Montezuma County's Food System Assessment: Consumers' Perspectives

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I. About LiveWell Montezuma and Montezuma Food Systems Task Force

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II. What is a Community Food Assessment?

Community food assessments examine a broad range of issues to improve a particular community's food system, from local food production and processing, to healthy food retail, to community food assistance programs to address food insecurity. Through such assessments, interested community members can work together to (1) research what is happening within their food system, (2) communicate those findings, and (3) support policy changes based on those findings. As noted by the Community Food Security Coalition, a local or community food assessment is a powerful way to tell the story of what's happening with food in a community based on the collection of data, reports, and feedback from residents.

Across the country, the most effective and impactful assessments typically have been developed with, by, and for existing community coalitions. That said, assessments can also be used to help build, grow, and define a coalition. Either way, it is critical for any process to start with a group (large or small) of committed stakeholders who are prepared to implement the findings of an assessment. Once a decision has been made to pursue a community food assessment, the next step is to articulate and document the following: Why are we doing this? Why did people come to the table in the first place? What is so important to us in our community that we are going to spend the time it takes doing this assessment?

III. History and Goals of Montezuma County's Food System Assessment

A. Overarching Vision

Vision: A resilient regional food system that supplies healthy, accessible, affordable, and culturally relevant foods to fill the plates of all Montezuma residents.

B. Primary Question of the Food System Assessment

How do we support an economically viable, regional food system that provides accessible, affordable food, while improving the health of our regional population?

C. Secondary Questions of the Food System Assessment

How can we maximize residents accessing and consuming healthy and local food?
How can we maximize our region's ability to produce food for local human consumption?

In order to begin answering these questions, the Montezuma Food Task Force embarked on a comprehensive food system assessment. The first part of the assessment involved surveying consumers and heads of households in the county in order to broadly evaluate shopping habits and preferences, barriers to fruit and vegetable access, and interests in the local food system. The results of this survey and additional information about Montezuma are detailed below. Additional future reports and studies will address the producer and supply side of the local and regional food system.

IV. Methodology for Montezuma County's Community Food Assessment

A. Secondary Data Collection

Significant data regarding the food system, agriculture, commerce, and population demographics are already collected by entities such as the USDA, Census Bureau, the Food Research Action Center, and others. Most of this data is collected at the county level and provides a high level view of food system. Where it was relevant, this secondary is presented and cited throughout the report in order to provide context to collected primary data.

B. Primary Data Collection

In order to understand the needs and interests of the broader community, a county-wide survey was developed to focus on a narrow set of questions regarding shopping habits and preferences, barriers to fruit and vegetable access, and interests in the local food system.

Survey Development

While Montezuma's survey was tailored to address unique local circumstances, at least three other Colorado communities have implemented a very similar survey. Communities have implemented common assessment tools in order to facilitate county-to-county comparisons of barriers and solutions to promote local food system development and healthy food access.

WPM Consulting, LiveWell Montezuma, and colleagues in public health and nutrition vetted all survey questions before the survey was finalized. A Spanish student at Colorado State University translated the final survey into Spanish and the student's Spanish professor reviewed this translation. Surveys were available in both English and Spanish for both Internet- and paper-based surveys. Surveys included a brief overview paragraph describing the intent of the survey. Two Wal-Mart gift certificates were provided to randomly selected survey respondents as an incentive for completing the survey. The full instrument is included in ***Appendix A.***

Survey Dissemination

Both web-based and paper surveys were disseminated over a 3-month period. The goal of this survey was to include as many households in the county as possible (the number of households in 2010 totaled 11,027). County-wide survey dissemination included multiple web- and paper- based methods of distribution, as outlined in ***Appendix B.*** Both English and Spanish paper surveys were developed to reach populations with little to no access to, or familiarity with, computers. Demographic data was regularly checked and compared to Census data in order to guide survey dissemination and to support the collection of representative data.

Survey Analysis

Paper surveys were collected by LiveWell volunteers in order to be entered into a web-based format. Survey results from all four surveys (Internet English, Internet Spanish, paper English, paper Spanish) were pooled into one data set with the additional variable of "type of survey". The Internet survey was programmed to require an answer to all questions other than demographic questions. This style eliminated the need to disregard survey responses that were incomplete or obviously inconsistent.

All "other" statements provided in the survey were reviewed and sorted back into the major answer categories when appropriate. Descriptive statistics were used to analyze all results, but data was organized to facilitate more intricate econometric analysis, should this become an interest to the community. Since the purpose of this assessment was to explore healthy food

access issues, general interest in the local food system, and local food systems development, the survey results were reviewed in summary for the whole survey population, fruit and vegetable access and consumption (*Chapter VI*), interest in the local food system (*Chapter VII*), and levels of food security (*Chapter VIII*).

V. An Overview of Survey Respondents

In total, 586 surveys were completed: none in Spanish, 229 in English on paper, and 357 in English on the Internet. Of completed surveys, 585 were kept for analysis. This represents 5.3% of total county households. As with most surveys, a majority of respondents reported middle to upper educational level attainment and were female (typically head of household affairs), however actual population income levels were represented well by the survey pool. Detailed demographic survey data are compared to 2010 American Community Survey data in ***Appendix C***.

VI.Healthy Food Access & Consumption

A. Defining Healthy Food Access

Food access is a complex topic in the arena of food systems work. It has several technical definitions depending on the conversation. It is, however, generally agreed that it consists of the following factors:

- Economic access: food options are available and affordable
- Physical access: residents live within a reasonable distance of an appropriate food outlet
- Nutritional access: healthy, varied options are available and accommodate various dietary restrictions
- Social/cultural access: familiar foods that are consistent with cultural traditions are available

While a person may be able to access enough calories to support their lifestyle, health and wellness advocates take food access beyond calories to mean "***healthy*** food access". Although there is no real agreed upon definition of "healthy food access", experts tend to agree that fast food restaurants and convenience stores do not make the cut.

In the few studies that have defined acceptable levels of access, urban food access has been defined as a person living within a "walkable" distance of a large food retailer, while rural and suburban food access has been defined as within ten miles (Algert, Agrawal, & Lewis, 2006; Morton & Blanchard, 2007). However, communities considered food secure due to "adequate" access to retail venues may still experience challenges accessing and consuming enough food options for a healthy diet for different reasons, and these residents will be underserved by traditional interventions and programs. It important to evaluate the unique characteristics of each community in order to appropriately address access issues and improve them.

B. Healthy Food Access and Consumption in Montezuma County

Primary Survey Findings on Consumption

Fruit and vegetable access and consumption have been used as proxies for general healthy food access throughout this study. The survey included several questions related to fruit and vegetable access and consumption. The following table summarizes primary findings from the survey:

Rates of consumption of fruits and vegetables[1]	
0 servings/day	1%
1 servings/day	13%
2 servings/day	23%
3 servings/day	25%
4 servings/day	18%
5 servings/day	11%
6 or more servings/day	9%
Primary sources of *general food items*	
1. Large Chain Grocery Stores	
2. Independent Grocery Stores	
3. Natural Grocery Stores	
Primary sources of *fruits and vegetables*	
1. Large Chain Grocery Stores	
2. Direct From Grower	
3. Gardens	
Desired primary sources of fruits and vegetables	
1. Direct From Grower	
2. Gardens	
3. Large Chain Grocery Stores	
Primary barriers to *getting* fruits and vegetables	
1. Price	
2. None	
3. Amount of Time Available	
Primary barriers to *consuming* fruits and vegetables	
1. None	
2. Amount of time available to prepare them	

[1] Servings were defined as ½ cup, per 2010 USDA guidelines. Several examples of a serving were provided. Current recommendations suggest nine servings of fruits and vegetables a day.

