If you have any questions concerning the research study, please call Briar at (XXX) XXX-XXXX or Katie at (XXX) XXX-XXXX. You may also email us at XXX@asu.edu, or XXX@asu.edu. If you are a Spanish speaker, please direct your questions to Katie.
Nuestros nombres son Briar Schoon y Katie Talbot y somos estudiantes de posgrado bajo la dirección de la Dra. Hallie Eakin en la School of Sustainability (Escuela de Sostenibilidad) en Arizona State University. **Estamos llevando a cabo un estudio de investigación para comprender los factores que influencian el acceso de alimentos de los jóvenes de Canyon Corridor.**

**Estamos buscando a personas entre 14 y 16 años de edad para que participen en este estudio.** Se invitará a los participantes a participar en **tres talleres de sábado [1/10/11, 22/10/11 & 5/11/11]** que se llevarán a cabo en Rehoboth Centro Comunitario. Se proporcionará desayuno y almuerzo en cada taller. A los participantes se les pedirá también llevar a cabo actividades específicas independientemente. Los participantes en los talleres harán mapas de asuntos relacionados con el acceso, discutirán cortometrajes sobre acceso a alimentos urbanos, y usarán fotografías para documentar las influencias de cómo/qué/a dónde/cuándo/por qué comen y cómo se imaginan que les gustaría que su comunidad se relacionara con la alimentación en el futuro. Este estudio tomará aproximadamente 15-20 horas en total durante un período de 2-3 meses. **Los participantes en este estudio recibirán como compensación una tarjeta de regalo Visa de $15.** Se requiere permiso de los padres.

La participación en este estudio es voluntaria. **Por favor vea XXX o XXX para firmar.** Si tiene cualquier pregunta sobre este estudio de investigación, por favor llame a Briar al (XXX) XXX- XXXX ó a Katie al (XXX) XXX-XXXX. Usted también nos puede enviar un correo electrónico a XXX@asu.edu o XXX@asu.edu. Si usted habla español, por favor dirija sus preguntas a Katie.
APPENDIX C

INSTITUTIONAL REVIEW BOARD REQUIREMENTS
To: Hallie Eakin  
GIOS Build

From: Mark Roosa, Chair  
Soc Beh IRB

Date: 07/08/2011

Committee Action: Expedited Approval

Approval Date: 07/08/2011

Review Type: Expedited F7

IRB Protocol #: 1106006541

Study Title: Youth Perspectives & Future Visions for Urban Food Environments: A Case Study of Maryvale, Phoenix, Arizona

Expiration Date: 07/07/2012

The above-referenced protocol was approved following expedited review by the Institutional Review Board.

It is the Principal Investigator’s responsibility to obtain review and continued approval before the expiration date. You may not continue any research activity beyond the expiration date without approval by the Institutional Review Board.

Adverse Reactions: If any untoward incidents or severe reactions should develop as a result of this study, you are required to notify the Soc Beh IRB immediately. If necessary, a member of the IRB will be assigned to look into the matter. If the problem is serious, approval may be withdrawn pending IRB review.

Amendments: If you wish to change any aspect of this study, such as the procedures, the consent forms, or the investigators, please communicate your requested changes to the Soc Beh IRB. The new procedure is not to be initiated until the IRB approval has been given.

Please retain a copy of this letter with your approved protocol.
APPENDIX D

WORKSHOP GUIDES
Workshop 1: Understanding and Mapping the Local Food Environment

8:30-9:00 Set-up
Make sure door is unlocked, and set up a table in the hall or outside the door so we can greet people, sign-in participants, and collect necessary forms. Set-up the breakfast spread in the main room. Arrange tables and chairs so it will be conducive to a large group circle, and 4 groups of 3 around tables later. Set-up flip boards. Set-out journals and pens so participants can pick one up as they arrive. Place ~5 stickies on the inside of each journal. Place a label on each camera.

9:00-9:15 Arrival
We introduce ourselves at the door, and collect completed forms or have parents and students sign the consent forms. Have everyone fill out nametags.

9:00-9:30 Breakfast
Students can go back and start breakfast as soon as they arrive and have signed in.

Icebreaker
After everyone has arrived and as students finish breakfast, have participants sit in a large circle and introduce himself or herself, and answer “What is your favorite meal?”

9:35-9:40 Welcome
Good morning, and thank you so much for joining us! Did everyone get something to eat? Does everyone have a journal and pen?

We have a lot of fun things planned today! We will do a few different activities, and talk a lot together about the issues you see in this neighborhood. If you have questions and any time, please ask. If you don’t understand something Briar or I, or some one else in the group says, please ask. Basically, if you need anything at anytime, please ask—we want to make sure this is a comfortable and fun time!

There will be times when we ask you to write a bit in your journal, or talk about something as a group. Briar and I will collect and read the journals, so if you don’t feel comfortable sharing something, you don’t have to at all.

Are there any questions before we begin?

9:40-10:10 Intro to Food Access
Briar and I are students at ASU, and we study food. We are most interested in studying issues related to food access.

Can anyone think of what we mean by food access? What images come to mind?

[Listen to any ideas]

Basically, what we mean by access is that people have good food choices available (healthy, high-quality food within a reasonable distance), that they can get there (through different transportation options, and safely). What we want is for everyone,
everywhere to be able to access and afford safe, healthy food that also meets their cultural needs. [Have this definition written up on the flip chart.]

In general do you think this is the case right now—does everyone everywhere have good food access?
[See if anyone has any ideas]

All over the US, there are families that don’t have good food access. Some reports say that almost 1 in 4 children in Arizona don’t have this kind of access, and it may be even higher because it is so hard to measure.

People describe areas where there simply are no grocery stores or places to buy fresh food as “food deserts.” People also think that places with a lot of fast food restaurants and convenience stores are a problem, and call these “food swamps.” Some communities—particularly those that don’t make as much money or have more ethnic and racial diversity—seem to be most affected by both food deserts and swamps.
[Have a few photos of “food desert” and “food swamp” environments and these definitions written on the flip chart.]

A lot of people have researched why food deserts and swamps exist. Let’s think about some the causes of bad food access together. Have a cause and effect diagram prepared on the flip charts. In the center chart have Food Desert & Food Swamp sheet. On the right chart, have “Effects” written at the top and a few examples written below including: hunger, poor nutrition, obesity. On the left chart, have “Causes” written at the top, and three other headings: Physical, Economic, and Social. Have youth pull out the stickies from the inside of their journals, and brainstorm what they think might cause food deserts/swamps. Once they are done filling out their stickies, ask them to come up and place them where they think they fit on the chart. Ask them: Should we add new categories or causes? Should we add any other effects? Have my own stickies prepared based on the literature, and present any additional causes they didn’t think of at the end. Ask them: Do you think these are true causes? Do you disagree with any of them?

10:10-10:20 Intro to the Project
So we have talked so far about food access, and tried to understand what it is, and what causes bad food access. What we want to do together today and over the next two meetings is explore what food access means to you, and for this neighborhood, Canyon Corridor.

Our project will have three parts. We will first figure out where we are now, then create an idea of where we want to be, and finally, create a plan for how to get from where we are to where we want to be. [Use the flip chart to illustrate these three stages and the relationship between them.]

So, for the first stage today, we want to understand what you think about your community’s food access, and what things about your community help you and your families get the foods you want and need, and what things make it difficult to get these foods. During our next meeting, we will think about solutions to these problems, and what we would like to see in the future. For our last meeting, we will
create a plan for how to make these solutions happen that we can share with your families, the staff here at Rehoboth CLC, and other leaders from the City and community.

Are there any questions so far?

10:20-10:30 Reflection
So we have talked about food access in general, but now we want to apply it to your neighborhood. Please take out your journals, and write short answers to these questions in preparation for the next activity:

- Where do you and your family get your food?
- Would you say that you live in a ‘food desert’? Would you say that you live in a ‘food swamp’? Why or why not?
- Would you say that you and your family have good food access or bad food access? Why or why not?
- If you think your family and/or community has food access problems, what do you think might be some of the causes of the problems?

[Have these questions written on a flip chart.]

10:30-10:35 Stretch and Bathroom Break

10:35-10:45 Intro to Mapping
[Hand out scaled map of the neighborhood]
What we are going to do next is create maps of our neighborhood that can help us better understand food access. Please look at the map in front of you. Can you find where we are? Can you find where you live? Can you find where you usually shop? What other places are meaningful to you?

Can everyone read the map so far? Does anyone have any questions? Go ahead and mark your home and your favorite stores. Are there places/things you think we need to consider that are off the map?

10:45-11:05 Individual Mapping
What we want to do is understand what types of things about the neighborhood affect food access. For instance, if I lived on Camelback and needed to walk to a store a few blocks down, I might be concerned about cars that speed on Camelback road and make me feel unsafe getting to the store. So I would draw a speeding car here and here. If I knew of a store where the staff is unfriendly to me and my family or can’t speak our language, I might draw a frown face where that store is. If I knew of a friendly store, or a store that has my favorite foods, I might draw a smiley face. If I thought that a certain block has a lot of crime that I wouldn’t want to go through, I might draw a scared face or a weapon.

These are just a few examples that may or may not work for you. What I would like you to do is to create your own map with your own symbols that reflect good and bad things about your neighborhood that affect food access. If you have a hard time creating a symbol for something, just go ahead and write a word or a sentence to describe it. Please work on this on your own for a few minutes. Do you have any
questions?

11:05-11:30 Group Mapping
Okay, now we want you to share what you have so far in small groups. I’m going to count you off into four small groups, and I’d like you to sit together around one of the tables. [Count youth off and help them organize into the smaller groups. Place one large map on each table.]

Please go around in a circle and share your maps. Are there any similarities? As a group, can you think of any new symbols or things missing from the map? Go ahead and create a new group map together that has all of your symbols combined.

11:30-11:45 Group Share-out
Can one person from each group take a few minutes to describe the main symbols from their map to all of us?

