REACH BASELINE REPORT

February, 2016

Prepared for:
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Community Wellness Program
Preventive Medicine Department

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Executive Summary

Background

Toiyabe Indian Heath Project (TIHP) collaborated with partners to improve the affordability of healthy foods, employ point of purchase signage, increase community members' awareness of healthy food outlets and healthy food preparation, offer technical assistance to food retail outlets operating in food deserts, and implement communication approaches to increase awareness of location of healthy food options. Short-term intended outcomes of these farmers market interventions include reduced costs for, and increased knowledge and availability of, healthy foods.

In 2015, two separate weekly farmers markets ran from June-September on two separate tribal reservation areas. The Bishop Paiute Tribe Farmers Market and Big Pine Paiute Tribe of the Owens Valley Farmers Market are physically located on tribal lands and are open to the public.

The Public Health Institute was contracted by the TIHP to evaluate TIHP REACH Farmers Market intervention activities. Data collection was conducted two times per month, per market, for three months, resulting in six data collection sessions.

Methods

To evaluate an estimate of farmers market attendance, observation sessions were done at each market for twenty minutes, for a total of 17 observation periods. A total of 163 adults and children were recorded entering the market during these observation periods, for an overall average of ten people per observation interval. There were higher entrance counts recorded in the beginning of the farmers markets.

Adults, ages 18 and older, were approached by the community data collectors at the farmers market as they passed by the TIHP booth, and asked to participate in a survey about their market experience. Survey respondents were screened to ensure they were a) aged 18 or older, b) had 15 minutes to complete a survey, and c) had not previously received a gift card for completion of a TIHP Farmers Market survey in the current calendar year. A \$15 gift card to a local grocery store was provided to eligible participants who completed the survey.

Results

There were 40 eligible participants who completed the survey; 40% from Big Pine and 60% from Bishop. The survey took 11 minutes to complete on average. Almost 63% of the survey participants were female. The average age was 46 years and over 77% self-identified as American Indian or Alaska Native.

This was the first visit to the market for 38% of participants. Four out of five participants had heard about the market through a friend, family member, or word-of-mouth (40%), or through the Bishop or Big Pine Tribal Newsletter (40%). The primary reasons listed for visiting the market was to purchase fruits and vegetables (38%), to hang out or visit with friends (30%), to sell items and/or assist vendors (18%), or just to check out the market (8%).

The primary reason preventing people from attending the markets more frequently were location, hours, or transportation issues (25%), the weather (13%), being too busy (8%) or forgetting (8%).

About 88% of survey participants purchased fruits and/or vegetables during their visit to the farmers market. Of these 35 people, the average amount spent on fruits and vegetables was \$8.80 (median of \$6.00; range \$0.50 - \$30.00). While 35% reported there was nothing else they wanted at the market, 27% reported the main reason they did not purchase more farmers market items was because they ran out of money.

As a result of shopping at this farmers market, 50% of participants reported they had been eating more fruits and/or vegetables and 65% had been eating more different kinds of fruits and/or vegetables, than before they started to shop there. The majority of participants agreed that they were eating more fruits, vegetables, and food that was overall fresher as a result of shopping at the farmers market. Nearly 98% of participants felt better about where their food comes from as a result of shopping at the farmers market.

When asked about their fruit and vegetable consumption, one out of every four participants (25%) reported they ate at least five servings of fruits and vegetables (combined) every day. Participants typically ate more vegetables than fruit. All participants reported eating at least one fruit and at least one vegetable per day. On average, people consumed fruits and vegetables 3.9 times per day. Fifty percent of the respondents eat fruits and vegetables at least 3.7 times per day.

Common themes about what participants liked best about the farmers market included the variety of fresh, local products and availability of fruits and vegetables, the social aspects of the market, meeting new people, the sense of community, and the entertainment. The weather (hot temperatures, smoky conditions), the lack of variety in products, produce, and vendors, and the dirt were commonly cited as things participants liked least about the market. However, 14 participants (35%) responded there was "nothing" they liked least about the market, indicating that they had no complaints about the current market setup.

Discussion

Generally, survey participants liked the farmers markets and emphasized that the community vibe, socialization aspects, and meeting of new people was an important component. Most of the participants purchased fruits and vegetables at the market. There is a demand for a greater variety and availability of vendors, produce, and products at these markets.

The vast majority of survey respondents are not eating the recommended amount of fruits and vegetables per day. Opportunities to increase education regarding fruit and vegetable intake at the farmers markets may be beneficial in increasing purchasing and consumption habits. Targeting educational or promotional efforts towards specific categories of vegetables (e.g., dark green vegetables, orange vegetables) may be useful in increasing fruit and vegetable purchases and consumption.

Many participants felt that the cost of produce was prohibitive. Opportunities to reduce barriers in purchasing produce at the market could result in positive purchasing responses from the community. Increasing the amount of, or education on, traditional native foods could also influence positive purchasing and consumption behaviors.

Limitations

Attendance at the farmers markets was modest. This was likely due multiple factors, including but not limited to the rural community setting, the timing of the market, and smoky or hot weather conditions. Due to the small sample size, results should be interpreted with caution.

Recommendations

It was recommended that both farmers markets:

- 1. Increase the variety and quantity of produce (fruits and vegetables) available.
- 2. Increase advertising and outreach efforts for vendors.
- 3. Increase the number of vendors selling healthy food and cultural items.
- 4. Increase the availability of shade or cool-down areas during the summer months.
- 5. Increase advertising of markets shoppers to increase attendance.
- 6. Explore alternate afternoons/evenings for the markets. Several markets were held during competing community events in the summer on Friday evenings (e.g., Indian Days Parade, Millpond Music Festival, Pabanamania Pow-Wow, hand game tournaments, etc.). Many community members were preparing to leave town on Friday afternoons/evenings to attend other out-of-town tribal and cultural events.
- 7. Explore targeted fruit and vegetable consumption/nutrition education opportunities at farmers markets to increase the amount of fruits and vegetables purchased, and ultimately consumed, by attendees.
- 8. Continue to include local Indian vendors selling cultural items, jewelry, and foods.
- 9. Continue to include, and increase the promotion of, local fresh produce and foods.
- 10. Continue to support and promote the market as a place to socialize, meet new people, visit with new people, and give shoppers a sense of community. Strategize on how to increase these factors with additional cultural events, music, events.
- 11. Consolidate gift card distribution duties to TIHP staff.