3. Tastes and preferences of household members
Strategies to make consuming fruits and vegetables easier
1. Less expensive
2. Better selection of fruits and vegetables at grocery stores
3. More direct from growers outlets
Most important factors for selecting fruits and vegetables
1. Freshness and quality
2. Prices
3. Health and nutrition

Further analysis of fruit and vegetable consumption rates reveals significant correlations between consumption and educational attainment, shopping habits, and values. In summary:

- As educational attainment increases, so does average rates of fruits and vegetable consumption.
- Fruit and vegetable consumption rates are not correlated with household income, however, individuals with low consumption rates report greater price sensitivity.
- Individuals with low fruit and vegetable consumption rates are more likely to rely on major grocery stores and convenience stores; however, they place more value on local produce than organic produce.
- Individuals with high fruit and vegetable consumption rates are less likely to visit fast food restaurants and they tend to prioritize purchasing organic products.

Where People Currently Acquire Food and Where They Would Like To

Consistent with most communities, the vast majority of survey respondents acquire their general food items at a variety of grocery stores, including large chain stores, independent grocers, or natural food stores. A significant number of respondents indicated a reliance on more traditional forms of food procurement (for foods other than fruits and vegetables), such as hunting, fishing, or raising livestock.

Large chain grocery stores are respondents' primary source for fruits and vegetables; however, they report their next most common sources to be direct-from-grower outlets (farmers' markets, CSAs, produce stands) and personal gardens (listed more often than independent grocers and natural grocers). This reliance on traditional forms of food procurement - gardening, animal husbandry, hunting, fishing, sharing with neighbors, and purchasing from local farmers - is consistent with previous studies of rural food environments.

Unique to Montezuma County is the gap between where people currently procure their fruits and vegetables and where they *would like* to procure their fruits and vegetables. There is a large gap[2] between the number of households whose primary source of fruits and vegetables is a local grower and the number of households that **want** their primary source to be a local grower. There is also a large gap[3] between households that garden as a primary source and those that **would**

[2] Nearly seven times as many people report wanting to source their produce ***primarily*** direct from the producer than actually do. This represents a 150% difference between actual and desired shopping habits.

[3] Similarly, four times as many people would like to depend on their gardens as a ***primary*** source of produce than actually do. This represents a 125% difference between households that primarily depend on their gardens and those that want to.

like to depend on their gardens as a primary source of fruits and vegetables. While this gap in consumer demand is detectable in other communities, it is wider in Montezuma County. This is discussed in more detail in *Chapter VII-Local Food Systems.*

Transportation to Getting Food

As expected, car use is the dominant form of transportation, with 89% of households reporting driving as a primary mode of transportation. Unique to Montezuma County, however, are a fair number of households (4%) indicating that this question was not applicable due to the fact that they produce most of their food items at home. Common to rural areas, the most popular secondary form of transportation is other people's cars (friends, family, neighbors), rather than walking or biking.

Thirty percent (30%) of responding households live outside of the USDA's ten-mile standard for rural food access. Only 22% of households live with one mile of their primary grocery outlet, which is considered a standard for great access. This indicates that the population in Montezuma County is a little more dispersed than what is considered typical, in comparison to previous Colorado-based, rural community food assessments.

Barriers that Affect Healthy Food Access and Consumption

Forty-two percent (42%) of respondents indicate no degree of challenge in *accessing* fruits and vegetables, while 62% indicate no challenge in *consuming* fruits and vegetables. The primary barrier to *accessing* fruits and vegetables is price and the secondary barrier is available time for procurement. Time to prepare fruits and vegetables is the primary barrier to *consuming* them, while the next most common barrier is the tastes and preferences of family members.

Surprisingly consistent with rural food environments is an indication of little to no challenge is accessing and consuming healthy foods. The general theory is that rural residents are more self sufficient and resilient. They choose to live in remote areas and therefore do not feel victim to their circumstances. Despite reporting no challenge to accessing and consuming fruits and vegetables, or even saying that they eat enough of them, most survey respondents are not eating the recommended number of daily servings.

In an attempt to explore the extent that food prices uniquely factor in Montezuma residents' food choices, several additional pieces of data were pulled from secondary sources. According to the USDA's Food Environment Atlas, the cost of low fat milk was 5% lower than the national average in 2010 and the cost of soda was 8% higher. According to Mapping the Meal Gap, the average cost of a meal in Montezuma County was 4% higher than the Colorado state average in 2010, but is comparable to the national average. This does not indicate that residents in Montezuma County are experiencing a significant outright food price crunch; however, median household incomes for Montezuma County are significantly less than Colorado and national averages.

C. Opportunities and Recommendations to Increase Fruit and Vegetable Consumption

When asked what would make it easier to consume fruits and vegetables, respondents indicated less expensive (41%), more direct-from-producer market outlets (15%), and better selection (12%) as primary means. This coincides with other survey questions, which indicate that the most important factors considered when selecting fruits and vegetables were freshness/quality (84%), prices (61%), and health/nutrition (36%)[4].

[4] Survey respondents were asked to select three answers, thus percentages total more 100%

When asked specifically about *local* fruits and vegetables, the responses were slightly different. Respondents indicted less expensive (44%), more direct-from-producer market outlets (23%), and availability at current grocery outlets (21%). Collectively, the survey data indicates that consumer demand for quality, fresh, produce from local growers is going unmet, and additional direct market outlets and more selection at grocery stores may help increase consumption.

A significant portion of respondents (13-17%, depending on the question) indicated that some sort of gardening programming might help them consume more fruits and vegetables. This could include knowledge- and skills- based training for backyard gardeners and/or new or expanded communal or community gardens. Furthermore, some people wrote about a desire to explore season extension through greenhouses and hoop houses. Gardening programming and infrastructure may also help people rely more on their personal gardens as a primary source of fruits and vegetables.

Recommendations of strategies to explore to promote fruit and vegetable consumption:

- Develop and/or expand nutrition, shopping, and cooking education programs to help promote quick and easy meals focused on fruits and vegetables.
- Launch a "get out the garden" campaign. Develop and/or promote backyard gardening starter kits, planting parties, and gardening education to residents in all corners of the county and of all income levels.
- Develop regional and cooperative distribution (e.g., food hubs, mobile markets, etc.) of produce from throughout Montezuma, Dolores, and La Plata counties.
- Work with local retailers of all sizes to develop and promote local food labeling (build upon the successes of menu labeling with local restaurants).
- Work with local retailers of all sizes to ensure significant cold storage and priority placement and marketing of fresh, local produce.
- Work with local social services and local direct markets to enhance outreach, education, and evaluation of programs such as SNAP (EBT) at farmers markets and work with local or state foundation to establish "double up bucks" programs.

VII. Local Food Systems

A. Defining Economic Development through Local Food Systems

Understanding the Local Food System

A food system is made up of every process and person that is involved in feeding a community: from farmers growing and harvesting crops to consumers eating and disposing of food, and the packaging, transporting, marketing, and selling in between. It also includes the natural resources, labor, and research that drive its progress. Social, political, and economic issues play important roles in the development and sustainability of food systems.