11:45-12:00 Conclusion
What do these maps reflect about food access in Canyon Corridor? What seems to be good about it? What is bad? What’s missing? How does this relate to our earlier discussion of the causes of poor food access in general? How does this relate to the strength of your community in general? [Listen to feedback and facilitate the discussion]

Please keep these questions in mind because they will probably come up again during the photo project, and we will want to discuss them again during the other workshops.

12:00-12:30 Lunch

Introduce theme (Asian)
Guiding questions during meal
- Do you normally consume this type of food?
- Do you like this food? Why or why not?
- Can you find similar food in this neighborhood?
- Does your family have any particular traditions when it comes to food?
- Are these traditions related to culture?

Vote on theme for next workshop lunch

12:30-12:45 Introduction to Photovoice

Another way for us to describe our community and our food access is through photos. We have cameras to give you, and we hope that over the next week or two, you will take photographs of things that influences how/where/why you eat what you do or what you think affects food access. Try to think about things we talked about during the mapping activity we just did. Your photos can include both good and bad aspects of your community, as long as they are meaningful to you. Make sure you can explain why you took each picture!
Hand out instructions and release forms. Read over photo ethics.

Take as many photos as you want, but they should be related to the project and should be appropriate (no obscene photos). In your journal, please keep track of the photos you take by numbering them and writing a brief description of each one. Try to avoid photographing people, unless that person is significant (such as the friendly cashier at the market). If you take photos of people, you will need to have that person sign a release form. Any photos with an identifiable person must have a release form or they will not be included.

Your photos don’t have to only capture physical things. You can also use pictures to express feelings or experiences. Different items can be used to represent or show how you feel, or you can relate your feeling to a physical item.

For example, you may take a picture of yourself smiling and say that a certain food makes you feel happy like this. Or, you may take a picture of McDonald’s and say that you have many happy memories here.

Also think about how you can portray moods or emotions through camera techniques. Lighting for example is a great way to portray feelings! Size is also important, especially in relation to other things. Maybe you want to show that something is important by taking up the entire frame, or if it has little meaning, you may zoom out the camera.

These cameras allow you to tell your story about food however you want to. Feel free to be creative! There is no right or wrong way to do this. All you need is a reason behind your photo!

Are there any questions?

Hand out cameras.

Please give your camera a name, and write it on the sticker on your camera, and then show it to us so we can keep track of it. Please return cameras to Layah or Tania here at the CLC by Monday October 17th.

12:45-12:55 Brief photography lesson

How to use camera

- On/off button
- Taking photos
- Zoom
- Viewing photos/scrolling
- Deleting photos

How to take a good picture

- When to use close-up vs. landscape
- Off-center vs. centered
- Candid photos

12:55-1:00 Wrap-up
Before you leave, we would really appreciate it if you took a minute or two to complete this short survey. We will take this feedback and hopefully make our next meeting even better.

The next workshop will be in three weeks on Oct. 22nd, same place and same time. We’ll be working with the photos you take, so please be prepared to discuss what you took and why. Are there any questions? If you need more help with the camera, please stay a few minutes and we’ll help you. Thank you so much for meeting with us, and we look forward to seeing you all again soon!
Workshop 2: Conceptual Mapping & Photovoice

10-10:20 Sign-in & Breakfast

Icebreaker question: Say your name as a reminder for everyone, and answer ‘What is the best memory you have of a meal or a time around the dinner table?’

We’ll be doing a number of things today:
1) Brainstorming and organizing your ideas about the community
2) Mapping your community, especially things about food and food access
3) Talking about the photos you all took the last few weeks, and working with them to create a poster
4) Looking ahead to what you would like to see in your community in the future

Like last time, feel free to ask us or a friend if you have any questions.

10:20-10:50 Conceptual Mapping

Today, we want to think about how you feel about your community, both what worries you and what you think are good things about the community, or things that help you deal with your worries.

Can everyone take out their journals and on a new page list anything that worries you during the week. These can be big and small worries. [May need to provide examples: homework? mean people at school? scary person at the bus stop? scary house you have to walk by? speaking a different language than someone?]

Once you are done, write these worries in order of how often you feel them on the worksheet. After that, rate its impact on your life on a scale from 1-10 on the far right column of the worksheet. 1 means that it does not have that much impact on you and your normal day or week, 5 being that it has an impact that changes how you go about your day or week, and 10 being huge, that it has a life changing impact.

I want you to do the same thing with the good things or helps in your community. List anything you can think of on a new page in your journal. [Again, may need examples: family? friends? neighbors? church? park? police?] Then rank them based on how often you notice them or feel them, and then rate them based on impact. 1 means that it doesn’t help that much, 5 that it does help you, and 10 that you need that help or good thing to live a happy life.

Now, write all your ideas for worries on red stickies (one idea per stickie) and write all your ideas for good things on green stickies (one idea per stickie). Once you are done, come up front and put them on the board.
Once everyone is done and posted their ideas: how can you sort these ideas into groups? Are there any similarities you see? As a team, sort all of the ideas into however many groups make sense to you.

Once they have them sorted: what would you name each group?

10:50-10:55 Break

10:55-12 Sketch & Spatial Mapping
Last time we spent a few minutes looking at a map of your neighborhood, and thinking about places that were important to you. You also wrote in your journal about where you get food and have now gone out and taken some pictures, too! One interesting thing is that food is all around us! It isn’t just about your house or your favorite grocery store, but there are a lot of places you might get food. Raise your hand if you eat at school? If you want to eat out, where do you go (with family, with friends)? Do you ever stop anywhere for a snack? We want to spend the next hour or so mapping our communities including the places we get food. One thing I’m also going to ask you is to talk about your feelings at different places. This is important because places can make us feel different things. Have you ever been to a park or a shop that was dirty or had people in them that made you feel uncomfortable? Have you ever been to a place that made you feel happy and at home? We’re going to try to think hard about what feelings we get in the places we map, and use symbols to map those feelings.

We’re going to start by having you create your own map. It doesn’t have to be perfect with all the right sizes or distances between the different things you put on it, it just needs to be a rough map of where places in your community are.

[Show a rough example of my neighborhood for each step on one of the flip charts]

First, I want you to map places relevant to community (same as you did last time: home, school, church, parks, stores), and then think specifically about where you get your food and make sure those places are also mapped.

Next, map the routes to get there (and mark how you get there whether it be car, walk, bike, bus). Ask yourself, is it easy to get there? Do you feel safe getting there? Map this emotion using emoticons or color. If you make new symbols, make sure you write what they mean in your journal or on the back of the map.

What is it like at this place? Map an emotion about your experience at this place. How does it make you feel to be there? How are you treated? Please map this emotion using emoticons or color.
For facilitator at each table: Are the stores/places you mapped close to home (could you walk to them if you needed to)? If not, what stores are closer to your home? Please map them. Why don’t you go there? Please map your emotions about this place using emoticons or color.

Once they are about done and if we have time: Now I am going to pass out street maps of the neighborhood. If any of the things you mapped fit on this map (it is okay if they don’t), please copy them onto this map, too.

Based on what you mapped, think of a few things that seem to be good and bad about your neighborhood for accessing food, and write them in your journal.

12-12:20 Lunch
Decide on next workshop’s theme for lunch.

12:20-1:20 Discussion of Photos

Can I please have everyone’s attention! For this next part of the workshop, we are going to be working with the photographs you have taken. Let’s all go into the next room for this activity. Everyone please sit in a circle on the floor for our sharing activity. I am now going to pass out your photographs.

[Pass back photographs to each youth]

We are now going to share and discuss your photographs. Everyone please pick five photographs that you want to share with the group. We are going to go around the circle and have each person share his or her five pictures. When you are sharing your photographs, please answer all of the PHOTO questions you see here on the flip chart.

Describe your PHOTO
What is HAPPENING in your picture?
Why did you take a picture OF this?
What does this picture TELL us about food and access in your community?
How does this picture provide OPPORTUNITIES for us to improve food access in your community?
*This last question might be tough*

[Have PHOTO questions already written on the flip chart]
[Go around the circle and have each youth share their pictures]

1:20-2:20 Photo Themes & Collage

Thank you everyone for sharing your pictures. You captured some really interesting things! Now I want us to think about whether or not you see any common themes in these pictures.
Can anyone think of a theme or similarity between two or more photographs?

[Listen to any thoughts or suggestions]
[Have a few suggestions prepared in case youth are unresponsive (gather these after downloading photos)]

I am going to pass out some cards and markers to each of you. I would like you to try and write down two-three themes that you see in these pictures. Please write down one theme per card. Feel free to discuss with the people next to you if you are feeling stuck!

[Pass out cardstock and markers to each youth]

Now we are going to go around and have everyone share your ideas for themes and see if anyone else has the same themes. Then we are going to place pictures into these different themes.

Ask the youth:
Individual: What is/are your theme(s)?
Group: Did anyone else write down this or a similar theme?
Individual: What pictures do you think fits this theme?
Group: Does everyone agree with the placement of these pictures in this theme?
Does anyone think that these pictures shouldn’t be in this theme? Does anyone think that other pictures also fit this theme?

[Go around circle until each youth has shared their themes and pictures have been placed in themes.]

If:
- Pictures are left out and not put in themes: Have photographer recap the photo’s meaning/significance and ask he or she if they think it fits any other theme or whether a new theme should be made.
- People disagree about which theme a picture should go into: have the photographer make the final decision based on what he or she was trying to capture in the photo.

Now that we have placed all of the pictures into themes, I want us to think about whether these things help your community have good food access or not. I am going to break you up into four different groups and assign you each to one or two themes.

[Flip to definition of food access on chart.]
[Break youth into four groups and assign each to theme(s). Pass out stickers to each group.]
[Katie, Angie, Nelson, and I each sit with one group to take notes on discussion.]

I would now like you to place the photographs in your theme into 3 categories. Look at the photographs and think about their meaning. Try and think about whether these pictures show something that either helps your community have good food access, hurts your community’s food access, or neither helps nor hurts. If you think a
picture helps you have good food access, then place a green sticker on the bottom right corner. If it hurts your food access, place a red sticker on the bottom right corner. If you think it doesn't help or hurt your food access, place a yellow sticker on the right bottom corner.