Because attendance was small at the farmers markets, it is recommended that all entrants be counted as they enter the market for the entirety of the market, instead of in twenty minute increments, to get a more accurate estimate of attendees.

Background

Toiyabe Indian Health Project (TIHP) was awarded a grant from the Centers for Disease Control and Prevention (CDC): Racial and Ethnic Approaches to Community Health (REACH). Interventions run by TIHP under the REACH grant include, but are not limited to, tribal community farmers markets, tribal community gardens, nutrition education, Elder nutrition, and promoting the adoption of healthy food policies. The Public Health Institute (PHI) has been contracted by TIHP to conduct an outcome evaluation and actual use assessment for TIHP REACH Farmers Market intervention activities.

TIHP collaborates with partners to improve the affordability of healthy foods, employ point of purchase signage, increase community members' awareness of healthy food outlets and healthy food preparation, offer technical assistance to food retail outlets operating in food deserts, and implement communication approaches to increase awareness of location of healthy food options. Short-term intended outcomes of these farmers market interventions included reduced costs for, and increased knowledge and availability of, healthy foods.

In 2015, two separate weekly farmers markets ran from June-September on two separate tribal reservation areas:

- 1. Bishop Paiute Tribe Farmers Market
- 2. Big Pine Paiute Tribe of the Owens Valley Farmers Market

The farmers markets are physically located on tribal lands and are open to the public. The Bishop Farmers Market is new as of 2015; the Big Pine Farmers Market is an existing market.





Big Pine Farmers Market

Bishop Farmers Market

Radio, print, and social media outreach efforts promoted the farmers market among the two tribal communities. The markets featured produce grown from local tribal and non-tribal reservation gardens, produce grown from local community member personal gardens, and other food and craft items from local community members and organizations. Depending on the site, booths at the farmers market were available for vendors to rent for \$5 - \$15 per week.

The actual use evaluation assessed the number of persons visiting the farmers markets. The outcome evaluation assessed to what extent members in tribal communities increased their purchase, and consumption, of fruits and vegetables as a result of a farmers market intervention on the Bishop Paiute and Owens Valley Reservations. Specifically, these evaluations sought to answer:

- 1. Number of people purchasing fruits and/or vegetables at the farmers market.
- 2. Amount spent for fruits and/or vegetables at the farmers market per visit.
- 3. How often fruits and/or vegetables are purchased at the farmers market.
- 4. Increase in fruit/vegetable consumption in the past year.
- 5. Fruit and vegetable consumption (servings) for farmers market patrons.
- 6. Number of persons visiting the farmers markets.

Methods

TIHP advertised Community Data Collector positions in their Community Newsletter late spring/early summer of 2015. Four Bishop or Big Pine American Indian community members were hired. Training was led by PHI staff and held at TIHP <u>Preventive Medicine</u> department, and included an overview of the project and peer-to-peer pilot testing of the data collection instruments.

The Big Pine Farmers Market was typically open on Fridays from 5:00PM-8:00PM; the Bishop Farmers Market was open Fridays from 4:30-7:00PM.

Actual Use

A farmers market entrance form (<u>Appendix A</u>) was used to evaluate the actual use of the farmers market. A protocol based off previously conducted market entrance count effort in other areas (<u>Appendix B</u>). At each market, an exact boundary where people are considered to have entered the market was determined ahead of time. Children and adults were observed by and recorded separately by two different

time. Children and adults were observed by and recorded separately by two different data collectors. For twenty minutes every hour during the duration of the farmers market, the number of adults and children who entered the market were counted on a hand-held clicker. At the end of the twenty minute period, the number of adults and children was recorded on separate farmers market entrance forms. At the beginning of the next hour (40 minutes after the conclusion of the first observation session), the process was repeated until the last full hour of the farmers market.



Outcome

A survey was designed utilizing previously validated questions, questions used at farmers markets in rural areas, and questions developed by PHI and other health organizations. The source list of questions is available in Appendix B. This survey was used to evaluate purchasing practices, fruit and vegetable intake, and customer opinions of the market. The list of survey questions is available in Appendix C.

The survey was designed to be displayed on a tablet and read out loud to participants by Community Data Collectors. QuickTapSurvey (http://www.quicktapsurvey.com/) is a software that allows survey responses to be collected in a convenient format on a tablet and does not require access to Wi-Fi or Internet. QuickTapSurvey licenses were purchased and the software was installed on PHI iPads. The survey was programmed into QuickTapSurvey software, and data collection was conducted, including the recording of responses, by the trained Community Data Collectors. At the conclusion of each data collection period, iPads were gathered by a

TIHP staff member and responses were synced at TIHP offices to the QuickTapSurvey website for access by PHI staff.

Due to the small attendance sizes of the farmers, markets, a convenience sample was utilized for survey responses. Adults were approached by the community data collectors at the farmers market as they passed by the TIHP booth (e.g., convenience sample), and asked to participate in a survey about their market experience. Survey respondents were screened to ensure they were a) aged 18 or older, b) had 15 minutes to complete a survey, and c) had not previously received a gift card for completion of a TIHP Farmers Market survey in the current calendar year.

A \$15 gift card to a local grocery store was provided to eligible participants who completed the survey.

Results

Data collection was conducted two times per month, per market, during the months of July, August and September, resulting in six data collection sessions. On at least two occasions, staff notated that the markets experienced smoky conditions, due to a nearby fire in the area. The weather was reported by data collection staff to be windy and hot on all occasions. On four of the six markets, the temperature high for the day was greater than 99 degrees (Table 1).



After three markets, one Community Data Collector was let go due to attendance and transportation issues. A TIHP staff took over duties of actual use counts for children at the farmers markets.

Actual Use

On all but one occasion, three observation sessions were done at each market for twenty minutes, for a total of 17 observation periods. A total of 163 adults and children were recorded entering the market during these observation periods, for an overall average of ten people per observation interval. There were higher entrance counts recorded in the beginning of the market (Table 1).

The Big Pine Farmers Market had a conflict on 9/11/2015, resulting in only two observation sessions completed at the market on this day.