Much attention has been paid – from journalists, media, and popular authors - to the growing interest in eating locally, shopping at farmers' markets, and knowing where food comes from. Research from the USDA demonstrates that this is more than a simple trend and is documenting significant recent changes in consumer behavior and local food production. The USDA's Agricultural Marketing Services has recorded massive growth in direct-to-consumer marketplaces such as farmers' markets, community supported agriculture (CSAs), and farm-to-school programs. Specifically, the USDA has recording the following growth:

- 120% increase is direct-to-consumer sales from 1997-2007
- 33% increase in share of total agricultural sales (including non-edible products) by direct-to-consumer sales from 1997-2007
- 91% increase in the number of farmers' markets from 1998-2009
- 190% increase in the number of CSAs from 2001-2005
- 423% increase in the number of farm-to-school programs from 2004-2009

Since food products are traditionally thought to be "inelastic" products (meaning a large decrease in price will only generate a small increase in sales), the recorded growth in direct-to-consumer markets indicates that consumer demand for local foods has largely gone unmet. This unmet consumer demand signifies an economic loss for regions not engaging in direct-to-consumer agriculture markets and suggests that efforts to build and strengthen local food markets will result in significant economic development.

Economic Contributions from Food Systems

Although the environmental impacts of local food systems are debatable, re-localized food systems are an economic and social benefit to their communities. Past studies on local-preference purchasing by Civic Economics and Iowa State University have estimated the effects of a shift in market share from corporate chains to direct markets. For example, a study in Kent County, MI estimated that a 10% shift in market share could create 1600 local jobs and adds $137.3 million to the total county output (Civic Economics, 2008). Iowa State University carefully estimates shifting enough traditional agricultural crop acreage to fruit and vegetable production in order to meet expected local demand. This theoretical shift causes $2.42 million in farm-gate sales, $5.2 million in retail value, $928,373 in additional labor incomes and sixteen more jobs. These are considered conservative estimates (Swenson, 2010).

It is argued that these numbers are possible because of economic multiplier effects and the prevention of income leakage. Some studies report economic multipliers of two to four by local businesses when compared to similar chain stores (Shuman, Barron, & Wasserman, 2009). That is, a dollar spent at a local business will be spent two to four more times before leaving the local economy. In contrast, at least some share of a dollar spent at a chain is likely to leave the local economy immediately in the form of outside purchases, business services, and factor payments to outside corporate governance and shareholders. These scenarios are representative of traditional brick and mortar marketplaces (a local bookstore versus a corporate bookstore), where it is likely that the business owner has financed the business with a corporate bank and leases the building. In the case of agriculture, where input costs represent a smaller degree of total business expenses, it is likely that a dollar spent will spend several more times in the local economy.

General Consumer Demand for Local Foods

Studies show that increasing support for direct-to-consumer producers is often due to consumers who state that they value building and supporting local, sustainable, resilient communities and economies. Some argue that local food economies have a smaller environmental and carbon footprint. Although the environmental impacts of a re-localized diet are hotly contested, most researchers agree that they are a net positive benefit to that local economy and the community.

Recent studies at Colorado State University disentangled the demand for organic and local produce in order to determine the relative value the consumers have for locally grown produce. This study found that organic and local attributes are not jointly demanded. This means that the

consumer that values organic produce is different from the consumer that values local produce. More so, those interested more in eating locally are willing to pay significantly more for a locally grown product and their preference for locally produced products is considered a significant and deeply held value (Costanigro and Thilmany-McFadden, 2011). This is largely contributed to a desire to support the local economy, to support a neighbor's business, and to feel connected to the community.

Typically, changes in the marketplace must be consumer driven. In regions with underdeveloped direct-to-consumer markets, small investments in infrastructure and programming that support bringing local produce to market may return significant gains. In regions with moderately developed direct-to-consumer markets, it is better to invest in consumer education and marketing campaigns in order to generate additional demand. Since local food advocates are relatively not price sensitive, efforts to subsidize the food prices should be directed towards consumers that perhaps value local economic development and supporting a resilient community but have limited financial means.

B. Demand for and Access to Local Foods in Montezuma County

Surveyed residents of Montezuma County declared a clear and strong interest in the local food system. The survey asked a series of questions in order to determine the degree that residents are interested in their local food system and the degree to which they would support it. Another series of questions investigated access to local foods and potential barriers to access or opportunities to grow the local food system. The results of these questions are discussed below.

Defining Local Food and its Importance

Montezuma County residents take a regional approach to defining their local food system. When asked to define local, 61% defined it as Montezuma, Dolores, and La Plata Counties, while 25% defined it as Colorado, and only 5% said local food was not important to them.
It is important to note that a significant number of respondents chose Montezuma and Dolores Counties as their answer to this question and also wrote in La Plata County in the "other" blank. This contrasts with other communities, which tend to give local a more evenly split definition between their own county and the state. One could infer that Montezuma residents have a stronger interest in their local economy and have more faith in their region's ability to provide food products to feed their community. Additionally, survey respondents reported the following about regionally produced foods and their food system:

- When asked to prioritize "price," "local," and "organic," the majority of respondents prioritized price (61%), however 24% of households indicated that purchasing a local product is of primary importance. In other communities, price is still the most popular priority, but responses for local versus organic are more evenly split. This again indicates that Montezuma residents have a stronger than usual interest in their local food system.
- Twice as many residents think local products are of primary importance than think so of organic products.
- Approximately 80% of respondents indicated a willingness to pay more for Colorado grown foods and specifically regionally grown foods (Montezuma, Dolores, and La Plata Counties).

Access to Local Foods

- Nearly seven times as many people report wanting to source their produce ***primarily*** direct from the producer than actually do. This represents a 150% difference between actual and desired shopping habits. Again, this is more extreme than other surveyed communities, indicating that consumer demand is going significantly underserved.

- Similarly, four times as many people would like to depend on their gardens as a ***primary*** source of produce than actually do. This represents a 125% difference between households that primarily depend on their gardens and those that want to.
- 61% of respondents indicated that they would eat more local foods if they were available at the grocery stores where they already shop. If local foods are already available at local grocery stores, this finding indicates a need for better labeling and marketing of these products.
- 58% of respondents said they would eat more local foods if there were more farmers' markets or produce stands. This could include more locations, more days of the week, or different hours.

C. Opportunities and Recommendations to Grow Montezuma's Local Food Economy

Survey results clearly indicate an unmet consumer demand for local – primarily meaning regional – food. The survey results reveal opportunities for 1) increasing consumption of local, healthy foods; and 2) growing the local economy through the food system. Respondents indicated a strong interest in self-sufficiency and strategies solely focused on increasing consumption of local, healthy foods should focus on personal gardening. However, survey results also point to means for meeting local demand through local enterprises as well. There is a strong interest in accessing more regionally grown foods through existing grocers as well as additional direct market locations.

Recommendations of strategies to explore to grow the local food economy:

- Summarize the findings of this survey, as well as additional producer outreach, and initiate a campaign to increase awareness of potential – and lost – economic opportunities with local elected officials.
- Develop regional and cooperative distribution (e.g., food hubs, mobile markets, etc.) of produce from throughout Montezuma, Dolores, and La Plata counties.
- Work with local retailers of all sizes to develop and promote local food labeling (build upon the successes of menu labeling at restaurants).
- Work with local retailers of all sizes to ensure significant cold storage and priority placement and marketing of fresh, local produce.
- Map and assess current availability of direct market locations (farmers markets or produce stands) and actively recruit stands where there are gaps. Consider co-location with heavily trafficked community sites, particularly that provide services to families and lower-income populations.
- Consider allowing and promoting on-farm events, marketing and signage, and other revenue-generating opportunities.

VIII. Food Security and Food Assistance

A. Defining Food Security and Food Assistance

Generally, food security is defined as "access by all to sufficient food for an active, healthy life." The USDA defines several levels of food security, including the following:

- High food security- no reported indication of food access problems or limitations
- Marginal food security- one or two reported indications--typically of anxiety over food sufficiency or shortage of food in the house. Little or no indication of changes in diets or food intake
- Low food security- reports of reduced quality, variety, or desirability of diet. Little or no indication of reduced food intake.