Does everyone understand what I am asking? Does anyone have any questions?

The four of us should ensure that each group understands what to do and facilitate/initiate discussion if necessary.

Now that we have placed all of our pictures into themes and categorized the pictures within the themes, it is time to make them into a collage!

Get out posters and double-sided tape

One person from each group please put your theme on the poster. Make sure to leave enough room between themes for all of the photographs. Please tape your pictures under your assigned theme. Put the pictures you labeled with green stickers on the right, yellow pictures in the middle, and red on the left.

Show an example of placement.

After all photos have been put on the collage, ask youth:

What color do you see the most of? What do you think this means for food access in your community?

2:20-2:30 Revisit the cause & effects map
Ask if they would like to add any other causes or effects based on our conversations and activities.

2:30-2:55 Intro to Visioning & assignment instructions

Now that we have a better idea of how, where, and why you access food in your community (from your mapping exercises and photos), I want us to think about what and how you would like to access food in your community.

Think about what you would like to see for food in your community in the future. Try not to let the present, or how/why/where you currently access food, influence what you want to see in the future. It’s okay if you think your ideas are a little unrealistic or ideal (different word maybe: like a dream?). Thinking about the future in this way is called visioning.

Does anyone have any questions so far?

When you are thinking about what you would like to see in your community for food, I would you like to keep in mind some of the pictures you classified as bad for
food access. Think about why you thought these were bad and how could you make them better. Think of how you can address these problems in your future vision of food for Canyon Corridor.

You will also want to think about the definition of food access when creating your future vision. What kinds of things will help everyone in your community be able to access and afford safe, healthy food that also meets their cultural needs?

[Flip back to food access definition on chart.]

[Pick a few examples of ‘bad’ pictures and ask the youth if they can think of any way to address this problem or things that they would like to see that can make food access better. May need to give an example myself if youth are having difficulties.]

Now, I know it is kind of hard to think about the future, and especially hard to think about ways to improve your community’s food access. After all, lots of people spend their whole lives trying to solve this problem! So I want to give you a few examples of things that other communities have done to help improve their food access.

[Show movie clip and/or pictures] *Need to finalize

These are just ideas and examples that other communities have done. You do not have to include these in your vision; they are just examples to get your creative juices flowing!

What I would you like you to have ready for our next workshop is at least two ideas of things you want to see in your community that will improve food access in the future. Try to be creative and portray your visions in a photograph using your digital cameras. For example, you can take a picture of a garden or a marketplace or a store if these are the things that you envision for your future community.

You can also do more creative things like build something out of legos or play-dough and take a picture of it or use other objects around your house to make things. Be creative and have fun!

If you are having a hard time showing your vision/ideas in a photograph, then you can also draw it or write it down in your journal. Just make sure you have some good ideas to share with the group at our next workshop because we will be coming up with ways to reach these visions!

2:55-3 Post-workshop survey & reminders about upcoming dates!
Workshop 3 Guide: Visioning & Strategy Building

10:00-10:20: Breakfast

10:20- 11:00 Vision Sharing

[Collect cameras as youth enter the workshop & begin downloading photos while everyone eats breakfast]

Hi everyone! Once you have finished eating, will you please get out your notebook and a pen for our first exercise? I would like you to write a brief description of the pictures you took or drew for your future vision. When writing your descriptions, think about these questions:

What were you trying to show or capture in your picture?
What does this tell us about your vision for food in your community?
What would we see for food in 2030?
How is this different or similar to food in your community now?

[Finish downloading photos and get ready for slideshow.]

[Collect journals when youth are finished and order according to picture presentations.]

Now we are going to look at the pictures you all took. While we are looking at the pictures, I am going to read out loud the description for each picture to the group. This way, we will have a better idea of what the photographer’s vision is and how they showed it with a picture.

[Layah may need to read/translate a few of the descriptions.]

[Go through slideshow and read each description for every photo. Ask photographer if they have anything else they would like to add.]

[Katie- as Layah and I are reading off themes, write down key points on sticky notes. Label each sticky with a number according to the photographer. If one vision incorporates multiple aspects, put each piece on separate sticky. This will help facilitate the organization of visions into categories/themes.]

[Put each sticky note on the flip chart.]

11:00- 11:30 Vision Analysis

Now, can anyone think of any themes or similarities between two or more of the pictures? Is it possible to make categories for our visions?

[May need to give an example]

Lets have everyone come up here and try to put these visions into groups.
[Let youth sort visions into groups]

Now looking at these different groups you have made, what titles would you give them or how would you label them?

[Have youth decide on titles and ask them to write them above the different groups.]

So looking at these different categories, it looks like for the group as a whole, your future vision for Canyon Corridor includes these things: a, b, c, etc….

[Write titles/descriptions of vision groups on another flip chart.]

Now that we have seen all of the pictures, does anyone have any other ideas and visions to add? Is there anything else you would like to see for food in your community that was not already shown or discussed? If so, please write it in your journal right now and share with the group.

[If youth add anything, write it on another sticky note and ask where it should be placed.]

Now that we have our visions sorted into groups, we are going to think about whether or not this group vision helps food access in your community. Remember that food access is access to healthy, fresh, affordable, & culturally appropriate food.

I have written healthy, fresh, affordable, and culturally appropriate each on separate sticky notes. I want us to look at each group and the different visions that make up the group. When you look at the group, think about if the visions in the group help promote your community’s (or your?) access to healthy, fresh, affordable, & culturally appropriate food. If you think it does, place that sticky note under the title of the group written on this flip chart.

For example, if you think this group (point/call out group) will help you have access to healthy food, then put the healthy sticky note by that group. Do this for each group.

[After kids are done organizing, have everyone step back and look at the stickies.]

Now tell me, you placed healthy with x group. Why did you do this? Does everyone else agree? Does anyone disagree?

So what does everyone think about these visions? Do this collective vision for food in Canyon Corridor promote good food access? Are we missing any of the colored stickies (aspects of food access)? If so, can we add anything to the list to meet this goal? Should we take anything away?
Now, let’s step back and look at the flip charts.
Do we think that these visions will help food security/access in your community?

**11:30-12:00 Vision Narratives**

Now we are going to break into two groups and write out a story that includes all of these visions you just listed that you want to see in your community in the future. Your story will take place ten years from now in Canyon Corridor. When you are writing your story, think about the picture you want to paint for your listeners.

Who are the characters in your story?
Where are they?
What do they see?
What do they do and why?
What do they feel around them?
How do they feel inside? Why?
What do they experience?

[Evolve stories into the directions (i.e. Matt & Kim are walking down the street…)]
[Play inspirational music]

[Have one note-taker per group; Katie & I can split between groups to facilitate.]

Now that you have created your stories painting the pictures of your future visions, we are going to share with the group.

Would anyone like to volunteer from their group to read their story? If not, I can read your visions to the group.

Now everyone close your eyes while the visions are read! Use your imagination to picture these stories in your head!

[Have music still playing. Read out stories.]

What did everyone think about these stories?
Was it easy for you to picture the vision in your head?
Do you think your story paints the picture of what you want for food in your community?
Did the stories cover all of the visions you put on the flip chart?

If everyone is happy with these visions and do not have anything to change/add, then we are going to take these visions and begin to think about what kind of steps we need to take to reach these visions!

*Katie leaves @ 11:30 to pick up lunch*
Identify Strategies
You have worked with Briar to think about visions for the future, and specific things or themes you want to see in your community. Next, we are going to think about how we can work together to see if these ideas deal with the problems we talked about the last few weeks, and then how we can make these things happen.

First, let’s think of a few ideas or projects from the visions that we want to work on now. Which are most exciting or important? Which do you feel you could help create? *This will depend in great part on how the morning goes, so we’ll be flexible on this.

Second, there are people and groups already working on some of these issues of food access, like the Community Life Center we are in right now! Some of the projects they want to work on are:
1) Community gardens, like the one right outside
2) A community market, probably on 27th Ave & Camelback. This would be an outdoor market where farmers bring fresh vegetables and fruit and other food things to one place a few days a few. Has only ever been to a market like this?
3) Last thing, is that they are interested in “mobile” or traveling markets, so stores can sell food from a large truck or trailer that can travel around neighborhoods, and go to people rather than have people go to it!

Consider Context
One thing that is important when thinking about solutions or these projects, is if they deal with the right problem and right strengths in the first place. So let’s try to remember all of the things we’ve done together that have tried to understand the problem and strengths of your neighborhood: cause & effect, worries & helps, maps, and photos.

Some of the causes of poor food access and worries you talked about were: taste, convenience, distance, not caring, not knowing, cost, family troubles, bullying/gangs/violence, transportation, language, jobs, health, and school

Some of the good things or helps you talked about were: community (government, police, working together), church, family, friends, education.

We want to know whether the ideas you just talked about help solve some of these problems, or will still work given that these problems exist. For example, a market won’t help if the cost of the food is too high, if people can’t get there, or if they can’t speak the language. A garden might not work if there is a lot of violence in the area.

When thinking of your visions or project ideas, it also makes sense that they would include some of the good things so you work with the strengths of your neighborhood, like work with the community.
Have a sheet off the flip chart with the Idea/Yes/No/Improvements and have all of these problems on red stickies and helps on green stickies. Prepare 6 sets. Do the next activity as one large group.

What I want you to do is write the project idea on the top of the page. Next, ask yourselves “Does this idea deal with this problem/help?” and organize the stickies into a “Yes” and “No” side of the paper.

Propose Solutions
Now that you are done putting all of the stickies on the sheet, let’s think about how we can change the idea or project so it deals with some of the problems and helps on the “No” side of the sheet.

First, does every idea need to address every problem or include every help? [My answer should be something like, no not every one, but we should try our best!] How could you change the vision to make sure it deals with some of the problems on the “No” side? Can you think of small changes to make it better? Does this idea need to be part of a bigger project? Talk as a group, and if you can think of any changes, write your ideas on the bottom of the page.

[Repeat the same process for all other ideas/projects.]