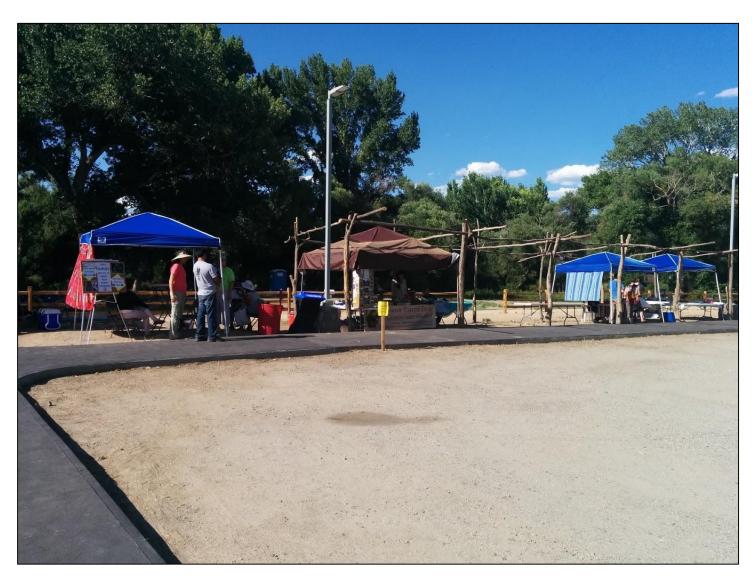


Table 1: Farmers Market Entrance Counts

Market			Observation 1 Observation 2		Observation 3			20 M Aver	inute rage							
Date	Location	Start Time	End Time	Hi/Lo ¹	Target Pop	Start	End	Entrance Count	Start	End	Entrance Count	Start	End	Entrance Count	Target Pop	Total
7/17/15	Bishop	4:30p	7:00p	99°	Adult	4:50p	5:11p	11	5:50p	6:10p	9	6:40p	7:00p	4	8	
7/17/15	Bishop	4:30p	7:00p	53°	Child	4:50p	5:11p	3	5:50p	6:10p	4	6:40p	7:00p	2	3	6
7/24/15	Big Pine	5:00p	8:00p	93°	Adult	5:30p	5:50p	12	6:30p	6:50p	4	7:30p	7:50p	1	6	_
7/24/15	Big Pine	5:00p	8:00p	56°	Child	5:30p	5:50p	7	6:30p	6:50p	3	7:30p	7:50p	0	3	5
8/14/15	Big Pine	5:25p	7:45p	100°	Adult	5:25p	5:45p	17	6:25p	6:45p	8	7:25p	7:45p	0	8	_
8/14/15	Big Pine	5:25p		67°	Child	5:25p	5:45p	4	6:25p	6:45p	3	7:25p		0	2	5
8/21/15	Bishop	4:30p		100°	Adult	4:30p	4:50p	7	5:30p	5:50p	10	6:30p	6:50p	1	6	5
8/21/15	Bishop	4:30p		56°	Child	4:30p	4:50p	4	5:30p	5:50p	5	6:30p	6:50p	2	4	5
9/11/15	Big Pine	5:30p		101°	Adult	5:30p	5:50p	0	6:30p	6:50p	1				1	1
9/11/15	Big Pine	5:30p	7:08p	56°	Child	5:30p	5:50p	0	6:30p	6:50p	1				1	1
9/18/15	Bishop	4:30p		87°	Adult	4:30p	4:50p	11	5:30p	5:50p	10	6:30p	6:50p	4	8	7
9/18/15	Bishop	4:30p		49°	Child	4:30p	4:50p	5	5:30p	5:50p	8	6:30p	6:50p	2	5	/
					Total			81			66			16		
					Average			7			6			2		

¹ Weather estimates are from Weather Underground historical data at www.wunderground.com. Qualitative weather descriptions were recorded on the Farmers Market Entrance Form by the Community Data Collectors.

Outcome

A total of 40 eligible participants completed the survey. There were 42 surveys collected in the QuickTapSurvey system. One participant was not over the age of 18, and was not eligible to complete the survey. One participant had already completed a survey and received an incentive, and was not eligible to complete an additional survey. Sixteen surveys (40%) were from Big Pine and 24 (60%) were from Bishop. The survey took approximately 11 minutes to complete.

There were 43 gift cards distributed.





Demographics

Almost 63% of the survey participants were female. The average age was 46 years and over 77% self-identified as American Indian or Alaska Native. Two participants participated in the Food Distribution on Indian Reservation (FDIR) program (commonly referred to as the commodities program), and three received Women, Infants, and Children (WIC) benefits. Seven participants (18%) currently received Supplemental Nutrition Assistance Program (SNAP) benefits, formerly the food stamp program and known in California as CalFresh.

Market Attendance Characteristics

This was the first visit for 38% of participants. Four out of five participants had heard about the market through a friend, family member, or word-of-mouth (40%), or through the Bishop or Big Pine Tribal Newsletter(s) (40%).

Participants lived an average of 7 minutes and 5 miles from the Bishop Farmers Market, and 8 minutes and 6 miles from the Big Pine Farmers Market.

The primary reasons listed for visiting the market was to purchase fruits and vegetables (38%), to hang out or visit with friends (30%), to sell items and/or assist vendors (18%), or just to check out the market (8%). Other reasons listed for visiting the market included Indian tacos, to take the survey, and tomatoes. The primary reason preventing people from attending the markets more frequently were location, hours, or transportation issues (25%), the weather (13%), being too busy (8%) or forgetting (8%).



Shopping Behaviors & Market Perceptions

About 88% of survey participants purchased fruits and/or vegetables during their visit to the farmers market. Of these 35 people, the average amount spent on fruits and vegetables was \$8.80 (median of \$6.00; range \$0.50 - \$30.00).

While 35% reported there was nothing else they wanted at the market, 27% reported the main reason they did not purchase more farmers market items was because they ran out of money. Only three people reported that they did not purchase more because of a lack of EBT or because they could not carry any additional products. Six people indicated that they did not purchase more because there was a lack of variety of fruits and vegetables. Other people indicated that that their schedule or plans to leave town soon (2), their stomach was full (1), they just wanted vegetables (1), they had their own garden (1), the price, and (1) they wanted Indian tacos (1), prevented them from purchasing more at the market.



Participants were asked to rate multiple aspects of products sold at the respective famers market. Over half of the participants felt that the convenience, location, availability of parking, hours of operation, and the social atmosphere were excellent (Table 2). The availability and variety of foods at the market were rated as poor or fair by some of the participants.