- Very low food security- reports of multiple indications of disrupted eating patterns and reduced food intake

Families experiencing low food security can experience anxiety and worry about what they will eat day in and day out, where it will come from, and how much it will cost given other household needs. For qualifying families, some assistance exists. These food assistance programs tend to fall into two categories: federally provided assistance and community provided assistance.

Many food assistance programs are income-based, meaning that gross annual household income must fall below a certain threshold in order for a family to qualify for federal programs such as SNAP (130% of Federal Poverty Level) and Free and Reduced Lunch Program (130% and 185% of Federal Poverty Level, respectively). The specific income qualifications for 2012 are provided in ***Appendix D***. In some communities, additional charitable food assistance programs may be available for families in need, some income-based and some not. Community-based food assistance programs include food pantries, soup kitchens, and church meals.

Household income and food prices are not the only things that affect food security. In some areas, availability of food, variety and quality of food available, availability of transportation, proper storage of perishables and store locations can influence household food security. These issues are captured by a more encompassing term, called "food access". Food access is discussed in greater detail in *Chapter VI- Healthy Food Access and Consumption.*

B. Food Insecurity in Montezuma County

Food Assistance Programs and Participation

Not just the availability of food, but also food costs, availability of transportation, and the use of food assistance programs can all indicate whether or not a community is food secure. ***Figures 1 and 2***, below, outline available data from Feeding America's Map the Meal Gap[5]. This data describes Colorado's and Montezuma County's food insecure populations and provides average meal prices.

Figures 1 and 2 specifically identify the percent of food insecure people who qualify for income-based programs. For example in ***Figure 1***, 55% of the 4,130 food insecure people in Montezuma County qualify for SNAP and free school lunches, 17% qualify for reduced price lunches, and 28% of food insecure individuals do not qualify for any Federal food assistance programs. This means that 1,156 (28% of 4,130 food insecure individuals) people are struggling to get enough to eat, and must rely on family, friends, and charitable contributions to make ends meet.

Similarly, ***Figure 2*** shows that 378 children (25% of 1,510 children) do not qualify for food assistance programs such as the Free and Reduced Lunch program, and are potentially more insecure than children of lower income families because they are not being served by such programs. As ***Figure 2*** shows, this gap (food insecure children who are not eligible for some programs) still exists even though more and more students are indeed eligible for Free and Reduced Price Meals.

In addition to signifying how well a community is doing in providing consistent, healthy meals to students who need it most, participation rates in Free and Reduced Priced Meal programs (both

[5] More information available at: http://feedingamerica.org/hunger-in-america/hunger-studies/map-the-meal-gap.aspx

breakfast and lunch) have significant financial impacts on school districts. The percentage of eligible students in a district, and that district's track record in getting them fed, determine what grant and funding opportunities districts might be eligible and competitive for. For the 2010-11 school year, Food Research and Action Center[6] estimated that if participation in Free and Reduced Price Breakfasts alone (not including lunches) were to increase from 41% to 60% in Colorado, the state would bring in almost $11 million additional federal dollars.

Ultimately, ***Figure 2*** demonstrates a significant need to better understand the programs available to families with children and to maximize them to their utmost potential. As shown in ***Figures 1 and 2***, the discrepancy between overall food insecurity rates for Montezuma County (16.3%) and the childhood food insecurity rate (25.4%) indicates that food assistance programs are underserving families with children.

[6] Food Research and Action Center, State of the States 2011, http://frac.org/wp-content/uploads/2010/07/co.pdf

Figure 1: Food Insecurity Rates for Colorado and Montezuma County (Mapping the Meal Gap, 2010)

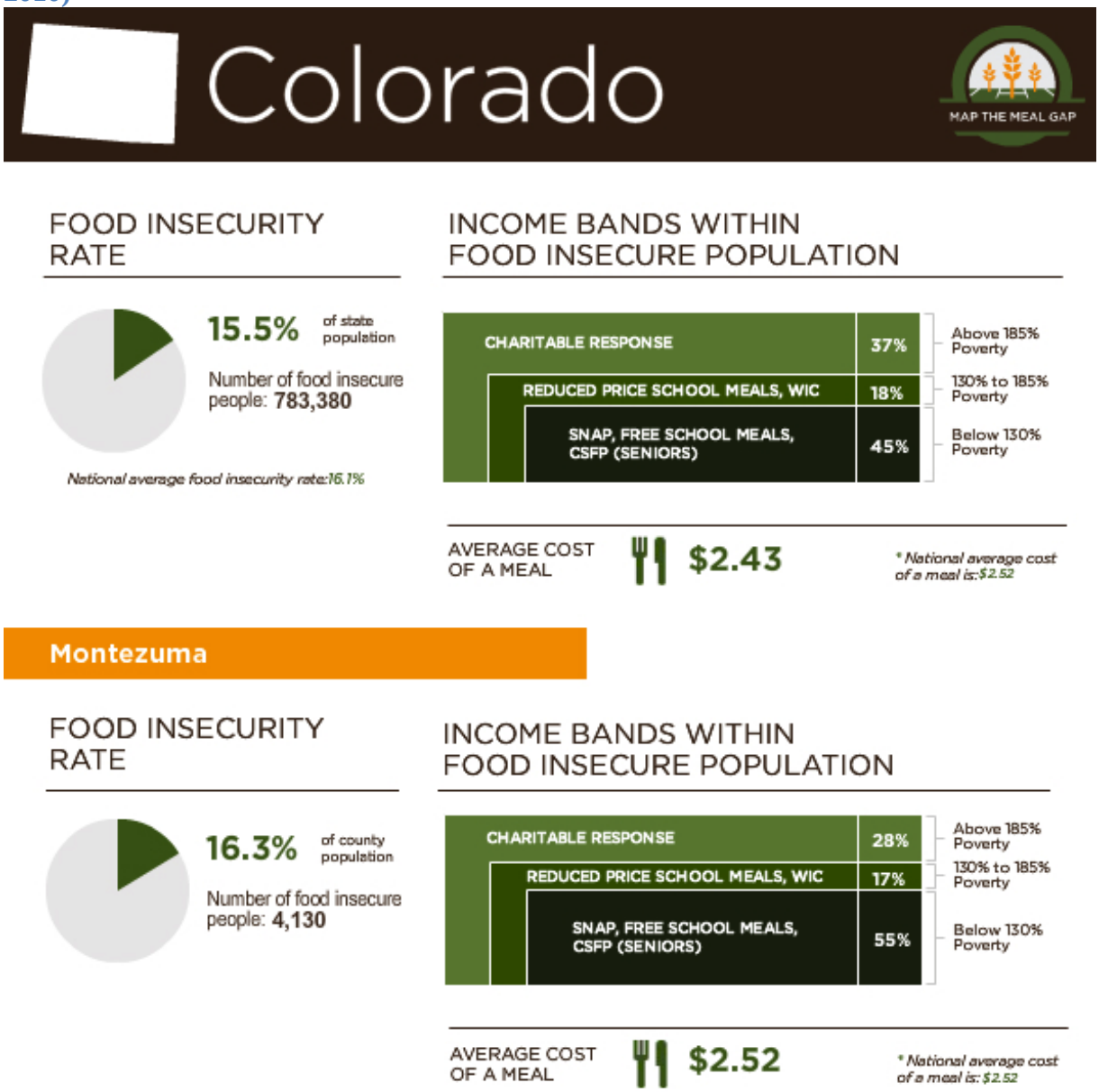
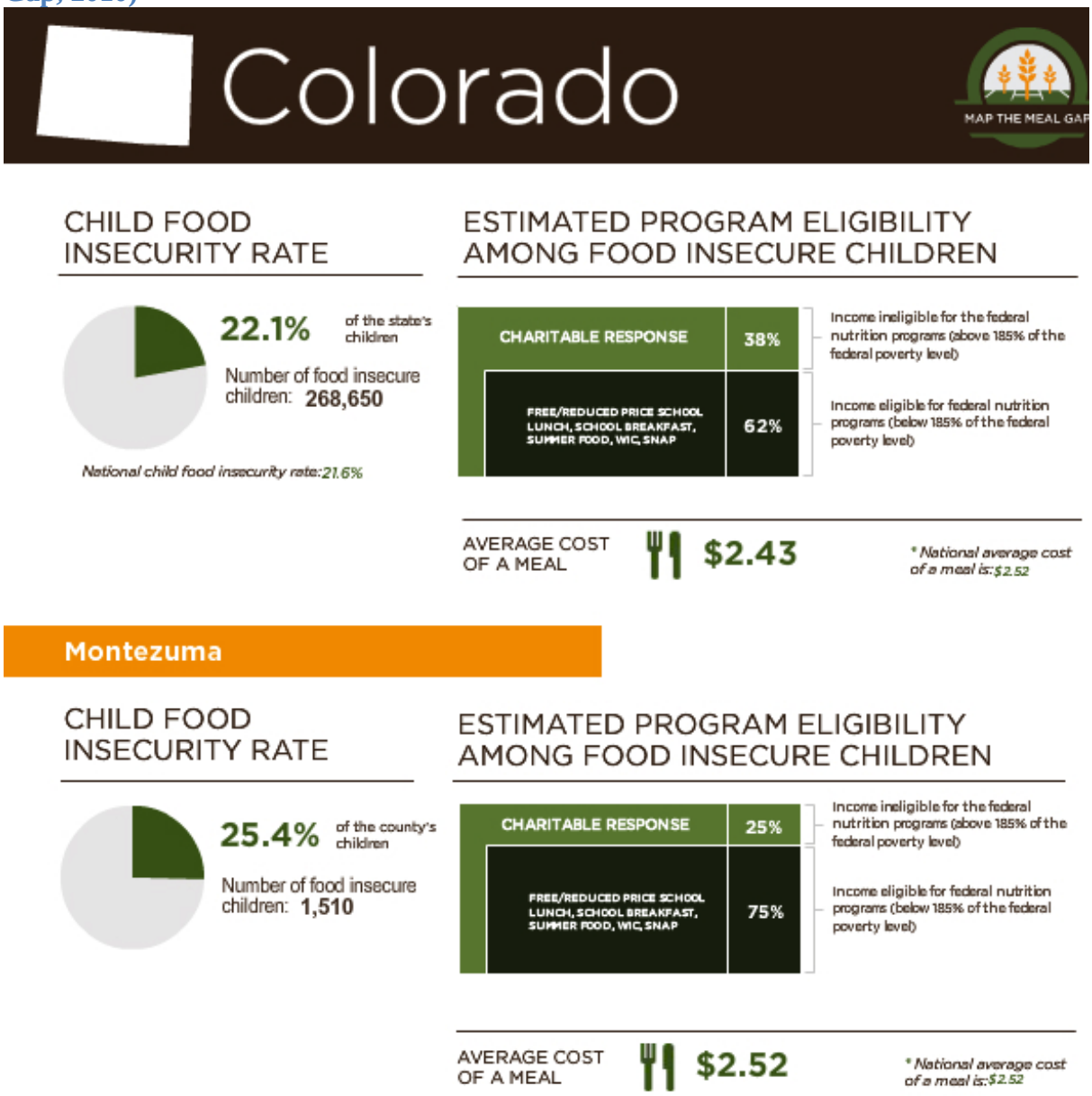


