

Managing for Climate Change: Climate Master Outreach and Extension



August 1, 2020

Focus Group Study Report

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THE UNIVERSITY OF ARIZONA
Agriculture, Life &
Veterinary Sciences &
Cooperative Extension



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1.0 INTRODUCTION, PURPOSE, AND BACKGROUND

The “Managing for Climate Change: Climate Master Outreach and Extension” (hereafter, Climate Master) study is part of a U.S. Department of Agriculture, National Institute of Food and Agriculture funded research project. As a part of this project, New Mexico State University (NMSU) partnered with University of Arizona (UA) to conduct two focus groups. Anne Mottek, principal, Mottek Consulting, working directly with UA (hereafter, UA research team), conducted the focus groups.

1.1 PURPOSE AND OBJECTIVES

The purpose of this research project is to increase climate change literacy and to determine best practices and methods in supporting both climate adaptation and mitigation activities for diverse groups and communities. More specifically, results will assist in designing an innovative approach to conducting community-based educational outreach to better understand how communities and leaders cope with changes in climate, extreme weather events, energy, conservation, preparedness, and the impact of informed decision-making.

RESEARCH OBJECTIVES

1. Determine if a volunteer-based “Climate Master” outreach model is a feasible and practical strategy for climate communication.
2. Inventory current community-based climate and sustainability initiatives and best practices.
3. Synthesize literature on individual and community preparedness; the impact of informed decision-making; and identifying attitudes, behaviors, individual experiences, and socio-economic backgrounds that lead to climate resilient decisions.
4. Develop a framework for training the trainers.
5. Design and test climate change communication modules and strategies for different groups.
6. Develop an effective method for two-way information flow.

1.2 GOAL

The long-term goal of the program is to support communities and build their capacity to independently plan, initiate, and carry out programs that address climate-centered issues. The expected outcomes include designing an innovative strategy and approach that will address regional needs for developing a Cooperative Extension (hereafter, Extension) climate outreach program that involve volunteers as “Climate Masters.” Subsequently, this will establish criteria for a regional, community-based climate outreach program as a broad model that could be replicated in associated communities. If implemented, this program will encourage climate resilient living and sustainable agriculture and community development practices that positively impact the environment.

1.3 THE STUDY

The UA research team conducted two focus groups in disparate communities to better determine if a climate smart outreach program would be an effective way to communicate to diverse groups of Extension audiences about these issues. More specifically, results from the focus groups will assist in determining whether a volunteer-based “Climate Master” outreach model is a practical and effective communication strategy.

2.0 EXECUTIVE SUMMARY

The *Managing for Climate Change: Climate Master Outreach and Extension Focus Group Study* is part of an overarching research project conducted by the University of Arizona (UA) Cooperative Extension (hereafter, Extension) in partnership with New Mexico State University (NMSU). This research is supported by the U.S. Department of Agriculture, National Institute of Food and Agriculture.

The purpose of this research is to increase climate change literacy and to determine best practices and methods in supporting both climate adaptation and mitigation activities for diverse groups and communities. The expected outcome includes designing an innovative strategy and approach that will address regional needs for developing an Extension sponsored climate outreach program that involve community volunteers as “Climate Masters.”

The UA research team conducted two focus groups in the distinct towns of Payson and Globe, on the north and south ends of Gila County in central Arizona. These towns were selected because they are small, rural communities familiar with and served by UA Cooperative Extension and represent potential audiences of a Climate Master program. Although 12 potential participants were initially recruited over the telephone for each focus group, 11 attended in Payson and nine in Globe.

Understanding the demographic composition of a community is an important factor in designing a Climate Master program. Consequently, to describe the demographic composition of both Payson and Globe, data from the U.S. Census Bureau’s American Community Survey 5-Year Estimates (2018) is presented in the full report.

As a summary, the demographic composition of Payson is described below:

Census results reveal that Payson is a demographically homogenous, small town with its population estimated at 15,439 (2014-2018). The population is characterized as mostly:

- Republican (the predominant political affiliation in Gila County);
- senior citizens;
- white and non-Hispanic;
- high school graduates with some higher education;
- earning a median income (\$50,049) that is approximately \$10,000 lower than national figures (\$60,293) and having a lower per capital income (\$29,636) than what is reported nationally (\$32,621); and
- at the same poverty level as the rest of the country (12% each).

The following summarizes the demographic composition of Globe:

Census results reveal that Globe is a small town with a somewhat demographically diverse population. 2014-2018 population estimates total 7,346. The population is characterized as mostly:

- Republican (the predominant political affiliation in Gila County);
- younger adults with children and families;
- white with a significant number of those who are Hispanic/Latino;
- high school graduates;

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- earning a median income (\$47,086) that is approximately \$13,000 lower than the nation’s median income (\$60,293), a substantially lower per capita income (\$23,147) than nationally (\$32,621); and
- at a higher poverty level (18%) than the rest of the country (12%).