Table 2: Market Aspects

Market Aspect	Excellent	Good	Fair	Poor	Don't know
Quality of products for sale	35.0%	47.5%	15.0%	-	2.5%
Variety of products for sale	10.0%	35.0%	45.0%	10.0%	-
Cost of products for sale	12.5%	45.0%	40.0%	-	2.5%
Value for the cost of products for sale	15.0%	67.5%	12.5%	-	5.0%
Availability of foods important to your family/culture/tradition	15.0%	45.0%	25.0%	12.5%	2.5%
Availability of foods that are familiar to you and that you like to eat and cook	22.5%	57.5%	20.0%	-	-
Availability of foods that are new to your and that you would like to try	12.5%	42.5%	32.5%	10.0%	2.5%
Convenience of the location of this market	55.0%	42.5%	-	-	2.5%
Availability of parking spaces	67.5%	27.5%	5.0%	-	-
Hours of operation	60.0%	32.5%	5.0%	-	2.5%
Cleanliness	40.0%	47.5%	12.5%	-	-
Safety	45.0%	45.0%	7.5%	2.5%	-
Social Atmosphere	60.0%	35.0%	5.0%	-	-

Participants were also asked about any changes they may or may not have made as a result of shopping at the farmers market. The majority of participants agreed that they were eating more fruits and vegetables and food that was fresher as a result of shopping at the farmers market. Nearly 98% of participants felt better about where their food comes from as a result of shopping at the farmers market.

Table 3: Behavior Changes as a Result of the Farmers Market

Because I visit {this market}, I now	Strongly Agree	Agree	Disagree	Strongly Disagree	Don't Know
Eat more fruits and vegetables	20.0%	62.5%	17.5%	-	-
Eat more organic food	17.5%	65.0%	17.5%	-	-
Eat food that is fresher	30.0%	65.0%	5.0%	-	-
Eat less fast food	22.5%	65.5%	12.5%	-	2.5%
Eat more foods that are traditional for my culture/family background	15.0%	50.0%	30.0%	-	5.0%
Eat new kinds of food	10.0%	67.5%	17.5%	-	5.0%
I spend less money on food	5.0%	47.5%	32.5%	5.0%	10.0%
I am better able to provide food for my family and my self	7.5%	75.0%	17.5%	-	-
I feel better about where my food comes from	40.0%	57.5%	2.5%	-	-
I am more physically active	25.0%	47.5%	25.0%	2.5%	-

Fruit and Vegetable Consumption.

As a result of shopping at this farmers market, 50% of participants reported they had been eating more fruits and/or vegetables and 65% at more different kinds of fruits and/or vegetables, than before they started to shop there. About 85% of participants reported that at least half of their purchases were fruits and vegetables, compared to other items (like baked goods, crafts, jams or jellies) when they shopped at a farmers market.

One out of every four participants (25%) reported they ate at least five servings of fruits and vegetables every day (Table 4). Three out of four participants reported that, on a typical day, they ate less than five servings of fruits and/or vegetables. On average, respondents consumed 3.6 servings of fruits and vegetables per day. Fifty percent of respondents consumed at least three servings of fruits and vegetables per day.

Table 4: Servings of Fruits and Vegetables

Variable		Servings						Median
Variable	1	2	3	4	5	6+	Mean	Median
On a typical day, how many servings of fruits do you eat? A serving of fruit is like a medium sized apple or half a cup of fresh fruit. This does not include fruit juice.	48%	33%	18%	3%	0%	0%	1.75	2.00
On a typical day, how many servings of vegetables do you eat, not including French fries? A serving of vegetables is like one cup of green salad or half a cup of cooked vegetables.	40%	40%	15%	5%	0%	0%	1.85	2.00
TOTAL Fruit + Vegetable Servings per Typical Day		20%	35%	20%	15%	10%	3.60	3.00

About one-third of participants (30%) reported never drinking 100% fruit juice; one-third (30%) reported drinking 100% juice at least once per day (Table 5). One person reported drinking juice 10 times per day. Two out of every three participants (65%) reported eating dark green vegetables at least once per day. Thirteen percent reported never eating orange vegetables. Just one participant reported eating cooked or canned beans at least one time per day.

Table 5: Frequency of Fruit and Vegetable Intake

Variable		On average	
Per day, how often did you eat or drink	Never	Less than 1	1 or more
100% PURE fruit juices?	30%	40%	30%
fruit?	0%	35%	65%
dark green vegetables?	0%	65%	35%
orange-colored vegetables?	13%	73%	15%
cooked or canned beans?	8%	90%	3%
other vegetables?	3%	58%	40%

Participants typically ate more vegetables than fruit (Table 6). All participants reported eating at least one fruit and at least one vegetable per day. On average, people consumed fruits and vegetables 3.9 times per day. Fifty percent of the respondents eat fruits and vegetables at least 3.7 times per day. Fifty percent of participants ate fruit 1.3 times per day and vegetables 1.9 times per day. This is higher than statistics reported nationally below (1.0 times per day for fruit and 1.7 times per day for vegetables), but the same as statistics reported in the state of California (1.3 times per day for fruit and 1.7 times per day for vegetables). The most common types of vegetables eaten were dark green vegetables (e.g., broccoli or dark leafy greens including romaine, chard, collard greens or spinach) and "other" vegetables (e.g., tomatoes, tomato juice or V-8 juice, corn, green beans, eggplant, peas, lettuce, cabbage, and white potatoes that are not fried such as baked or mashed potatoes).

Table 6: Mean and Median of Fruit and Vegetable Intake

Variable ²	Mean		Median ³	
Per day, how often did you eat or drink	Toi	yabe		
100% PURE fruit juices? ⁴	0.72	0.23		
fruit?	1.12	1.00	N/A	N/A
dark green vegetables?	0.74	0.57		
orange-colored vegetables?	0.34	0.29		
cooked or canned beans?	0.22	0.14		
other vegetables?	0.79	0.57		
Total times eaten per day:	Toi	yabe	California	United States
fruit	1.84	1.29	1.3	1
vegetables	2.09	1.93	1.9	1.7
fruits + vegetables	3.93	3.71	N/A	N/A

² Cut points are used to exclude participants who reported consuming fruit or vegetables greater than 16 times per day in all data analyses for this table.