1:30-1:35 Break

1:35-2:30 Action Plan
Now that we know what ideas/projects we want to see, and have thought about how they can work best in this neighborhood, let’s think about making an action plan. We want to make an action plan, a report, to communicate what you have decided together, and see who might help you, and what things you need to make the change.

What we are going to do next is make an outline of an action plan as a group. [If they are unresponsive to questions posed to the group, they can work in pairs/small groups and write ideas in their journals and then share them out.]

First, let’s think about what will be done, and who will do it. [Brainstorm and write up on the first flip chart]

Next, let’s think about the steps we would need to take to do each thing, and when, where, and who will do that step.

Last thing, let’s brainstorm some of the resources we would need to make this happen. These can include time, knowledge/skills, materials, and money. Try to be specific.

Great! Making an action plan can take a lot of time--there are still a lot of things we don’t know, but this is a good start! This is also important because now we can share this plan with our families and other people in the community and see if they agree, and where they can help.
2:30-3:00 Wrap-up
- Discuss final event--get a rough sense of who can come, and who they have invited, tell them that they can hopefully help answer questions and talk about these things with people as they look through the posters and explanations of the findings.
- Post-workshop empowerment survey
APPENDIX E

RCDC REPORT
YOUTH PERSPECTIVES AND FUTURE VISIONS OF FOOD SECURITY IN CANYON CORRIDOR

December, 2011

Prepared by:
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Arizona State University

In Partnership with:
Rehoboth Community Life Center
**INTRODUCTION**

Food security describes whether people have good, healthy food choices available, whether they can access or get to these foods, and whether they can afford the food they need.

Our physical and social environments are thought to affect our food security and ultimately diet-related health outcomes.\(^1,2,3,4\) Unfortunately many urban food environments do not promote healthy lifestyles. “Food desert” and “food swamp” metaphors capture the dual challenge of both a lack of healthy food options and the prevalence of fast food or junk food.\(^5\) Poor food environments affect socially and economically marginalized communities most.\(^6,7\) Food insecurity, obesity, diet-related diseases, and social disenfranchisement are all symptoms of an unsustainable food system in which access to healthy food opportunities is limited.\(^8,9,10\)

Sixteen teenagers participated in three Saturday workshops during Fall 2011 to explore food security and its significance in the Canyon Corridor neighborhood in west Phoenix, AZ. We, Briar Schoon and Katie Talbot, are graduate students in Arizona State University’s School of Sustainability, and organized these workshops with the support of Rehoboth Community Development Corporation (RCDC). The purpose of the workshops was to explore what food security means to teens in this neighborhood, and better understand the challenges and strengths that hurt or help food security. From there, the group created ideas of what they would like to see in the future, and how the community could help improve food security.

These workshops were an effort to provide a more neighborhood-specific assessment of food security that provides a snapshot of people’s actual experiences, and different perspectives than a traditional, physical assessment of available food stores. This understanding of community food security can help inform strategies that are relevant, effective, and promote
community participation in addressing food issues. By focusing on youth, we were also able to include the voices of our ‘future generation’ and those arguably most affected by poor food environments as evidenced by alarmingly high rates of childhood obesity.\textsuperscript{11}

**FOOD SECURITY IN CANYON CORRIDOR**

We worked with Rehoboth Community Development Corporation (RCDC), an organization committed to community development and economic revitalization of Canyon Corridor. Our work was based out of RCDC’s Community Life Center near Camelback Road and 29th Avenue. The majority of the participants lived within walking distance of the Center.

Canyon Corridor is a very diverse, but struggling neighborhood. According to RCDC leadership, the community has historically had high rates of crime. The average household income is below the national poverty level, housing options are limited, and there are insufficient amenities (including quality food stores). RCDC describes challenges at Canyon Corridor such as lack of retail and high rates of abandoned homes as the result of “lack of community and economic development.”
Thus, Canyon Corridor is home to many of the contextual factors that are thought to affect food security (e.g. crime, poverty, social marginalization). A number of studies suggest this is the case as well. ASU’s Herberger Institute and Stardust Center conducted planning charrettes in Spring 2010 to explore issues in the built environment that affect physical activity and healthy eating, and identified concerns about walkability and safety. ASU’s Local Food Working Group also facilitated a community food assessment in Summer 2011. Trained community members used the Nutritional Environment Measures Surveys (NEMS) to assess food access and the quality and affordability of the available food outlets. The assessment found that Canyon Corridor had low availability of healthy food options. Overall, these assessments suggest that Canyon Corridor is vulnerable to food insecurity. Our research seeks to extend these assessments past the physical environment to better understand how people experience the food environment, and how community strengths can be harnessed to start to address food security issues.

OVERVIEW OF WORKSHOPS

We facilitated activities over three five-hour Saturday workshops between October 1-November 5, 2011. These workshops were designed to learn what community youth see as the problems and positive assets of the food environment in Canyon Corridor, what they see as the ideal future for their food system, and how their visions can be adapted to the Canyon Corridor context.
We worked with sixteen youth throughout the workshops, ages 12-18 years old. Fourteen of the participants were resettled refugees residing in the Serrano apartment complex and two were Hispanic youth from the community. Recruitment occurred via posters and handouts at the Community Life Center, as well as outreach through apartment complex managers and identified community leaders. While our participants are not a representative sample of the youth population in Canyon Corridor, our study does provide insight into a specific population (i.e. refugee youth) with distinct food needs, as well as a framework for incorporating participatory methods and youth into the discussion of food in Canyon Corridor.

Various Workshop Activities: Strategy Assessment, Visioning Narratives, Photovoice
UNDERSTANDING YOUTH PERSPECTIVES OF FOOD SECURITY

We began with interactive sessions in which the group brainstormed why some people are not food secure, or why there might be food deserts and food swamps in some places. Participants also brainstormed the effects of poor food security. After they brainstormed ideas, they worked together to group the ideas into categories. Youth finished by reflecting on their own household’s food security.

At the second workshop, the group thought about community challenges and strengths and factors that might help or hurt food security, even if indirectly. They brainstormed what worries them, and what helps them deal with their worries. Again, they worked together to group their ideas into categories.

To explore how some of these challenges and strengths in the community might affect food security, the youth created individual sketch maps. They mapped:

- Important places in their community (home, school, church, parks)
- Places they get food
- Routes to get there (whether it be by car, walking, bike, or bus)
- Feelings at places and along routes using different faces or colors

For instance they considered whether it is easy to get there, if they feel safe getting there, how they feel in each place, and how they are treated in each place.

Another way to capture youth perspectives of food security and their community is through photographs, which is a method called photovoice. During the first workshop, each youth received a digital camera and was asked to take photographs of things that influenced how/where/why they ate the food they did and other things they felt affected their food security. They were encouraged to think about their mapping exercises and discussions during workshops when taking pictures. The youth were invited to include both good and bad aspects of their community, as long as they were meaningful to the youth and could be related to food security in discussion.
During the second workshop, the youth chose some of their pictures to share with the group. They were asked to describe the picture, explain why they took the photograph, discuss its relevance to food security, and try to think about potential opportunities the picture posed to advance food security. After the discussion, the youth organized the photographs into different categories and assigned each photo a color-coded sticker depending on whether the picture portrayed something that helped or hurt the community’s food security (i.e. red- bad for food security, yellow- doesn’t hurt or help food security, and green- helps food security).

**Creating Future Visions for Food Security**

After exploring some of the more contextual factors to food security in Canyon Corridor and having a better understanding of how, where, and why the youth accessed food in their community, the youth were asked to think about what they would like to see for food and how they would like to access food in their community in the future. Specifically they were asked to keep in mind the photos they had classified as bad for food access and think of ways to help address these problems, and to think of things that would help their community’s food security. They were encouraged to not let the present, or how/why/where they currently accessed food, influence what they wanted to see in the future, even if they felt their ideas were unrealistic. Thinking about the future in this way is called visioning.

To facilitate the visioning process, the youth were first asked to be creative and try using their cameras to portray their future visions in a picture. During the final workshop, the youth were shown a slideshow of the visioning photos, and each youth described their photograph and how it relayed what they would like to see for food in their community. Afterwards, the youth were encouraged to share any additional visions they had that were hard to show in photos or not yet discussed.

Once everyone had shared their visioning ideas, the youth arranged the visions into different categories and gave them each a title. Next, the youth went through each category and determined whether or not it helped advance food security in the community by looking specifically at the criteria: healthy, fresh, affordable, and culturally appropriate. Not each category advanced all four criteria, but the youth determined that as a whole, all categories combined into one group vision, food security was advanced. Afterwards, the youth broke into two
groups to write a descriptive narrative of food in Canyon Corridor in ten years that incorporated some of their visions.

**EXPLORING STRATEGIES TO IMPROVE FOOD SECURITY**

After the visioning activities, the youth identified four main strategies to help improve food security in Canyon Corridor: Gardens, Farmer’s Markets, Mobile Markets, and More Grocery Stores. These are very similar to existing and proposed projects from RCDC and other community groups. We wanted to explore whether these strategies would work well in Canyon Corridor—that is, that they would help address major challenges, and take advantage of the community’s strengths. So the group considered the challenges and strengths they identified in earlier activities, and decided whether the projects dealt with each challenge and included each strength. Next, they brainstormed how they could improve the projects to make sure they deal with these important community factors.

**FINDINGS**

**YOUTH PERSPECTIVES ON HOUSEHOLD FOOD SECURITY**

**Causes & Effects**

Youth brainstormed the following causes and effects of food insecurity:

<table>
<thead>
<tr>
<th>Causes</th>
<th>Effects</th>
</tr>
</thead>
<tbody>
<tr>
<td>People are busy</td>
<td>• Obesity</td>
</tr>
<tr>
<td>Good stores are too far</td>
<td>• Hunger</td>
</tr>
<tr>
<td>No transportation</td>
<td>• Health problems</td>
</tr>
<tr>
<td>People like the taste of unhealthy food</td>
<td></td>
</tr>
<tr>
<td>People don’t care what they eat</td>
<td></td>
</tr>
<tr>
<td>People don’t know better</td>
<td></td>
</tr>
<tr>
<td>Healthy food is expensive</td>
<td></td>
</tr>
<tr>
<td>Bad food is everywhere</td>
<td></td>
</tr>
</tbody>
</table>

Causes focused primarily on individual choice or limitations (taste, time, knowledge, apathy), and some on the food environment (ubiquity of bad food, cost). Effects focused on health outcomes.