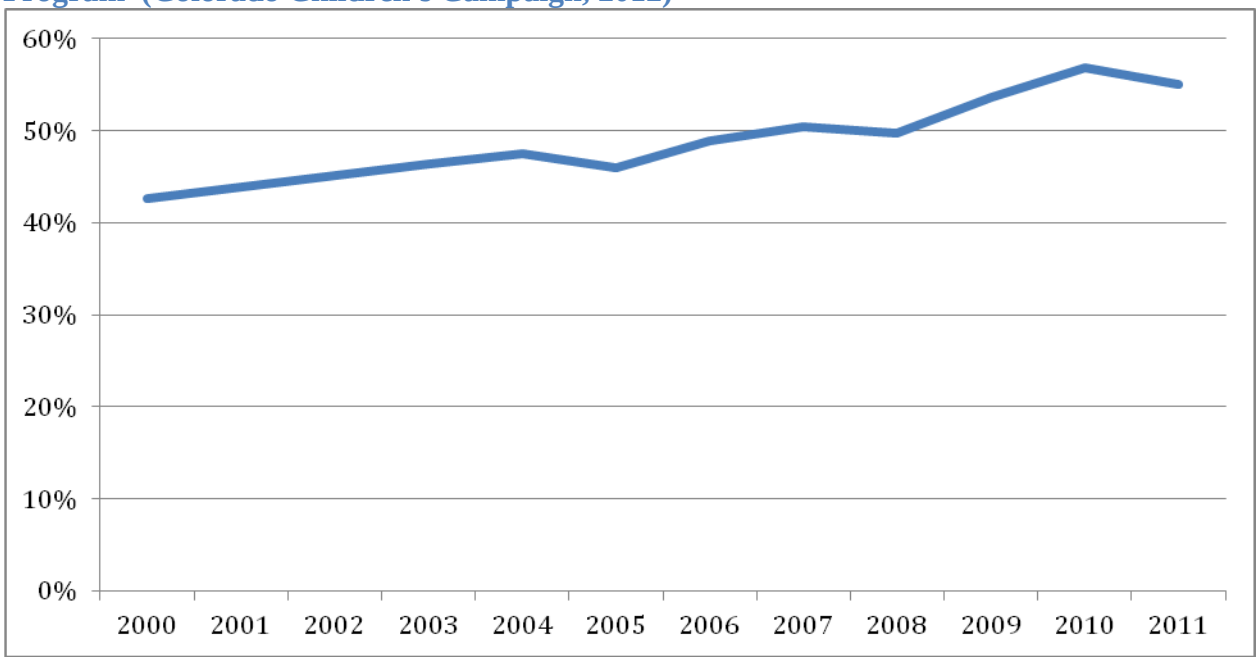
Figure 2: Child Food Insecurity Rates for Colorado and Montezuma County (Mapping the Meal Gap, 2010)



In general, these figures above show that Montezuma County has slightly lower poverty rates than the state *but* the cost of food is significantly higher than the state average. Although food insecurity rates are relatively low, lower than average household incomes, higher travel burdens, and high food prices are probably leaving a fair amount of the population "underserved" because federal standards and definitions do not capture regional characteristics of a remote and rural community.

Figure 3 shows that there has been a generally increasing trend in students who are eligible for the Free and Reduced Lunch program over the past several years. Regarding participation rates, there is a need for more consistent data from school districts on participation rates of eligible children in the breakfast, lunch, and summer meal programs.

Figure 3: Percent of Montezuma County's student body eligible for the Free and Reduced Lunch Program (Colorado Children's Campaign, 2012)



Common Characteristics of Households Experiencing Food Hardship

The survey included questions that were developed directly from the USDA's tool for assessing food insecurity. From those questions, the survey results reveal that respondents who reported marginal or high food security, more reported compromising on the *quality* of foods they select than compromising on the *quantity* of foods. For example, 52% of respondents reported high food security in regards to total *quantity* of household food consumption. However, only 38% of respondents indicated high food security in regards to the *quality* of household food consumption. However, respondents who reported low or very-low food security reported similar degrees of food insecurity around both the quantity and quality of foods they access. Overall, Montezuma County's responses to these questions are similar to other rural counties, places where residents typically under-report challenges regarding food security issues.