³ Data for California and the United States is taken from:

Centers for Disease Control and Prevention. **Adults Meeting Fruit and Vegetable Intake Recommendations - United States, 2013.** Morbidity and Mortality Weekly Report (*MMWR*). 64(26);709-713. http://www.cdc.gov/mmwr/preview/mmwrhtml/mm6426a1.htm.

⁴ One participant reported drinking juice ten times per day. This outlier will distort the means for fruit consumption.

What do you like best about this market?

Common themes about what participants liked best about the farmers market included the variety of fresh, local products and availability of fruits and vegetables, the social aspects of the market, meeting new people, the sense of community, and the entertainment.





What do you like least about this market?

Common themes about what participants liked least about the farmers market included the weather (hot temperatures, smoky conditions), the lack of variety in products, produce, and vendors, and the dirt. However, 14 participants (35%) responded with "nothing", indicating that they had no complains about the current market setup.



Discussion

Overall, survey participants liked the farmers markets and emphasized that the community vibe, socialization aspects, and meeting of new people was an important component. Most of the participants purchased fruits and vegetables at the market. There is a demand for a greater variety and availability of vendors, produce, and products at these markets.

The vast majority of survey respondents are not eating the recommended amount of fruits and vegetables per day. Opportunities to increase education regarding fruit and vegetable intake at the farmers markets may be beneficial in increasing purchasing and consumption habits. Targeting educational or promotional efforts towards specific categories of vegetables (e.g., dark green vegetables, orange vegetables) may be useful in increasing fruit and vegetable purchasing and consumption.

Many participants felt that the cost of produce was prohibitive. Opportunities to reduce barriers in purchasing produce at the market could result in positive purchasing responses from the community. Increasing the amount of, or education on, traditional native foods could also influence positive purchasing and consumption behaviors.

Limitations

Attendance at the farmers markets were small, compared to other farmers markets. This was likely due multiple factors, which may or may not include:

- 1. **Rural Community**: The total population size of the communities is small
- 2. **Market Timing**: Several conflicts with other community events occur on Friday evenings in the summer months, especially in Indian reservation areas.
- 3. **Weather**: there were several days of smoke, haze, and poor air conditions due to nearby forest fires, and the majority of the market days that had data collection periods had temperature highs of over 99 degrees.

Due to small attendance counts, the farmers market entrance counts (actual use) are likely not representative of the entire farmers market attendance; results should be interpreted with caution. Recruitment and retention of trained community data collectors proved challenging, especially when conflicts occurred with other cultural events throughout the summer. The number of gift cards distributed exceed the number of surveys collected. A small number of participants came to the market with the sole intent of taking the survey. Survey responses were collected by local community members; this may have influenced responses for some participants.

Farmers Market Recommendations

It is recommended that both farmers markets:

- 12. Increase the variety and quantity of produce (fruits and vegetables) available.
- 13. Increase advertising and outreach efforts for vendors.
- 14. Increase the number of vendors selling healthy food and cultural items.
- 15. Increase the availability of shade or cool-down areas during the summer months.
- 16. Increase advertising of markets shoppers to increase attendance.
- 17. Explore alternate afternoons/evenings for the markets. Several markets were held during competing community events in the summer on Friday evenings (e.g., Indian Days Parade, Millpond Music Festival, Pabanamania Pow-Wow, hand game tournaments, etc.). Many community members were

- preparing to leave town on Friday afternoons/evenings to attend other out-of-town tribal and cultural events
- 18. Explore targeted fruit and vegetable consumption/nutrition education opportunities at farmers markets to increase the amount of fruits and vegetables purchased, and ultimately consumed, by attendees.
- 19. Continue to include local Indian vendors selling cultural items, jewelry, and foods.
- 20. Continue to include, and increase the promotion of, local fresh produce and foods.
- 21. Continue to support and promote the market as a place to socialize, meet new people, visit with new people, and give shoppers a sense of community. Strategize on how to increase these factors with additional cultural events, music, events.
- 22. Consolidate gift card distribution duties to TIHP staff. Modify protocol so that community data collectors refer survey respondents to TIHP staff at the conclusion of a survey, with a unique identifier number generated by the survey, to collect a gift card.

Survey Modifications

The following modifications to the outcome survey are recommended.

- 1. Modify response options for Question 32 "How far is the market from your home, in miles?" so that half-mile increments can be captured. The Big Pine Farmers Market requires this level of detail for responses.
- 2. Ask participants if they know if they are eligible for any government or tribal food assistance programs.
- 3. Train community data collectors on probing strategies for qualitative questions (e.g., what do you like best about this market, etc.)
- 4. Add a unique identifier at the end of the survey for a participant to collect a gift card from a designated TIHP staff member. Record this unique identifier with the gift card record sheet.

Entrance Count (Actual Use) Modifications

Because attendance is small at the farmers markets, it is recommended that all entrants be counted as they enter the market for the entirety of the market, instead of in twenty minute increments, to get a more accurate estimate of entrances. Add a "smoky" option for the entrance count sheet, in addition to other anecdotal weather variables that the community data collectors record.

Appendix A: Data Collection Forms

FARMERS MARKET ENTRANCE FORM

Date:		FarMar ID:		Target Area:		
Observer:		Start Tir	ne:	End Time	e.	
Weather: [mark all that apply]		□Cloudy □Windy	☐ Sunny ☐ Raining	☐ Hot ☐ Drizzling/	□ Cold Sprinkling	
Population: [mark only one]	Child	□Adult				
Market Notes:						
Count people the	at enter the	market in 20-m	inute observation p	periods. Reset com	nter to zero after each observation period.	
Observa	tion 1					
Start Time:						
End Time:						
Entrance Count:						
Observa	tion 2					
Start Time:						
End Time:						
Entrance Count:						
Observa	tion 3					
Start Time:						
End Time:						
Entrance Count:						
Observa	tion 4					
Start Time:						
End Time:						
Entrance Count:						
Observa	tion 5					
Start Time:						
End Time:						
Entrance Count:						

GIFT CARDS

#	Gift Card Type	Gift Card Number	Staff Intials	Recipient Name	Recipient Signature
0	Grocery Outlet	5555-0000-55-0000	RG	Jane Doe	Jane Doe
1					
2					
3					
4					
5					
6					
7					
8					
9					
10					
11					
12					
13					
14					
15					

Appendix B: Citations

Farmers Market Customer Survey Question Citations

Centers for Disease Control and Prevention (CDC). *Behavioral Risk Factor Surveillance System Survey Questionnaire*. Atlanta, Georgia: U.S. Department of Health and Human Services, Centers for Disease Control and Prevention, 2013. URL: http://www.cdc.gov/brfss/questionnaires/pdf-ques/2013-brfss_english.pdf

Jilcott-Pitts S., Gustafson A., Wu Q., Leah-Mayo M., Ward R., McGuirt J., Rafferty A., Lancaster M., Evenson K., Keyserling T., and Ammerman A. *Farmers market use is associated with fruit and vegetable consumption in diverse southern rural communities*. Nutr J. 2014; 13:1. Published online 2014 Jan 9. doi: 10.1186/1475-2891-13-1. URL: http://www.ncbi.nlm.nih.gov/pmc/articles/PMC3896848/.