**Community Challenges & Strengths**
Responses to the challenges and strengths exercise fell within the following youth-designated categories:

<table>
<thead>
<tr>
<th>Worries</th>
<th>Helps</th>
</tr>
</thead>
<tbody>
<tr>
<td>School</td>
<td>Education</td>
</tr>
<tr>
<td>Violence (gangs, drugs, bullying)</td>
<td>Family</td>
</tr>
<tr>
<td>Family</td>
<td>Friends</td>
</tr>
<tr>
<td>Transportation</td>
<td>USA</td>
</tr>
<tr>
<td>Health</td>
<td>Mentors</td>
</tr>
<tr>
<td>Littering</td>
<td>Medicine</td>
</tr>
<tr>
<td>Home Country (war in Burma)</td>
<td>Community (police, government, help from others)</td>
</tr>
<tr>
<td>Language (do not know English)</td>
<td></td>
</tr>
<tr>
<td>Jobs (unemployment)</td>
<td>Church</td>
</tr>
<tr>
<td>Distractions</td>
<td>Helping Others (translating)</td>
</tr>
</tbody>
</table>

Everyone rated each worry and help based on how much it affected his or her daily life and wellbeing. See Appendix A for graphs that show these results.

**Sketch Mapping**

While every map was different, most of the youth mapped positive places and happy feelings at home, church, and elsewhere. However, some youth mapped challenges including being scared due to fighting or gang activity in the parks and malls, or due to traffic when walking. Another map includes a “mad” emotion because an Asian ethnic foods store and other quality markets are too far away (over ten miles) and the weather is too hot to travel there. Some maps include sad and scared faces because of language barriers and “not knowing what is going on” in school and in some markets.

*One of the sketch maps*
Photovoice

The youth took many photographs of food they deemed to be healthy, such as vegetables, fruit, milk, butter, and meat. However, during discussion many of the youth admitted that they didn’t necessarily eat a lot of these items, particularly fruit and milk, but that they recognized their importance for a healthy community. Vegetables and meat appeared to have a strong presence in most of the youths’ diets.

Cooking and eating at home were popular themes in the youth’s photos. The youth saw cooking and eating at home as helpful for food security because they can cook and eat whatever they want, and they thought that most of the food was healthy. These pictures also prompted discussions about the importance of family and the strong community present in Canyon Corridor. For example, eating as a family was an important value to the youth. The youth from Serrano Village discussed their open-door policy, where all members of the community are always welcome to dine and even stay with one another at anytime.

Many of the youth discussed the importance of transportation and personal vehicles for helping food security. Most of the stores were not within walking distance of the youths’ homes. Further, the youth discussed the heat and difficulty of carrying multiple bags as reasons for needing a personal vehicle to go food shopping. Since not everyone in the community has a car, many of the youth’s families carpool and share vehicles.

The youth primarily shop at four stores: Lee Lee Oriental Supermarket, Fry’s Food Store, Ranch Market, and Food City. Fry’s Food Store, Ranch Market, and Food City are nearby the community, but not within walking distance according to the youth. However, Lee Lee Oriental Supermarket, which is the predominant grocery store destination for the refugee youths’ families, is inconveniently far—about a forty-minute trip one way. Thus, the store sends a shuttle when the families want to do their shopping. The youth also saw shopping and preparing food at home as a better value than purchasing fast food that only lasts for one meal.

Photographs from the photovoice activity and their associated descriptions in the youth’s own words are displayed at RCDC, and also available upon request.
**FUTURE VISIONS**

Health was the most recurrent theme among the visions of the youth and was also an underlying reason for many of the other visions discussed amongst the group. The youth had a strong desire for a healthy community—comprised of healthy food, both nutritional and safe (free of chemicals), less fast and unhealthy food, and more people exercising. Such visions also suggest a concern for community wellbeing.

Access and convenience, referring to both distance and time, as well as affordability were also consistently mentioned in visions. For example, many youth want to see more food stores like Lee Lee, Wal-Mart, Food City, and Ranch Market closer to their community. There is also a desire for mobile food carts that will come to the community so residents don’t have to deal with transportation. Gardens also pose a transportation-free and convenient way to get food. Further, desire for healthier convenience emerged in visions such as: “more fruit because it is quick to grab and eat and healthy as opposed to other quick food like fast food.” The desire for affordable food was apparent in the types of stores desired, as well as more explicit visions such as gardening to save money and cheaper organic food.

The youth arranged their personal visions into group categories, which they titled: healthy life, food businesses, personal/wellbeing, community, gardening, less expensive, and other. Please see an overview of the youth visions in Appendix B. The youth determined that the healthy life category met the criteria for: healthy, fresh, and culturally appropriate. They felt that food businesses would meet the criteria of healthy and affordable, and would maybe meet the criteria of fresh and culturally appropriate, depending on what food the store sold. The youth decided that personal/wellbeing category met the criteria for healthy and culturally appropriate. They believed that gardening would meet all four criteria (healthy, fresh, affordable, and culturally-appropriate), but that the community category was not applicable to food security. Finally, the youth felt that the category of less expensive would possibly meet the criteria of healthy, but would definitely meet the criteria: fresh, affordable, and culturally appropriate.

Please refer to Appendix C for the Visioning Narratives written by the youth.
**Proposed Strategies**
Youth performed a strategy assessment for the four proposed strategies: Community Gardens, Mobile Markets, Farmer’s Markets, and Grocery Stores. The complete assessments of whether each project helps address major challenges and takes advantage of community strengths are presented in Appendix D.

<table>
<thead>
<tr>
<th>What do these strategies mean?</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Community Gardens</strong></td>
</tr>
<tr>
<td>Any piece of land gardened by a group of people.</td>
</tr>
<tr>
<td><strong>Mobile Markets</strong></td>
</tr>
<tr>
<td>Markets that operate out of a large truck or trailer that can travel around neighborhoods.</td>
</tr>
<tr>
<td><strong>Farmer’s Markets</strong></td>
</tr>
<tr>
<td>Outdoor market where farmers or other vendors bring fresh vegetables, fruit and other items to sell directly to customers on one or more days a week.</td>
</tr>
<tr>
<td><strong>More Grocery Stores</strong></td>
</tr>
<tr>
<td>An effort to attract more full-service grocery stores closer to the Canyon Corridor neighborhood.</td>
</tr>
</tbody>
</table>

Based on these assessments, it does seem like youth have important suggestions for improvement. For instance, the youth suggest:

- Gardens within apartment complexes
- Project should be located in a safe place to address concerns of gang activity
- Projects should include some sort of translation and educational services to address language barriers and a lack of knowledge about healthy foods and cooking

This activity also helps show some constraints to these strategies. When asked if they could think of a place closer to home that is also safe enough for a grocery store or garden, they said there wasn’t any—“Violence is everywhere!”

**Synthesis**
Youth perspectives of the community were very illuminating. Food issues were not listed as a worry or challenge because the
youth don’t see this as a primary concern. According to the group, other issues like school demands, unemployment, language barriers, drug use, and troubles in the family or home country are more pressing. Since most of the youth were not born in the USA, they noticed that just living in this country is a huge help because there are more resources available to them—including food. Thus, their perception of the food environment is quite positive, especially when compared to the situation in their home countries.

Still, there are definite challenges and areas for improvement, both in community issues more generally, and in particular aspects of the food environment. While the youth did not identify Canyon Corridor as a food desert, they did discuss that they had to travel long distances to get to quality markets (especially those that carry culturally appropriate foods) and that several families experience transportation difficulties. The youth also discussed the lack of quality, fresh produce at some of the stores in the area. In the worry activity, sketch mapping, and the strategy assessment, youth also brought up safety concerns. This shows that these major concerns need to be addressed alongside food security measures; otherwise projects might not be successful in Canyon Corridor. Youth were also concerned about the lack of knowledge and awareness of healthy food options, and more of the personal factors that might contribute to poor food choices.

On the other hand, we found that this group is able to overcome what would be food insecurities due to the strength of community and high levels of collaboration, especially among the refugee population. Such strategies as using a shuttle to get to the ethnic food market, carpooling, communal meals, sharing resources, and peer translating all help this group be food secure.

**Recommendations**

One of the main objectives of this report is to serve as a mouthpiece for the youth and recount their perspectives. Moving forward, we also have suggestions for how to use the information outlined in this report and potential next steps.

**Community & Youth Involvement in Programming**

We believe that incorporating participatory aspects into program design is essential for community development. Without buy-in
from community members, proposed strategies are less likely to address the contextual problems and therefore less likely to succeed. One sub-population that is consistently left out of community decision-making is youth, although they are an important population as they consist of the next generations’ stakeholders. From our experience with this small group of youth participants, they show a strong interest in becoming involved with community issues and future movements. Thus, we strongly encourage inclusion of youth perspectives into future program design.

There are several outcomes of the workshops. For one, there is clear participant interest in healthy communities and promoting a healthier food environment. Although the youth already believed that they were potential change-agents in their community, they expressed a sense of increased empowerment upon completion of the final workshop and desire to participate in strategy implementation. Second, there is already a strong community network devoted to addressing community development issues. Our findings can supplement any future strategies of such organizations by providing evidence and justification for future grant and project applications, particularly those emphasizing food security, healthy living, youth empowerment, and community development.

**Potential Strategies**

There is still debate about whether diet-related health issues are a function of the social and physical environment, or whether they stem from personal preferences, knowledge, and behaviors. Youth highlighted both areas as potential drivers of the problem, but with more emphasis on the personal. When it came to intervention strategies, however, the focus was much more on improving the food environment and providing more options. It appears that any successful program will likely need to address both aspects of health disparities.