Further analysis of the food security questions reveal very few statistically significant differences between households experiencing low food security versus those experiencing high food security. The few differences that are demonstrated are not uncommon. For example, households experiencing low and very-low food security report lower household incomes, lower levels of educational attainment, they have more children at home, and a significant number of them are Hispanic. In addition, they are significantly price sensitive, they rely on community food assistance programs more than others, and they report "having the knowledge and skills to prepare fruits and vegetables" as a primary way to increase household consumption. Households experiencing marginal food security are not significantly different from the rest of the respondents.

C. Opportunities and Recommendations to Strengthen Food Security in Montezuma County

Survey results and national data demonstrate that food insecurity does exist in Montezuma County, as it does in most places of the country. Findings also indicate a need to better understand and document degrees of food insecurity and a need to shore up programs that serve children

and/or families with children, who experience greater degrees of food insecurity. As mentioned above, respondents who reported greater food insecurity more often identified the need for more skills and knowledge to prepare fruits and vegetables, indicating an opportunity for expanded programs that focus on nutrition and shopping competency.

Recommendations of strategies to explore to address food insecurity:

- Develop briefings or white papers, based on these findings, for local elected officials to raise awareness about food insecurity and "what it looks like" in Montezuma County.
- Advocate for good data. Work with local school districts, social service departments, public health departments, and food pantries to collect, document, and share information on a monthly or regular basis regarding eligibility and participation rates in both federal and community food assistance programs.
- Develop and/or expand nutrition, shopping, and cooking education programs to help promote quick and easy meals focused on fruits and vegetables.

IX. Summary

A. Primary Question of the Food System Assessment

How do we support an economically viable, regional food system that provides accessible, affordable food, while improving the health of our regional population?

There is clear, unmet consumer demand for local, regional foods. First and foremost, the significant number of people who **want** to purchase food items directly from a local producer more than they currently do indicates that there is ample market opportunity for regional producers. In addition, most respondents' willingness to either definitely pay more or willingness to consider paying more for regionally produced food suggests that investments in local food systems infrastructure and market outlets will be economically viable, especially if these efforts are coupled with food assistance programming and EBT (Electronic Benefits Transfer) infrastructure for SNAP recipients.

A general lack of focus on "eating better for the sake of eating better" indicates that any cultural or social campaigns should focus on regional, community, and economic development, as opposed to a sole focus on improving health and wellness or eating more fruits and vegetables. However, the results of multiple survey questions indicate that increasing local foods availability – through both personal gardening and market access - could encourage greater consumption of fruits and vegetables, and thus help achieve targeted health outcomes.

Expanding the definition of a regional food system from just Montezuma and Dolores Counties to also include La Plata County will increase the supply of local produce and will also assist in reaching economies of scale needed to justify infrastructure investments.

B. Secondary Questions of the Food System Assessment

How can we maximize residents accessing and consuming healthy and local food?

In addition to supporting the continued development of the local and regional food system, investments in gardening infrastructure and programming will help residents grow their own healthy foods, thus increasing individual access and consumption.

Common barriers such as a lack of time for shopping and cooking can be addressed on both the supply and demand side of the market. Local farmers, cafes, and kitchens can offer minimally

processed pre-washed, pre-cut veggies or meal kits to alleviate at home preparation time constraints. Strategies such as this do trigger an additional layer of food safety regulations and licenses. Dissemination of "quick and easy" community cookbooks and recipes can help residents eat better with less preparation time while also promoting regional and local producers and products. Existing, and proven, programs through CSU Extension and Share Our Strength (such as Shopping Matters and Cooking Matters) could be leveraged.

How can we maximize our region's ability to produce food for local human consumption?
Answers to this question will come out of the producer survey.

X. Appendices

A. Full Survey Instrument

Dear Montezuma County Resident:

LiveWell Montezuma is conducting a survey of Montezuma County residents and we need your help! We want to know where you purchase your food, what foods you like to eat and why, and whether or not you want to eat more locally grown food.

This survey will take about 7 minutes.

Anyone completing the survey prior to June 15th will be entered into 2 drawings: either to win a $100 gift card to Wal-Mart; or to win a $75.00 gift card to Wal-Mart.

All survey information is confidential and your name will not be associated with your responses. To enter the drawings for the gift card you must provide your name and address at the end of the survey. This will be kept separate from the survey information.

If you have any questions about LiveWell Montezuma or this survey please contact JoDee Powers at lwmontezuma@gmail.com or visit our website at http://about.livewellcolorado.org/livewell-montezuma.

DIRECTIONS: There are two types of questions on this survey- multiple choice and ranked. Please answer them according to the following examples:

Multiple Choice Example:

Which of the following states is the best place to live? (check only one)

✓ Colorado ☐ Michigan ☐ California

Ranked Example:

Which months represent your favorite time of year?
Please review the following options and write the letter corresponding to your favorite month next to "1st", then write the letter corresponding to your next two favorite months next to the "2nd" and "3rd".

1st _____**D**_____ 2nd _____**E**_____ 3rd _____**I**_____

A. January
B. February
C. March
D. April
E. May
F. June
G. July
H. August
I. September
J. October
K. November
L. December

1. Which area do you live in or is closest to your home? (check only one)

☐ Cortez
☐ Dolores
☐ Mancos
☐ Towaoc
☐ Other (please specify) _____

2. Where do you typically get most of your <u>fruits and vegetables</u> (fresh, canned, or frozen)?
Please review the following options and write the letter corresponding to the place where you get MOST of your fruits and vegetables next to "1st", then write the letter corresponding to the next two places where you get most of your fruits and vegetables next to the spaces 2nd and 3rd.

1st _____ 2nd _____ 3rd _____

A. Large chain grocery stores (Safeway, City Market, Wal-Mart, etc.)
B. Independent local grocery stores (P&D, Dolores Market, etc.)
C. Wholesale Store (Costco, Sam's Club, etc.)
D. Natural food store
E. Direct from grower (farmers' market, CSA, produce stand, etc.)
F. Fast food restaurants
G. Other restaurants
H. Convenience stores/gas stations (Walgreens, Giant, Conoco, etc.)
I. Food assistance (food bank, pantry, churches, donations from other sources)
J. Gardens (personal, back yard)
K. Senior Center
L. Online purchases
M. Not applicable- I do not buy/get fruits and vegetables
N. Other (please specify)_____

3. Where would you LIKE to get more of your <u>fruits and vegetables</u> (fresh, canned, or frozen)?
Please review the following options and write the letter corresponding to the place where you would like to get more of your fruits and vegetables next to "1st", then write the letter corresponding to the next two places where you would like to get more of your fruits and vegetables foods next to the spaces "2nd" and "3rd".

1st _____ 2nd _____ 3rd _____

A. Large chain grocery stores (Safeway, City Market, Wal-Mart, etc.)

B. Independent local grocery stores (P&D, Dolores Market, etc.)
C. Wholesale Store (Costco, Sam's Club, etc.)
D. Natural food store
E. Direct from grower (farmers' market, CSA, produce stand, etc.)
F. Fast food restaurants
G. Other restaurants
H. Convenience stores/gas stations (Walgreens, Giant, Conoco, etc.)
I. Food assistance (food bank, pantry, churches, donations from other sources)
J. Gardens (personal, back yard)
K. Senior Center
L. Online purchases
M. Not applicable- I do not buy/get fruits and vegetables
N. Other (please specify)_____

4. Where do you get most of the other foods that your family eats (NOT fruits and vegetables)?
Please review the following options and write the letter corresponding to the place where you get MOST of your other foods next to "1st", then write the letter corresponding to the next two places where you get most of your other foods next to the spaces "2nd" and "3rd".