National Research Center, Inc. *Community Food Project Evaluation Toolkit*. Boulder, Colorado. Third Edition, 2006. URL: https://nesfp.org/sites/default/files/uploads/cfp_evaluation_toolkit.pdf

Farmers Market Entrance Observations Citation

Lev L., Brewer L., Stephenson G. **Tools for Rapid Market Assessments**. Oregon State University Extension Service: Oregon Small Farms Technical Report #6. Updated December 2004. URL: http://smallfarms.oregonstate.edu/sites/default/files/publications/techreports/TechReport6.pdf

Farmers Market Customer Survey

Question Id	Question Type	Question Text
1	Yes or No	We work at the Public Health Institute, and as part of the Toiyabe Indian Health Project's Community Wellness Program, we are asking questions to learn more about where you shop for food, your eating habits, and health. We are asking customers to take part in a 15 minute survey. Your participation is voluntary, and when you complete the survey, we have a \$15 gift card to thank you for your time. Are you interested in participating? Answer 1: Yes → Skips to question 2
		Answer 2: No → Skips to question 71
2	Yes or No	Are you over 18 years of age? Answer 1: Yes → Skips to question 3 Answer 2: No → Skips to question 71
3	Yes or No	Have you already completed the Farmers Market survey this summer? Answer 1: Yes → Skips to question 71 Answer 2: No → Skips to question 4
4	Multiple Choice - Single Answer	How often do you visit this market? Answer 1: This is my first time Answer 2: Less than once a month Answer 3: Once a month Answer 4: 2 times a month Answer 5: 3 times a month Answer 6: Every week
5	Multiple Choice - Many Answers	How did you hear about this market? (Mark all that apply) Minimum responses: N/A Maximum responses: N/A Answer 1: Saw it while driving or walking by Answer 2: From friends or family (word of mouth) Answer 3: Radio

		Answer 4: Bishop Tribal Newsletter Answer 5: Big Pine Tribal Newsletter Answer 6: Community Mailer from Toiyabe Indian Health Project Answer 7: Other (Describe on following screen).
6	Text - Multi Line	(Ask only if participant heard about this farmers market and marked "Other"): Where else did you hear about this market? Max Characters: N/A
7	Yes or No	Did you buy any fruits or vegetables today? Answer 1: Yes Answer 2: No
8	Multiple Choice - Single Answer	As a result of your shopping at this Farmers Market, have you been eating more fruits and/or vegetables than before you started to shop here? Would you say Answer 1: No change Answer 2: A lot more fruits/vegetables Answer 3: A little more fruits/vegetables Answer 4: This is my first time at this market
9	Multiple Choice - Single Answer	As a result of shopping at this Farmers Market, have you been eating more different kinds of fruits and/or vegetables than before you started to shop here? Would you say Answer 1: No change Answer 2: A few more kinds Answer 3: Many more kinds Answer 4: This is my first time at this market
10	Currency Amount	About how much did you spend on fruits and vegetables today? (DOLLAR AMOUNT) Currency: \$
11	Text Display	These next questions are about the fruits and vegetables you ate or drank during the past 30 days. Please think about all forms of fruits and vegetables including cooked or raw, fresh, frozen or canned. Please think about all meals, snacks, and food consumed at home and away from home. I will be asking how often you ate or drank each one: for example, once a day, twice a week, three times a month, and so forth. INTERVIEWER NOTE: If respondent responds less than once per month, put "0" times per month. If respondent gives a number without a time frame, ask: "Was that per day, week, or month?" Display Text: Button Text: Continue

12	Number	During the past month, how many times per day, week or month did you drink 100% PURE fruit juices? Do not include fruit-flavored drinks with added sugar or fruit juice you made at home and added sugar. Only include 100% juice. [Further clarification notes available.] Max Characters: 2
13	Multiple Choice - Single Answer	Was that per day, per week, or per month? Answer 1: Per Day Answer 2: Per Week Answer 3: Per Month
14	Number	During the past month, not counting juice, how many times per day, week, or month did you eat fruit? Count fresh, frozen, or canned fruit. INTERVIEWER NOTE: Read only if necessary: "Your best guess is fine." [Further clarification notes available.] Max Characters: 2
15	Multiple Choice - Single Answer	Was that per day, per week, or per month? Answer 1: Per Day Answer 2: Per Week Answer 3: Per Month
16	Number	During the past month, how many times per day, week, or month did you eat dark green vegetables for example broccoli or dark leafy greens including romaine, chard, collard greens or spinach? INTERVIEWER NOTE: Each time a vegetable is eaten it counts as one time. [Further clarification notes available.] Max Characters: 2
17	Multiple Choice - Single Answer	Was that per day, per week, or per month? Answer 1: Per Day Answer 2: Per Week Answer 3: Per Month
18	Number	During the past month, how many times per day, week, or month did you eat orange-colored vegetables such as sweet potatoes, pumpkin, winter squash, or carrots? [Further clarification notes available.] Max Characters: 2
19	Multiple Choice - Single Answer	Was that per day, per week, or per month? Answer 1: Per Day Answer 2: Per Week Answer 3: Per Month