Focus group participant demographic data was collected during the recruitment process and compared to 2018 national Census statistics. Generally, Payson focus group participants resemble national figures. The primary differences are that the participants in the focus group represent a higher proportion of females, an older age range, and higher educational attainment levels. Globe, on the other hand, veered farther from national Census data with a higher proportion of males, an older age range, and white and non-Hispanic/Latino participants.

To understand how focus group participants perceive global warming, the four-question “Six Americas Super Short Survey (SASSY)” was conducted during the recruitment process prior to the focus group. This survey was developed from the original 36-question instrument called, “Global Warming’s Six Americas” developed by Yale University (2008). Results categorize respondents into six respective audience groups who perceive and respond to global warming in different ways. The continuum ranges from “alarmed,” those who are convinced about the seriousness of global warming and are taking immediate personal actions to address solutions to this issue, to “dismissive,” those who deny there is a problem; thus, opposing climate action and policy. Nationally, numbers in each group generally progress downward from “alarmed” (31%) to “dismissive” (10%). In addition to understanding individual’s perceptions, these results can be used in developing communication messaging and tools for respective groups.

Of the eleven respondents who participated in the Payson focus group, the majority, about two-thirds (64%), sorted into the “alarmed” category. In contrast, Globe participants represent less than one-half (44%) of the “alarmed” audience. The national SASSY estimates (2019) resulted in just under one-third (31%) sorting into the “alarmed” group. This reveals that the number of “alarmed” Payson participants are almost double that of national averages. On the other hand, Globe participants who fell into the “alarmed” audience were only about 13% higher than their American counterparts. Therefore, Globe focus group participants more closely resembled national results.

A focus group protocol was developed based on the study’s literature review and purpose and objectives. Focus group results are organized and mirror the protocol’s seven broad sections listed below. Results are presented separately for each community and are detailed in the full report.

THE FOCUS GROUP PROTOCOL CONTAINED THE FOLLOWING SECTIONS:

1. Main threats affecting individual/community well-being;
2. Program content and communication;
3. Program’s goals and outcomes;
4. Measure program impacts;
5. Competing issues;
6. Program format; and
7. Program sustainability.

Focus group findings can be used to better determine if a Climate Master outreach program is an effective way to communicate to diverse groups of Extension audiences about these issues. More

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specifically, results from the focus groups assist in determining whether a volunteer-based Climate Master outreach model is a practical and effective communication strategy.

Generally, focus group members in both Payson and Globe were enthusiastic about initiating an Extension sponsored Climate Master outreach and education program. Based on their feedback, this type of programming is welcome and needed. Focus group findings reveal that community members are willing to participate and contribute to a community-based program, if it is initiated. Participants provided valuable insight to assure the program's success.

Resulting from the rich qualitative data collected during two focus groups held in distinct rural communities in Arizona, and the potential of conducting Extension programming, the UA research team developed a User's Guide (see pgs. 53-54) (see Appendix E). This guide is intended to assist Extension educators and others to design a community-based Climate Master program. The recommendations within the User's Guide encapsulate the program's design, content, recruitment strategy, delivery, impacts, and sustainability strategies for developing a novel Climate Master program.

In conceptualizing a Climate Master program in Payson and/or Globe, a first step is to assess and apply respondents' recommendations to program development. Further, administering pilot projects in "test" communities will provide valuable lessons learned that should be tracked and resolved, if possible. Once these communities are tested and programming is initiated, other communities can utilize lessons learned and the design template to tailor programming to their community.

For Extension educators and others who are interested in delivering similar initiatives in other communities, conducting an analogous needs assessment, as was completed for this research, is recommended prior to conceptualizing the program's design. The User's Guide serves as a generic development tool that is applicable to other communities served by Extension programming. The guide provides a broad model to assist educators across the region to independently plan, initiate and implement programming that addresses climate-centered issues. As programs are developed and refined, the initial principles contained in the User's Guide should be fine-tuned as the broader program matures. If implemented, this program will encourage inspirational benchmarks that exemplify climate resilient living and sustainable agriculture and community development practices that positively impact the environment.

3.0 STUDY SITES

Focus groups were conducted in two distinct communities located in Gila County in central Arizona (see Figure 1). These communities were selected because they are small, rural communities familiar with and served by UA Extension. Subsequently, these communities represent the potential audiences of a Climate Master program. The first focus group was held in Payson in October 2019 and the second was administered in Globe in January 2020.