1st _____ 2nd _____ 3rd _____

A. Large chain grocery stores (Safeway, City Market, Wal-Mart, etc.)
B. Independent local grocery stores (P&D, Dolores Market, etc.)
C. Wholesale Store (Costco, Sam's Club, etc.)
D. Natural food store
E. Direct from meat processor/ranch
F. Fast food restaurants
G. Other restaurants
H. Senior Center
I. Convenience stores/gas stations (Walgreens, Giant, Conoco, etc.)
J. Food assistance (food bank, pantry, churches, donations from other sources)
K. Meal delivery program (Meals on Wheels, etc.)
L. Online purchases
M. Not applicable- I grow/make most of my other foods
N. Other (please specify)_____

5. How do you usually travel to where you get most of the <u>fruits and vegetables</u> your family eats?
Please review the following options and write the letter corresponding to how you usually travel to where you get your fruits and vegetables next to "1st", then write the letter corresponding to the next two ways you usually travel to get your fruits and vegetables next to the spaces "2nd" and "3rd".

1st _____ 2nd _____ 3rd _____

A. Personal car
B. In someone else's car
C. Bike
D. Walk
E. Shuttle/taxi
F. It is delivered to me
G. Not applicable- I grow most of my own fruits and vegetables.
H. Other (please specify) _____

6. Approximately how far do you live from where you get most of the fruits and vegetables eaten by your family? (check only one)

- ☐ One to 5 blocks (less than a half mile)
- ☐ Between half mile and a mile
- ☐ Between 1.1 mile and 3 miles
- ☐ Between 3.1 miles and 5 miles
- ☐ Between 5.1 miles and 10 miles
- ☐ Between 10.1 miles and 30 miles
- ☐ Over 30 miles (I shop in Durango/Farmington)
- ☐ Not applicable- I do not eat fruits and vegetables
- ☐ Not applicable- I grow most of my fruits and vegetables at home

7. Which of the following, if any, make it challenging for you to GET fruits and vegetables?
Please review the following options and write the letter corresponding to the barrier you find the most challenging next to "1st", then write the letter corresponding to the next two most challenging barriers next to the spaces "2nd" and "3rd".

1st _____ 2nd _____ 3rd _____

A. Distance to store
B. Transportation
C. Store hours
D. Price
E. Physical disabilities
F. Amount of time available
G. Not applicable
H. Other (please specify)_____

8. How much do the challenges listed above make it hard for you to get fruits and vegetables? (check only one)

- ☐ Not at all difficult
- ☐ Slightly difficult
- ☐ Moderately difficult
- ☐ Considerably difficult
- ☐ Extremely difficult
- ☐ Not Applicable

9. Which of the following, if any, make it challenging for you to EAT fruits and vegetables?
Please review the following options and write the letter corresponding to the barrier you find the most challenging next to "1st", then write the letters corresponding to the next two most challenging barriers next to the spaces "2nd" and "3rd".

1st _____ 2nd _____ 3rd _____

A. Physical disabilities
B. Amount of time available to prepare them
C. Knowledge of how to prepare and cook meals with fruits and vegetables
D. Tastes and preferences of household members
E. Available kitchen or equipment
F. Allergies or food restrictions
G. Not applicable
H. Other (please specify) _____

10. In deciding which fruits and vegetables to GET, which factors are the most important to you?
Please review the following options and write the letter corresponding to the most important factor next to "1st", then write the letters corresponding to the next two most important factors next to the spaces "2nd" and "3rd".

1st _____ 2nd _____ 3rd _____

A. Freshness/quality
B. Prices
C. Health/nutrition
D. Convenience/ease of preparation
E. Taste
F. Familiarity
G. Organic
H. Locally grown
I. Popular in my culture
J. Social justice (e.g., good workers' pay and working conditions, fair returns to farmers)
K. Other (please specify) _____

11. If getting locally grown/made items is important to you, what do you define as "local"? (check only one)

- ☐ Grown/made in Montezuma or Dolores County
- ☐ Grown/made in Colorado
- ☐ Grown/made in the United States
- ☐ It is not important to me
- ☐ Other (please specify)_____

12. Please rank these three factors in order of importance (1st-3rd) with regard to your household food purchases.

Please review the following options and write the letter corresponding to the most important factor next to "1st", then write the letters corresponding to the next two most important factors next to the spaces "2nd" and "3rd".

1st _____ 2nd _____ 3rd _____

A. Price
B. Organically grown/made
C. Locally grown/made

13. What might make it easier for you to include more locally grown/made foods in your diet?

Please review the following options and write the letter corresponding to the thing that would make it EASIEST for you to includde more locally grown/made foods in your diet next to "1st", then write the letters corresponding to the next two things that would make it easier for you next to the spaces "2nd" and "3rd".

1st _____ 2nd _____ 3rd _____

A. More affordable
B. Served at my worksite or school
C. More farmers' markets or farm stands (e.g., more locations or market days, year-round markets)
D. More provided at my food bank/food pantry/meal delivery program
E. Sold at grocery stores I shop at
F. More clearly labeled
G. Greater variety of food grown and/or grown year-round
H. Knowing more about how to grow it myself
I. Knowing how/where to find it
J. Having space to grow it myself
K. Prepared or packaged meals that include locally grown/made foods
L. More restaurants that serve locally grown/made foods
M. Not applicable

N. Other (please specify)_____

14. Are you willing to pay more for fruits and vegetables grown in Colorado versus outside of Colorado? (check only one)

☐ Yes ☐ No ☐ Maybe

15. Are you willing to pay more for fruits and vegetables grown in Montezuma or Dolores Counties versus produce grown outside of these counties? (check only one)

☐ Yes ☐ No ☐ Maybe

16. If a recommended serving size equals 1/2 cup vegetable or fruit, 1⁄4 cup dried fruit, or one cup of leafy vegetables, how many servings of fruits and vegetables do you personally eat on a daily basis? (check only one)

☐ None ☐ 3 ☐ 6 or more
☐ 1 ☐ 4
☐ 2 ☐ 5

17. What would make it easier for you to eat more fruits and vegetables?
Please review the following options and write the letter corresponding to the thing that would make it EASIEST for you to include more fruits and vegetables in your diet next to "1st", then write the letters corresponding to the next two things that would make it easier for you next to the spaces "2nd" and "3rd".