20	Number	During the past month, how many times per day, week, or month did you eat cooked or canned beans, such as refried, baked, black, garbanzo beans, beans in soup, soybeans, edamame, tofu or lentils. Do NOT include long green beans. Read only if necessary: "Include round or oval beans or peas such as navy, pinto, split peas, cow peas, hummus, lentils, soy beans and tofu. Do NOT include long green beans such as string beans, broad or winged beans, or pole beans." [Further clarification notes available.] Max Characters: 2
21	Multiple Choice - Single Answer	Was that per day, per week, or per month? Answer 1: Per Day Answer 2: Per Week Answer 3: Per Month
22	Number	Not counting what you just told me about, during the past month, about how many times per day, week, or month did you eat OTHER vegetables? Examples of other vegetables include tomatoes, tomato juice or V-8 juice, corn, green beans, eggplant, peas, lettuce, cabbage, and white potatoes that are not fried such as baked or mashed potatoes. Read only if needed: "Do not count vegetables you have already counted and do not include fried potatoes." [Further clarification notes available.] Max Characters: 2
23	Multiple Choice - Single	Was that per day, per week, or per month? Answer 1: Per Day Answer 2: Per Week
	Answer	Answer 3: Per Month
24	Multiple Choice - Single Answer	Answer 3: Per Month On a typical day, how many servings of fruits do you eat? A serving of fruit is like a medium sized apple or half a cup of fresh fruit. This does not include fruit juice. Answer 1: 1 serving Answer 2: 2 servings Answer 3: 3 servings Answer 4: 4 servings Answer 5: 5 servings Answer 6: 6 or more servings

		Answer 5: 5 servings Answer 6: 6 or more servings
26	Text - Multi Line	What do you like best about this market? Max Characters: N/A
27	Text - Multi Line	What do you like least about this market? Max Characters: N/A
28	Multiple Choice - Single Answer	What is the main thing that prevented you from buying more today at the market? (Mark only one) Answer 1: No EBT Answer 2: Nothing else I wanted Answer 3: Couldn't carry more Answer 4: Out of money Answer 5: Other*
29	Multiple Choice - Single Answer	What is the main thing that stops you from coming to the market more frequently? (Mark only one) Answer 1: No EBT Answer 2: Mode of transportation (walked, biked, or rode bus) Answer 3: Prices Answer 4: Extreme weather Answer 5: Parking Answer 6: Market days and hours Answer 7: Out of the way Answer 8: I only come when needed Answer 9: Other*
30	Currency Amount	During a normal shopping trip, how much money do you typically spend at this or another farmers market on produce? (DOLLAR AMOUNT) Currency: \$
31	Number	How far, in minutes, is this market from your home? Max Characters: N/A
32	Number	How far, in miles, is this market from your home? Max Characters: N/A

33	Multiple Choice - Many Answers	What is the primary purpose of your trip to {this market} today? (Please check all that apply.) Minimum responses: N/A Maximum responses: N/A Answer 1: Purchase fruits and vegetables Answer 2: Purchase meat, poultry or fish Answer 3: Purchase cheese, dairy items Answer 4: Purchase baked goods Answer 5: Eat a meal Answer 6: Hang out Answer 7: Visit my friends Answer 8: Other (describe on following screen)
34	Text - Multi Line	(Ask only if participant said "Other" in previous question): Describe the primary purpose of your trip to {this market} today. Max Characters: N/A
35	Multiple Choice - Single Answer	How often in the past 12 months did you buy fruits or vegetables locally grown such as from a farmers market, CSA (community supported agriculture), roadside stand, or pick-your-own produce farm? Answer 1: 2 or more times per week Answer 2: One time per week Answer 3: Once a month Answer 4: 2-3 times per month Answer 5: A few times per year Answer 6: Never
36	Text Display	Using a scale of Excellent, Good, Fair, or Poor, how would you rate the following aspects of products sold at {this market}? Display Text: Button Text: Continue
37	Multiple Choice - Single Answer	Quality of products for sale. Answer 1: Excellent Answer 2: Good Answer 3: Fair Answer 4: Poor Answer 5: Don't Know
38	Multiple Choice - Single Answer	Variety of products for sale. Answer 1: Excellent Answer 2: Good Answer 3: Fair

		Answer 4: Poor Answer 5: Don't Know
39	Multiple Choice - Single Answer	Cost of products for sale. Answer 1: Excellent Answer 2: Good Answer 3: Fair Answer 4: Poor Answer 5: Don't Know
40	Multiple Choice - Single Answer	Value for the cost of products for sale. Answer 1: Excellent Answer 2: Good Answer 3: Fair Answer 4: Poor Answer 5: Don't Know
41	Multiple Choice - Single Answer	Availability of foods important to your family/culture/tradition. Answer 1: Excellent Answer 2: Good Answer 3: Fair Answer 4: Poor Answer 5: Don't Know
42	Multiple Choice - Single Answer	Availability of foods that are familiar to you and that you like to eat and cook. Answer 1: Excellent Answer 2: Good Answer 3: Fair Answer 4: Poor Answer 5: Don't Know
43	Multiple Choice - Single Answer	Availability of foods that are new to you that you would like to try. Answer 1: Excellent Answer 2: Good Answer 3: Fair Answer 4: Poor Answer 5: Don't Know
44	Text Display	Using a scale of Excellent, Good, Fair, or Poor, how do you feel about each of the following aspects of this market? Display Text: Button Text: Continue

45	Multiple Choice - Single Answer	Convenience of the location of this market. Answer 1: Excellent Answer 2: Good Answer 3: Fair Answer 4: Poor Answer 5: Don't Know
46	Multiple Choice - Single Answer	Availability of parking spaces. Answer 1: Excellent Answer 2: Good Answer 3: Fair Answer 4: Poor Answer 5: Don't Know
47	Multiple Choice - Single Answer	Hours of operation. Answer 1: Excellent Answer 2: Good Answer 3: Fair Answer 4: Poor Answer 5: Don't Know
48	Multiple Choice - Single Answer	Cleanliness. Answer 1: Excellent Answer 2: Good Answer 3: Fair Answer 4: Poor Answer 5: Don't Know
49	Multiple Choice - Single Answer	Safety. Answer 1: Excellent Answer 2: Good Answer 3: Fair Answer 4: Poor Answer 5: Don't Know
50	Multiple Choice - Single Answer	Social atmosphere. Answer 1: Excellent Answer 2: Good Answer 3: Fair Answer 4: Poor Answer 5: Don't Know