The youth decided that they would like to see the Canyon Corridor community work on all four proposed strategies, although they said that attracting more stores is up to business owners, and they didn’t know what they could do to make this happen. The youth said that working to create apartment gardens, a farmer’s market, and mobile markets are important projects their community could start now.
There are other potential strategies, which were not explicitly mentioned by youth, but based on our findings, may be worth pursuing in the future. Some examples focus more on personal interventions such as:

- Cooking classes
- Nutrition education
- Community events centered on food

Cooking classes, particularly ones that are culturally-relevant and utilizing local, seasonal food could provide community members with skills to utilize available foodstuffs to cook healthy meals, which are often more cost-efficient than purchasing processed, pre-prepared meals. Nutrition education could be combined with cooking classes or separated and adapted to various cultures within the community, emphasizing strengths and weaknesses of the cultures’ predominate food habits. Youth responded positively to the idea of such classes, and reported that one of the main takeaways from the workshops was a better understanding of what healthy food is. Finally, given the strong sense of community already present in Canyon Corridor, community events or socials that focus on food have great potential to address some of the issues threatening the community’s food security. The youth voiced a desire for more community socials with food, and cooking and/or nutritional classes could easily be integrated into such events. RCDC has offered some of these types of events and learning opportunities at a smaller scale, but could consider how to expand these activities and partner with other organizations to do so.

Other strategies focus more on changing the food environment or providing better access to healthy foods. The youth’s proposed strategies fit within this group. Other potential strategies include:

- Expanded shuttle services
- Urban farms
- Incentive programs for corner stores to carry healthier food options
- Community Supported Agriculture (CSA) programs or other web-based food stores

Shuttle services to grocery stores appears to have great potential, as the youth relayed the success of such an existing
service with Lee Lee’s and identified access to transportation as essential for grocery shopping. Rather than just focusing on smaller-scale food production, an urban farm model might make more economic sense and provide higher yields. Other areas of the nation including New York City have successfully implemented corner store improvements to increase availability of healthy food options in existing food stores. CSA programs and newer models of online food purchasing might also bring fresh, healthier foods into the neighborhood without drastic changes in the food infrastructure. In addition, RCDC and the Maryvale on the Move program focus on civic engagement and community organizing training which can potentially help build momentum to pursue these larger, multi-stakeholder, policy-driven efforts.

**Next Steps**

One next step is to organize a steering committee that will help coordinate these efforts and provide the momentum to take action. The Canyon Corridor Neighborhood Alliance’s (CCNA) Revitalization Committee and the ongoing efforts of Maryvale on the Move are good places to start, and can hopefully recruit a diverse set of participants, including young people. These groups can continue to clarify food issues, community goals, and potential strategies to reach these goals and create actionable plans for change.

Some of these proposed strategies will not promote economic development of the neighborhood, and instead continue the 'leakage’ or money traveling outside of Canyon Corridor (for example, shuttle services or CSAs). It is important that this committee develop a set of criteria that can help capture potential trade-offs between these strategies, and help prioritize efforts based on their overall affect on the community.

We will continue to help catalogue and research potential strategies, and encourage RCDC and its community partners to pursue a longer-term relationship with ASU’s School of Sustainability through internships and/or graduate student researchers. This type of partnership can continue this important work, and further explore the feasibility and sustainability of potential strategies.

These recommendations, potential strategies, and next steps offer direction towards increasing food security in Canyon Corridor. However, as mentioned, some of these efforts depend
on policy changes. Therefore, RCDC should continue its work with the City of Phoenix and political offices to encourage them to become champions for the cause of promoting more just and healthy food environments.
ACKNOWLEDGEMENTS

This research was made possible by:

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A big thank you to each of our youth participants for working with us and sharing their perspectives—especially on Saturdays! A special thank you to Layah Htwe for her invaluable help translating and coordinating the workshops.

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Neely Charitable Foundation
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REFERENCES

Everyone rated each worry based on how much it affected his or her daily life and wellbeing. The graph above shows the results. The more blue area you see, the higher the affect of that worry.

Everyone rated each help based on how much it affected his or her daily life and wellbeing. The graph above shows the results. The more blue area you see, the higher the affect of that help.
### B. Vision Summaries

<table>
<thead>
<tr>
<th>Healthy Life</th>
<th>Food Businesses</th>
<th>Personal/Wellbeing</th>
</tr>
</thead>
<tbody>
<tr>
<td>-Less fast food</td>
<td>-Lee Lee’s Market closer</td>
<td>-More people drinking milk, especially Karen community</td>
</tr>
<tr>
<td>-More exercising (fitness center, walking)</td>
<td>-Lee Lee’s and Fry’s have fresh fruit</td>
<td>-Family meals sitting around the table (no TV!)</td>
</tr>
<tr>
<td>-People in good shape</td>
<td>-More stores like Wal-Mart, Food City, &amp; Ranch Market</td>
<td>-All people have food to live</td>
</tr>
<tr>
<td>-More fruit planted</td>
<td>-More China Buffets or other Asian buffets closer</td>
<td></td>
</tr>
<tr>
<td>-Less meat</td>
<td>-Mobile carts/stores with fresh, local vegetables</td>
<td></td>
</tr>
<tr>
<td>-People eating healthy food</td>
<td></td>
<td></td>
</tr>
<tr>
<td>-More organic/natural food (no sprays)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>-People happy because of food</td>
<td></td>
<td></td>
</tr>
<tr>
<td>-New healthy food in schools</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Community</th>
<th>Gardening</th>
<th>Less Expensive</th>
<th>Other</th>
</tr>
</thead>
<tbody>
<tr>
<td>-More schools &amp; colleges</td>
<td>-Farmers’ markets</td>
<td>-Cost between organic and normal foods should be equal</td>
<td>-No wasted food</td>
</tr>
<tr>
<td>-Bigger community center</td>
<td>-Gardens with apartments (public space, instead of pools)</td>
<td>-Gardening to save money</td>
<td>-More plants and animals in the community (horses, cows, pigs)</td>
</tr>
<tr>
<td>-More people coming to community center</td>
<td>-Plant in backyards</td>
<td></td>
<td>-Cooking outside ( fresher, more space)</td>
</tr>
</tbody>
</table>
C. Visioning Narratives

Maya and Jesse went to the market and saw a variety of organic fruits and vegetables from local farmers. They were touching the fruit to see if it’s ripe and healthy.

The market that they were in was clean and well kept, while the variety of fresh foods kept the atmosphere colorful. The people inside felt welcomed when arriving because the outside had a small garden that farmers kept good and chemical-free.

The girls are feeling that they have choices on the foods that they can eat. It makes them happy because it is close to home and affordable.

Tina and Josh had $40. They were ready to go to the store around them. They were going to Food City but saw the outside market with food that was fresh, healthy, and less expensive, so they went there instead. They bought five apples and two cauliflowers. They felt calm and happy and thought that they might go back there again. They ate the apples and they were sweet since they were fresh. The cauliflower they fried with other vegetables and eggs.

Tina and Josh were happy that they didn’t have to use all of their money. So the rest of their money they saved it for other things that they need or want.
## D. Strategy Assessment

### Community Gardens
Does this type of project help address major challenges, and take advantage of the community’s strengths?

<table>
<thead>
<tr>
<th>Yes:</th>
<th>Maybe:</th>
<th>No:</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Challenges</strong></td>
<td><strong>Challenges</strong></td>
<td><strong>Challenges</strong></td>
</tr>
<tr>
<td>• Jobs (may make some jobs, and those without jobs can volunteer more)</td>
<td>• Distance/lack of transportation (if gardens are close to home)</td>
<td>• Not caring about healthy eating</td>
</tr>
<tr>
<td>• Health</td>
<td></td>
<td>• Not knowing about healthy eating or cooking</td>
</tr>
<tr>
<td>• Cost &amp; family troubles (family troubles may be concerns about money, so if gardening is a cheaper way to get food it may help)</td>
<td></td>
<td>• Convenience (gardens take a long time to grow, and take a lot of work)</td>
</tr>
<tr>
<td><strong>Strengths</strong></td>
<td></td>
<td>• Taste (may not have the foods you normally eat)</td>
</tr>
<tr>
<td>• Community, friends, family, and churches</td>
<td></td>
<td>• Language</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• Violence (some people may ruin gardens)</td>
</tr>
</tbody>
</table>

**Suggestions:**

- Hold a gardening classes that teach how to garden and cook
- Have neighbors tell people about the garden projects and get more people involved
- Work through language barriers through hands on learning, and helping each other
- Plant foods people like and need
- Put in apartments close to a lot of families
- Talk to community to make sure you put it in a safe spot (for instance the youth say that the CLC garden is not in a safe spot because it is near the alley and the fence is not good)
## Farmer’s Markets
Does this type of project help address major challenges, and take advantage of the community’s strengths?

<table>
<thead>
<tr>
<th>Yes:</th>
<th>Maybe:</th>
<th>No:</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Challenges</strong></td>
<td><strong>Challenges</strong></td>
<td><strong>Challenges</strong></td>
</tr>
<tr>
<td>- Health</td>
<td>- Distance/lack of transportation (depends on location)</td>
<td>- Family troubles</td>
</tr>
<tr>
<td>- Not caring about healthy eating (because the market is visible and social)</td>
<td>- Cost (may be more expensive)</td>
<td>- Language</td>
</tr>
<tr>
<td>- Not caring about healthy eating (because the market is visible and social)</td>
<td>- Convenience (depends on location, selection)</td>
<td>- Violence (gangs might cause trouble)</td>
</tr>
<tr>
<td><strong>Strengths</strong></td>
<td><strong>Strengths</strong></td>
<td><strong>Strengths</strong></td>
</tr>
<tr>
<td>- Community</td>
<td>- Jobs (depends on if they hire people in the community)</td>
<td>- Taste (usually not the foods people like to eat)</td>
</tr>
<tr>
<td><strong>Suggestions:</strong></td>
<td><strong>Suggestions:</strong></td>
<td><strong>Suggestions:</strong></td>
</tr>
<tr>
<td>- Use church parking lots since people are there anyways</td>
<td>- Not knowing about healthy foods and cooking</td>
<td>- Jobs (depends on if they hire people in the community)</td>
</tr>
<tr>
<td>- Help each other translate</td>
<td>- Church</td>
<td>- Church</td>
</tr>
<tr>
<td>- Make sure there are security measures (police or community volunteers)</td>
<td>- Location close to homes (maybe in a vacant lot on 27th Ave)</td>
<td>- Location close to homes (maybe in a vacant lot on 27th Ave)</td>
</tr>
<tr>
<td>- Offer a shuttle service</td>
<td>- Offer a shuttle service</td>
<td>- Offer a shuttle service</td>
</tr>
<tr>
<td>- Use educational signs about the foods and how to prepare them</td>
<td>- Use educational signs about the foods and how to prepare them</td>
<td>- Use educational signs about the foods and how to prepare them</td>
</tr>
</tbody>
</table>
### Mobile Markets
Does this type of project help address major challenges, and take advantage of the community’s strengths?