1st _____ 2nd _____ 3rd _____

A. Less expensive
B. More fruits and vegetables available at my worksite or school
C. More grocery stores near where I live/work
D. Better selection of fruits and vegetables at grocery stores
E. More restaurants that offer them near where I live/work
F. More convenience stores that sell fruits and vegetables
G. More street or mobile vendors
H. Bus routes or shuttle service to places that sell them
I. A community garden in my neighborhood
J. More farmers' markets (e.g., more locations or market days, year-round markets)
K. More produce or farm stands
L. More provided at my food bank/food pantry/meal delivery program
M. More stores that carry the produce that we eat in my culture
N. More time to prepare/cook them
O. Knowing how to prepare them
P. Having someone to cook for/eat with
Q. If I/my family liked eating them
R. Knowing how to grow my own food/having the space to grow food
S. Other (please specify)_____

18. In the past 12 months, how often were you unable to feed your household all that you wanted because of cost? (check only one)

☐ Always ☐ Less than half of the time
☐ More than half of the time ☐ Never
☐ Half of the time

19. How often do you have to compromise on healthy or balanced food items because of budget concerns? (check only one)

- ☐ Always
- ☐ More than half of the time
- ☐ Half of the time
- ☐ Less than half of the time
- ☐ Never

20. How many people currently live in your household (yourself included)? (check only one)

- ☐ 1
- ☐ 2
- ☐ 3
- ☐ 4
- ☐ 5 or more

21. How many members of your household are under the age of 19? (check only one)

- ☐ 0
- ☐ 1
- ☐ 2
- ☐ 3 or more

22. What is your gender? (check only one)

- ☐ Male
- ☐ Female
- ☐ Transgender
- ☐ Choose not to respond

23. What is your age? Please enter a whole number only _____

24. What is your ethnicity? (check only one)

- ☐ White
- ☐ Black, African American
- ☐ Hispanic/Latino/Spanish Origin
- ☐ American Indian or Alaska Native
- ☐ Asian Indian
- ☐ Asian
- ☐ Native Hawaiian or Pacific Islander
- ☐ Other
- ☐ Choose not to respond

25. What is the highest level of education you have obtained? (check only one)

- ☐ Less than high school graduate
- ☐ High school graduate/GED
- ☐ Some college, no degree
- ☐ Associate's degree
- ☐ Bachelor's degree
- ☐ Graduate or professional degree

26. What is your annual household income? (check only one)

- ☐ Less than $10,000
- ☐ $10,000-$14,999
- ☐ $15,000-$24,999
- ☐ $25,000-$34,999
- ☐ $35,000-$49,999
- ☐ $50,000-$74,999
- ☐ $75,000-$99,999
- ☐ $100,000-$149,999
- ☐ $150,000-$199,999
- ☐ $200,000 or more
- ☐ Choose not to respond

27. Is there anything else you would like to share with us regarding food?

Thank you for taking the time to complete our survey! With your input, we are learning how to help ensure that all Montezuma County residents can have consistent access to fresh, affordable, and healthy foods.

We will be issuing a report of recommended strategies to improve access to healthy foods that will take into account the surveys, focus groups, interviews, and other forms of community engagement. LiveWell Montezuma would like to thank all county organizations, agencies and local governments for their assistance in developing and disseminating this survey.

In the meantime, if you have any questions or comments, please contact LiveWell Montezuma Coordinator, JoDee Powers at 303.913.8332 or lwmontezuma@gmail.com.

28. Please enter your first name only and the best way to contact you (phone number or email address) in order to be entered into the drawing. Your personal information will be separated from your survey answers and be used ONLY for selecting gift card winners.

B. Survey Dissemination Plan

C. Demographics of Survey Respondents

In total, 586 surveys were completed: none in Spanish, 229 in English on paper, and 357 in English on the Internet. Of completed surveys, 585 were kept for analysis. This represents 5.3% of total county households. As with most surveys, a majority of respondents reported middle to upper educational level attainment and were female (typically head of household affairs), however actual population income levels were represented well by the survey pool. Select demographic survey data are compared to 2010 American Community Survey data in ***Table 1.***

Table 1: Select Survey Demographic Data Compared to Census or American Community Survey Data

Zip Code, Area of Residence		
Answer Options	Response Percent	Census/ACS Percent
Cortez	63.4%	52.0%
Dolores	18.6%	7.7%
Mancos	14.7%	3.8%
Towaoc	1.9%	--
Other	1.4%	34.7%
	answered question	585
Household Income		
Answer Options	Response Percent	Census/ACS Percent
Less than $10,000	11.1%	7.8%
$10,000-$14,999	5.0%	8.7%

$15,000-$24,999	9.6%	12.0%
$25,000-$34,999	12.5%	11.4%
$35,000-$49,999	14.0%	15.7%
$50,000-$74,999	19.0%	17.6%
$75,000-$99,999	9.9%	13.1%
$100,000-$149,999	5.8%	8.2%
$150,000-$199,999	1.5%	2.6%
$200,000 or more	0.5%	2.4%
Choose not to respond	11.1%	--
	answered question	585

Race/Ethnicity

Answer Options	Response Percent	Census/ACS Report
White	78.5%	74.7%
Black, African American	0.7%	0.5%
Hispanic/Latino/Spanish Origin	4.6%	11.6%
American Indian or Alaska Native	7.9%	12.2%
Asian	0.0%	0.5%
Native Hawaiian or Pacific Islander	0.0%	0.1%
Choose not to respond	6.5%	--
Other	1.9%	0.0%
	answered question	585

Educational Attainment Level

Answer Options	Response Percent	Census/ACS Report
Less than high school graduate	3.4%	11.6%
High school graduate/GED	15.9%	29.7%
Some college, no degree	19.3%	25.1%
Associate's degree	14.4%	7.0%
Bachelor's degree	26.0%	16.8%
Graduate or professional degree	19.8%	9.7%
Choose not to respond	1.2%	--
	answered question	585

D. Income Eligibility Guidelines for Food Assistance Programs

Figure 4: Percent of Federal Poverty Level for 2012 by Family Size

48 Contiguous States and the District of Columbia

	% Gross Yearly Income									
Family Size	25%	50%	75%	81%	100%	133%	175%	200%	250%	300%
1	$2,793	$5,585	$8,378	$9,048	$11,170	$14,856	$19,548	$22,340	$27,925	$33,510
2	$3,783	$7,565	$11,348	$12,255	$15,130	$20,123	$26,478	$30,260	$37,825	$45,390
3	$4,773	$9,545	$14,318	$15,463	$19,090	$25,390	$33,408	$38,180	$47,725	$57,270
4	$5,763	$11,525	$17,288	$18,671	$23,050	$30,657	$40,338	$46,100	$57,625	$69,150
5	$6,753	$13,505	$20,258	$21,878	$27,010	$35,923	$47,268	$54,020	$67,525	$81,030
6	$7,743	$15,485	$23,228	$25,086	$30,970	$41,190	$54,198	$61,940	$77,425	$92,910
7	$8,733	$17,465	$26,198	$28,293	$34,930	$46,457	$61,128	$69,860	$87,325	$104,790
8	$9,723	$19,445	$29,168	$31,501	$38,890	$51,724	$68,058	$77,780	$97,225	$116,670

	% Gross Monthly Income									
Family Size	25%	50%	75%	81%	100%	133%	175%	200%	250%	300%
1	$233	$465	$698	$754	$931	$1,238	$1,629	$1,862	$2,327	$2,793
2	$315	$630	$946	$1,021	$1,261	$1,677	$2,206	$2,522	$3,152	$3,783
3	$398	$795	$1,193	$1,289	$1,591	$2,116	$2,784	$3,182	$3,977	$4,773
4	$480	$960	$1,441	$1,556	$1,921	$2,555	$3,361	$3,842	$4,802	$5,763
5	$563	$1,125	$1,688	$1,823	$2,251	$2,994	$3,939	$4,502	$5,627	$6,753
6	$645	$1,290	$1,936	$2,090	$2,581	$3,433	$4,516	$5,162	$6,452	$7,743
7	$728	$1,455	$2,183	$2,358	$2,911	$3,871	$5,094	$5,822	$7,277	$8,733
8	$810	$1,620	$2,431	$2,625	$3,241	$4,310	$5,671	$6,482	$8,102	$9,723

- Families are eligible for SNAP and the Free Lunch Program at or below 130% of the Federal Poverty Limit
- Families are eligible for WIC and the Reduced Lunch Program at or below 185% of the Federal Poverty Limit