51	Text Display	The following list contains some changes you may or may not have experienced because you shop at {this market}. Please indicate if you strongly agree, agree, disagree, or strongly disagree with the following statements. "Because I visit {this market}, I now" Display Text: Button Text: Continue
52	Multiple Choice - Single Answer	Eat more fruits and vegetables. Answer 1: Strongly Agree Answer 2: Agree Answer 3: Disagree Answer 4: Strongly Disagree Answer 5: Don't Know
53	Multiple Choice - Single Answer	Eat more organic food. Answer 1: Strongly Agree Answer 2: Agree Answer 3: Disagree Answer 4: Strongly Disagree Answer 5: Don't Know
54	Multiple Choice - Single Answer	Eat food that is fresher (less packaged food). Answer 1: Strongly Agree Answer 2: Agree Answer 3: Disagree Answer 4: Strongly Disagree Answer 5: Don't Know
55	Multiple Choice - Single Answer	Eat less fast food. Answer 1: Strongly Agree Answer 2: Agree Answer 3: Disagree Answer 4: Strongly Disagree Answer 5: Don't Know
56	Multiple Choice - Single Answer	Eat more foods that are traditional for my culture/family background. Answer 1: Strongly Agree Answer 2: Agree Answer 3: Disagree Answer 4: Strongly Disagree Answer 5: Don't Know
57	Multiple Choice -	Eat new kinds of food.

	Single Answer	Answer 1: Strongly Agree Answer 2: Agree Answer 3: Disagree Answer 4: Strongly Disagree Answer 5: Don't Know
58	Multiple Choice - Single Answer	I spend less money on food. Answer 1: Strongly Agree Answer 2: Agree Answer 3: Disagree Answer 4: Strongly Disagree Answer 5: Don't Know
59	Multiple Choice - Single Answer	I am better able to provide food for my family and myself. Answer 1: Strongly Agree Answer 2: Agree Answer 3: Disagree Answer 4: Strongly Disagree Answer 5: Don't Know
60	Multiple Choice - Single Answer	I feel better about where my food comes from. Answer 1: Strongly Agree Answer 2: Agree Answer 3: Disagree Answer 4: Strongly Disagree Answer 5: Don't Know
61	Multiple Choice - Single Answer	I am more physically active. Answer 1: Strongly Agree Answer 2: Agree Answer 3: Disagree Answer 4: Strongly Disagree Answer 5: Don't Know
62	Multiple Choice - Single Answer	When you shop at a farmers market, how much fruits and vegetables do you buy compared to other items, for example baked goods, crafts, jams/ jellies? Answer 1: Only fruit and vegetables Answer 2: Mostly fruit and vegetables Answer 3: About half fruit and vegetables Answer 4: Less than half fruit and vegetables Answer 5: I don't buy fruit and vegetables

63	Gender (Male or Female)	What is your gender? Answer 1: Male Answer 2: Female
64	Number	What is your age in years? Max Characters: 3
65	Yes or No	Do you currently receive WIC (Special Supplemental Nutrition Program for Women, Infants, and Children) benefits? Answer 1: Yes Answer 2: No
66	Yes or No	Do you currently receive SNAP (Supplemental Nutrition Assistance Program), known in California as CalFresh, or food stamps? Answer 1: Yes Answer 2: No
67	Yes or No	Do you currently participate in the Food Distribution on Indian Reservation (FDIR) or food commodity program? Answer 1: Yes Answer 2: No
68	Multiple Choice - Single Answer	Are you the main food shopper in your household? Answer 1: Yes Answer 2: No Answer 3: I share the shopping with someone else
69	Multiple Choice - Many Answers	Which one or more of the following would you say is your race/ethnicity? (Mark all that apply) Minimum responses: N/A Maximum responses: N/A Answer 1: American Indian or Alaska Native Answer 2: Asian Answer 3: Black or African American Answer 4: Native Hawaiian or Pacific Islander Answer 5: White Answer 6: Hispanic/Latino
70	Text - Single Line	[If AIAN] What is your tribal affiliation(s)? Max Characters: N/A
71	Text Display	Thank you very much! Display Text:

Button Text: Continue

Appendix D: Infographic

Farmers Market Infographic - Results

2015 BISHOP & BIG PINE FARMERS MARKETS



Toiyabe Indian Health Project partners to make healthy foods affordable and available. The Public Health Institute helped evaluate two tribal farmers markets.

The **Bishop and Big Pine Tribal Farmers Markets** had fruits, vegetables, and herbs from reservation gardens.









4 of 6 markets had temperatures greater than 99°

Some markets were **smoky** because of a nearby fire Food and handmade crafts and jewelry were sold by local community members.







Community members collected information about eating habits and shopper experiences.





40 people completed a survey.



Bishop 60%

What did people like best about their Farmers Market?



live music & entertainment
the sense of community
socializing
fresh fruits and vegetables
meeting new people





RESULTS: 2015 FARMERS MARKET EVALUATION

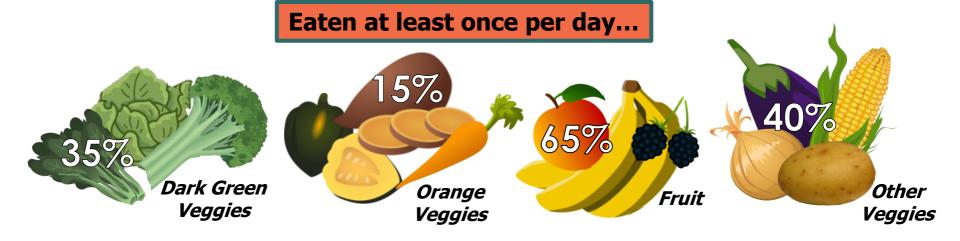
9 out of **10 purchased** fruits or vegetables



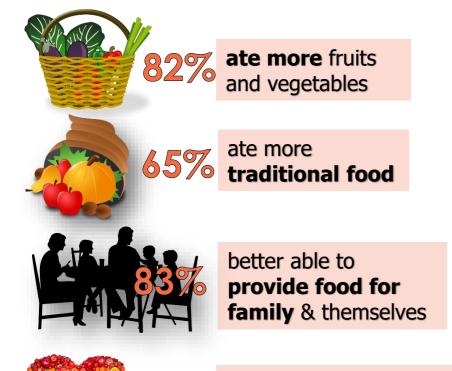
average spent on fruits & veggies

1 out of 4 ate at **least 5 servings of fruits and vegetables a day**. Fruits were eaten less often than vegetables.





As a result of shopping at the farmers market...



felt better about where

their food comes from

Servings of Fruits and Vegetables eaten daily...

at least one 3 or more 5 or more







ALL ate at least one fruit or vegetable every day!

Fruit Juice per Day never

30%

at least once

40%

one or more