<table>
<thead>
<tr>
<th>Yes:</th>
<th>Maybe:</th>
<th>No:</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Challenges</strong></td>
<td><strong>Challenges</strong></td>
<td><strong>Challenges</strong></td>
</tr>
<tr>
<td>• Lack of transportation/distance</td>
<td>• Family troubles (helps transportation and maybe cost that sometimes cause stress)</td>
<td>• Language</td>
</tr>
<tr>
<td>• Jobs (creates a few)</td>
<td>• Violence (may be affected by vandalism or theft, but can change location)</td>
<td>• Not caring about healthy eating</td>
</tr>
<tr>
<td>• Convenience (much more convenient because it comes to you)</td>
<td>• Cost (may be cheaper since they don’t have to pay for a store, may be more expensive because of small size and gas)</td>
<td>• Not knowing about healthy eating and cooking</td>
</tr>
<tr>
<td>• Health</td>
<td>• Might engage friends</td>
<td><strong>Strengths</strong></td>
</tr>
<tr>
<td>• Taste (can carry a lot of variety)</td>
<td></td>
<td>• Church</td>
</tr>
</tbody>
</table>

**Suggestions:**
- Work together to provide translation help
- Have a fixed schedule so people can plan accordingly
- Allow bartering/exchange so more people can afford it and participate
- Have the vendor/driver teach people about products and preparation
- Move the cart to a safe spot if there are any security issues
**Grocery Stores**

Does this type of project help address major challenges, and take advantage of the community’s strengths?

<table>
<thead>
<tr>
<th>Yes:</th>
<th>Maybe:</th>
<th>No:</th>
</tr>
</thead>
</table>
| **Challenges**  
- Jobs  
- Health  
- Convenience (one-stop shopping)  
- Distance/lack of transportation (because these stores would be closer)  
- Taste (people can get what they want) | **Challenges**  
- Cost (may be cheaper than other options) | **Challenges**  
- Family troubles  
- Not caring about healthy eating  
- Not knowing about healthy eating and cooking  
- Language  
- Violence (businesses won’t want to open because of gangs and potential losses) |

<table>
<thead>
<tr>
<th>Strengths:</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Suggestions:</strong></td>
<td></td>
</tr>
<tr>
<td>- Open a community-run store since outside businesses probably won’t come to Canyon Corridor due to safety concerns</td>
<td></td>
</tr>
</tbody>
</table>
APPENDIX F

EMPOWERMENT SURVEY & RESULTS
Name: __________________________________________

Think about the organizations that you belong to (church, school, sports, etc.).
Please pick the organization that is most important to you and write it below.
____________________________________________________

If you do not belong to any organizations, skip to question 6.

For all questions:
1 = Strongly Agree; 2 = Agree; 3 = Neutral; 4 = Disagree; 5 = Strongly Disagree

When answering questions 1-5, think about the organization you wrote above.

1. I can influence the decisions that this organization makes.

   1  2  3  4  5

2. This organization has influence over decisions that affect my life.

   1  2  3  4  5

3. This organization is effective in achieving its goals.

   1  2  3  4  5

4. This organization can influence decisions that affect the community.

   1  2  3  4  5

5. I am satisfied with the amount of influence I have over decisions that this organization makes.

   1  2  3  4  5

6. I have control over the decisions that affect my community.

   1  2  3  4  5

7. My community has influence over decisions that affect my life.

   1  2  3  4  5

8. I am satisfied with the amount of control I have over decisions that affect my life.

   1  2  3  4  5

9. I can influence decisions that affect my community.

   1  2  3  4  5

10. By working together, people in my community can influence decisions that affect the community.

    1  2  3  4  5

11. People in my community work together to influence decisions on the state and national level.

    1  2  3  4  5

12. I am satisfied with the amount of influence I have over decisions that affect my community.

    1  2  3  4  5
<table>
<thead>
<tr>
<th>Participant</th>
<th>Score Pre-Workshops</th>
<th>Score Post-Workshops</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>48</td>
<td>55</td>
</tr>
<tr>
<td>2</td>
<td>45</td>
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<td>5</td>
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<td>46</td>
</tr>
<tr>
<td>6</td>
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<td>7</td>
<td>48</td>
<td>49</td>
</tr>
<tr>
<td>8</td>
<td>46</td>
<td>47</td>
</tr>
<tr>
<td>Total</td>
<td>373</td>
<td>396</td>
</tr>
</tbody>
</table>
APPENDIX G

CONSENT & ASSENT FORMS
INFORMATION LETTER
Interview

Urban food access interventions in a community context

Date:

Dear Interview Participant:

I am a graduate student under the direction of Professor Hallie Eakin in the School of Sustainability at Arizona State University. I am conducting a research study to answer the following question regarding your community: What do community members identify as the contextual drivers of food access?

I am inviting your participation, which will involve an interview in which I ask you a series of questions about food access. The interview will take roughly 20 minutes. You have the right not to answer any question, and to stop participation at any time.

Your participation in this study is voluntary. If you choose not to participate or to withdraw from the study at any time, there will be no penalty. Please note that you must be 18 years of age or older to participate in this study.

Your responses to these interviews will be incorporated into a larger community assessment of food access, and later used to help shape relevant and effective interventions to increase community food access. There are no foreseeable risks or discomforts to your participation.

After the interview, your input will be written down without revealing your actual name. Your responses will be confidential. We will not record any details that might reveal your identity, such as your occupation, age or gender. The results of this study may be used in reports, presentations, or publications but your name will not be used.

With your permission, we may want to use quotations from this interview. Please let me know if you do not want us to use quotations. We will attribute all quotations to a pseudonym.

I would like to audiotape this interview. The interview will not be recorded without your permission. Please let me know if you do not want the interview to be taped; you also can change your mind after the interview starts, just let me know. The audio file will be deleted immediately following transcription.

If you have any questions concerning the research study, please contact me, Kathleen Talbot, at (XXX) XXX-XXXX, or Hallie Eakin at (XXX) XXX-XXXX. If you have any questions about your rights as a subject/participant in this research, or if you feel you have been placed at risk, you can contact the Chair of the Human Subjects Institutional Review Board, through the ASU Office of Research Integrity and Assurance, at (480) 965-6788.
Thank you!
Kathleen Talbot
By signing below, you are agreeing to participate in the study.

___________________________                     _________________________
Signature                                                            Date

By signing below, you are agreeing to allow us to use quotations, although your name will not be used.

___________________________                     _________________________
Signature                                                            Date

By signing below, you are agreeing to be taped.

___________________________                     _________________________
Signature                                                            Date
We are Briar Schoon and Kathleen Talbot, and we work at Arizona State University. We are asking you to take part in a research project because we are trying to learn more about youth eating habits. We want to learn about where you get your food, how you eat it, when you eat, and why you eat this food. We also want to learn what kind of food you would like to see in your community. Your guardian(s) have given you permission to participate in this study.

If you agree, you will be asked to map and take pictures of anything in your community that influences your eating habits. The map will be created in a group setting. The pictures you take will be up to you, but you will be asked to describe them to us and explain why you took each picture. You will be asked to watch some videos and talk about food in the U.S. You will be asked to make your pictures into a collage, along with others in the study. You will also be asked to think about what food you would like to see in your community and make another collage. You will be asked to come to three separate meetings, and each will be with other youth in your community. These meetings will last about five hours each. You do not have to put your name on any photographs or on the collage. You do not have to answer any questions that make you uncomfortable or participate in any of the activities if you do not wish to. If you chose to participate, you will be given a $15 Visa gift card.

You do not have to participate in this project. No one will be mad at you if you decide not to participate. You are free to change your mind about participating at any time. Even if you start the study, you can stop later if you want. You may ask questions about the study at any time.

Signing here means that you have read this form or have had it read to you and that you are willing to be in this study.

Signature of subject________________________________________________
Subject’s printed name __________________________________________
Signature of investigator___________________________________________
Date___________________________

By initialing below, you agree to have your photographs publically displayed.

______________
Initials

By initialing below, you agree to have your name associated with these photographs in public displays. Your name will not be used in reports or publications.

______________
Initials

By initialing below, you acknowledge receipt of a $15 Visa gift card.

______________
Initials
Dear Parent:

We are graduate students under the direction of Dr. Hallie Eakin in the School of Sustainability at Arizona State University. We are conducting a research study to understand how youth perceive their urban food environment and what kind of urban food environment they would like to see in the future.

We invite your child's participation in the project. The study will involve asking the participating youth to map and photograph aspects relevant to their food environment and to use photographs to envision their future food environment and potential interventions. This study will include three workshops (approximately 5 hours each) as well as some independent activities (e.g., photographing the neighborhood) for a total of approximately 15-20 hours over a period of 2-3 months. For participating, your child will be compensated with a $15 Visa gift card.

If your child participates, he/she will be given a digital camera and will be free to photograph anything that they associate with their food environment. We will prohibit your child from taking any photographs that could be interpreted as obscene, or which might violate the privacy of any individual. If they chose to take pictures of any identifiable individual they will need to get a signed consent form from that individual (the consent form will be provided).

It is possible that your child might take pictures in the interior of your household or another family space. We will ensure that if such photographs are taken, they will not be publicly displayed or shared among the participants in the project without your prior approval.

Your child will be able to choose which photographs he/she wants to share with the rest of the projects’ participants. Your child’s photographs will remain anonymous unless your child wishes his or her name to be associated with the photographs, in which case the child’s first name will be used. The results of this study, including the photographs taking by the participating youth, may be used in reports, presentations, or publications but your child’s name will not be used. While we do not expect any personal information to be collected in this project, any information we do collect will be confidential; we will ensure that it will not be possible to identify any single individual or family with information published from this study.

Your child's participation in this study is completely voluntary. If you choose not to have your child participate or to withdraw your child from the study at any time, there will be no penalty. Likewise, if your child chooses not to participate or to withdraw from the study at any time, there will be no penalty. I hope that by participating in the study, your child may benefit by learning about how other communities in the US have addressed urban food concerns. Your child
may also benefit from the experience of using art (photographs) to express what he/she perceives about his or her community. We do not see any risks to your child’s participation.

If you have any questions concerning the research study or your child’s participation in this study, please call us at (XXX) XXX-XXXX or (XXX) XXX-XXXX. Or, you may email us at XXX@asu.edu, XXX@asu.edu or Dr. Hallie Eakin at XXX@asu.edu. If you are a Spanish speaker, please direct your questions to Katie or Hallie.

Sincerely,

Briar Schoon & Katie Talbot

By signing below, you are giving consent for your child ______________________ (Child’s name) to participate in the above study. If you consent, please provide your preferred means of contact, either phone number or email, so that we may follow up with you.

___________________         ________________________
Signature                                   Printed Name

_____________________         __________________________
Phone Number                                   Email Address

By signing below, you are giving consent for your child’s photographs and/or name to be publically displayed if he/she chooses to do so. No names will be used in any reports or publications.

___________________         ________________________
Signature                                   Printed Name

If you have any questions about you or your child's rights as a subject/participant in this research, or if you feel you or your child have been placed at risk, you can contact the Chair of the Human Subjects Institutional Review Board, through the Office of Research Integrity and Assurance, at (480) 965-6788.
APPENDIX H

PHOTOVOICE PICTURES & DESCRIPTIONS
1. I took this picture at Ranch Market. I took it because pineapple gives vitamins to your body.
   Camera: Soccer

2. This picture was taken at Ranch Market. The fruit is good for our health, and it looks clean and shiny. I eat those. Sometimes we go to the store with our own car or a friend’s car. It takes about ten minutes with traffic. I shop at Lee Lee’s too, but mostly at Ranch Market or Food City because it’s closer.
   Camera: Soccer
3. This was at WaWa’s house. It is mohinga with fry beans and juice. We eat it with noodles. It’s my favorite meal because it is healthy and delicious. We eat at friends’ houses a lot, don’t even have to call, just go over, can sleep there too. There are no secrets in our community. There are no specific times to eat, it’s always just prepared. People are always eating some type of food in the community and it’s always around so food is easy.

Camera: Soccer

4. They are eating ice cream at a social. The community can come together for something like a potluck. I took it because it was cute. These socials are not common, it’s just the start. They increase connections between refugees and different tribes. It’s going to be expanding and maybe have different foods later on.
5. I eat a lot of vegetables. We go to Ranch Market by car, but just my parents go shopping. I want to go grocery shopping sometimes.
   Camera: Mr. Bean

6. Water is healthy for the body. This was taken at Ranch Market, where we shop most, because it is clean and healthy food. But we also go to Lee Lee’s.
7. I took this by the milk because it makes your bones stronger. It’s important for health. I don’t like milk though. My family doesn’t drink milk unless the doctor tells us too. This is at ranch Market, Circle K does not have fresh milk.

Camera: Mr. Bean

8. This is at Ranch Market by the apples because ‘an apple a day keeps the doctor away.’ I went with friends in WaWa’s car. It’s better to go to the store for fresh food rather than snacks. But we don’t actually shop here, we actually go to Lee Lee’s because it provides transportation and has a large
selection of Asian cuisine. I wanted to go to a new place. Lee Lee’s gets boring and it’s far. I wish a place like Lee Lee’s was closer.

Camera: Soccer

9. This is three kinds of apples. They’re good for you and not expensive, easy to get.

Camera: Kie Kie

10. Sometimes we carpool to the store.

Camera: Kie Kie
11. This was at Fry’s with my mom and aunt. Fry’s has the freshest fruits ever. Safeway too. Lee Lee’s fruits aren’t fresh, the set-up’s not nice. I don’t want to buy it. Fry’s is clean, neat, and set-up nice. I buy American food at Fry’s. Takes 5-6 minutes to get there by car. We need to pick a specific day to go since we must use dad’s car. Stores have better values than McDonald’s, can cook and eat together.

   Camera: Kie Kie

12. If no transportation, then we walk to McDonald’s because it is close and convenient to get fries and burger. I like the food.

   Camera: QT
13. This is at Ranch Market. Vegetables are good for health.
   Camera: Flying T

14. These are bananas taken at Ranch Market where I work. My mom does the shopping.
   Camera: Flying T
15. These are grilled chilis at Ranch Market. I ate once and liked it, but it was expensive.
   Camera: Flying T

16. Making soup for dinner for the family. You put vegetables and rice from Ranch Market in it.
   Camera: Flying T
17. I love salad, it’s healthy. I eat a lot of salad. I’m half vegetarian, I don’t really eat a lot of meat. Mostly we get ingredients to chop it up and mix ourselves. My dad doesn’t like it as much but we force him to eat it because it is good for him.

Camera: Sonic

18. This is a burrito made at home with egg and sausage. I took it because my family was eating breakfast. We shop at Ranch Market and Food City. They
have all the food we want. My dad drives there and I have a say in what they buy.

Camera: Sonic

19. He also works at Ranch Market. He’s grilling chilis. They are expensive.

Camera: Flying T

20. Butter is better because it makes you fatter. I want to get fatter. Most people in the community don’t want to get fatter because they’re on a diet, but I do.
21. Meat is healthy. It’s on the food pyramid. This is beef but I don’t like beef. There is a lot of meat available but some people don’t want to cook them because they are lazy, no time, and just want convenient already made foods.

22. This is from a recent trip to the market. It is less than we usually get.
23. This is the “garden” that we have. There are grapes, avocados, mint, and an orange tree.
Camera: Blue

24. This is my mom. She is making lemonade. We don’t drink a lot of soda so lemonade is usually what we have.
Camera: Blue
25. My neighbor, he eats vegetables but very rarely.
   Camera: Blue

26. The family's dog. He has been overweight since I could remember. This was right after eating because he doesn't like to go out for walks.
   Camera: Blue
27. Going to class to learn about healthy food access. Educating our youth on the fundamentals of eating healthy. The more educated that we are, the better the decisions we make.
   Camera: Blue

28. I like to eat a ham sandwich with avocado.
   Camera: Blue
29. Food that is usually given when there are meetings at the YMCA. The TOPS program gave us a dinner of chips, mashed potatoes, chicken, bread, and mixed vegetables.
Camera: Blue
APPENDIX I

PHOTO-VISIONING PICTURES & DESCRIPTIONS
1. I want to see more plants and nature in the community. What we would see in ten years is more plants, fruits, and veggies in the community.

2. I'd like to see more schools and colleges for everyone.
3. Juice is very expensive and so is milk! In Thailand you don’t have easy access to milk and juice unless you have lots of money. He wants to see more people drinking milk. More juice and milk to be healthy and make bones stronger.

4. I would like to see less fast food places. There are way too many and it can be tempting sometimes to go. I want farmers’ markets instead.
5. In the future I would like to see mobile carts and other portable stores and shops. I would like to see these things because in AZ we don’t have them. I want to see vegetables grown locally in a mobile market. In ten years I want to see people not wasting food.

6. In the future, I want family dinner together around the table NOT in front TV.
7. I want to see good food and fish. Good foods help people to save their life. I want to see everybody nice and all together and working hard to make the church a better place for everybody that comes here. Also, I want to see the church get more bigger and so more people will come and it will be a blessing. The people that come sometimes are hungry and thirsty so food is good for our community.

8. For the future I want to see Lee Lee’s and Fry’s have a lot of fruits. Also, in the future I want to see Lee Lee’s Market, China Buffet, and more natural food. I also want to see cooking outside and planted food.

10. I want to see people healthy and in good shape.
11. I want to see people exercise more.

12. I want to see less meat because people like more meat and it can make someone sick and if you eat more meat you are likely to eat less fresh fruit and vegetables.
13. I want to see more organic and natural foods. I heard from the news that people spray food and put things in apples to make it shiny.

14. I want more Durian- Asian fruit.
15. I want to see planting more vegetables in your back yard. But we cannot because we live in apartments. Every apartment should have a garden area that the manager provides! – If apartments can have swimming pools why not garden – I don’t want to see swimming pool I want to see gardening with veggies.

16. I want organic food to be the same price as normal food.
17. I want to see more plants—fruit plants! I get the same food at lunch everyday. I want new food, new healthy food at school.
APPENDIX J

VISIONING NARRATIVES
Maya and Jesse went to the market and saw a variety of organic fruits and vegetables from local farmers. They were touching the fruit to see if it’s ripe and healthy. The market that they were in was clean and well kept, while the variety of fresh foods kept the atmosphere colorful. The people inside felt welcomed when arriving because the outside had a small garden that farmers kept good and chemical-free. The girls are feeling that they have choices on the foods that they can eat. It makes them happy because it is close to home and affordable.

Tina and Josh had $40. They were ready to go to the store around them. They were going to Food City but saw the outside market with food that was fresh, healthy, and less expensive, so they went there instead. They bought five apples and two cauliflowers. They felt calm and happy and thought that they might go back there again. They ate the apples and they were sweet since they were fresh. The cauliflower they fried with other vegetables and eggs. Tina and Josh were happy that they didn’t have to use all of their money. So the rest of their money they saved it for other things that they need or want.