Figure 1. Map of Gila County Featuring Payson and Globe



Source: Gila County Assessor GIS; USGS Maps, 2020

3.1 GILA COUNTY

Payson and Globe are located at the northern and southern ends of Gila County (see Figure 2). The county is comprised of geographic and ecological transition zones blending a series of elevation gradients from 2,000 to 7,000 feet (ACA 2018). These transition zones provide a vast and diverse variety of flora and fauna as well as outdoor opportunities. Gila County covers over 4,796 square miles (ACA 2018). According to the Arizona Commerce Authority (2018), land ownership is divided between the Tonto National Forest (56%), San Carlos Apache Indian Reservation (38%), private and corporate ownership (2% in total), Bureau of Land Management (2%), State of Arizona (1%), and other public lands comprise the remaining 1%.

Figure 2. Map of Gila County in Arizona



Source: David Benbennick, 2015

3.2 PAYSON, ARIZONA

The Town of Payson is approximately 19.5 square miles and is located in northern Gila County (see Figure 1) (Town of Payson 2013). Payson is approximately 90 miles northeast of Phoenix, and about the same distance southwest of Flagstaff. Due to the unique forests that surround Payson, the town is the commercial hub of northern Gila County, and is an important gateway to Mogollon Rim recreational destinations (Town of Payson 2013). Payson is part of Arizona’s “Cool Plateau Highlands,” (UA Cooperative Extension 2000) and is approximately 5,000 feet in elevation (Town of Payson 2013). The town is surrounded by the Tonto National Forest and occupies a transition vegetative ecotone that is characterized by a range of trees and shrubs. For example, typical low-elevation species include manzanita and pinion-juniper, and ponderosa pine and evergreen oaks are characteristic of high-elevation species (USFS 2019).



Ponderosa Pine and Oak Forest in and near Payson, Arizona

Photo Credit: Faith Schwartz

3.3 GLOBE, ARIZONA

The town of Globe covers about 18 square miles and is located in southeastern Gila County (see Figure 1) (Town of Globe 2014). Globe is approximately 90 miles east of Phoenix and about the same distance north of Tucson. Globe was established as a mining town as the area contained rich deposits of silver and copper, ample water, and a railroad line (Town of Globe 2014). Globe is located in the Cobre Valley that sits at the base of the Pinal Mountains and is approximately 3,500 feet in elevation (Town of Globe 2014). Globe is adjacent to the town of Miami and is surrounded by the Tonto National Forest. Both Roosevelt Lake and the San Carlos Apache Reservation are in close proximity. The ecotone around Globe is described as a “High to Mid-Altitude Desert” (UA Cooperative Extension 2000). This includes shrubs, desert trees and succulents, which are characterized by a mix of the Sonora mid-elevation desert scrub and palo verde-mixed cactus desert scrub with mixed elements of interior chaparral (USFS 2019).



Desert Scrub Plant Community in and near Globe, Arizona

Photo Credit: Christopher Jones

4.0 FOCUS GROUP METHODOLOGY

The focus group's methodological processes included six main steps. The UA research team developed instruments and/or completed the following tasks:

1. recruitment script and survey;
2. consent form;
3. recruitment strategy;
4. participant recruitment;
5. focus group protocol; and
6. focus group planning and administration.

4.1 INSTITUTIONAL REVIEW BOARD

To comply with standards to conduct research involving human subjects and informed consent, an application that included the recruitment script, focus group protocol, and consent form was submitted and approved by the NMSU's Institutional Review Board on July 22, 2019. An amendment to the consent form was submitted and approved on October 13, 2019.

4.2 RECRUITING RESPONDENTS

Participants for the focus group were selected from a list of residents familiar with UA Cooperative Extension. The UA research team attempted to diversify the demographics of the respondent pool as much as possible. Although some respondents' demographic profiles fit these targets, some were unavailable on the scheduled date of the focus group. The goal was to recruit 12 participants for each of the two focus groups.

RESPONDENTS WERE RECRUITED IN FOUR PHASES:

1. UA Extension sent an e-mail to potential respondents to explain the research project and to request their participation. The e-mail also informed them that the facilitator of the focus group would follow-up with a telephone call to confirm their interest in participating and conduct a short survey at that time.
2. After the e-mail was sent, potential participants were contacted by telephone using a recruitment script (see Appendix A). At this time, the purpose and logistics of the focus group was explained, and potential respondents were asked if they were available and interested in participating. Once the top tier candidates who best represented the desired demographic composition was exhausted, candidates from a second tier were contacted to solicit their interest in participating.
 - a. Once respondents agreed to participate over the telephone, incentives awarded at the end of the focus group were described. The incentives included lunch and two \$20 gift cards, one from a popular local restaurant and the other a plant nursery.
 - b. At this time, respondents were notified that results would not be directly connected to their identifying information, rather results would be reported as a group response, and all of the answers that they provide would be confidential and anonymous.
 - c. In addition, a short survey was conducted during the telephone call. The survey consisted of the "Six Americas Super Short Survey (SASSY!)" questions (see Six Americas Super Short Survey (SASSY!) section pg. 17), along with several demographic questions (see Appendix A).
3. Once recruited on the telephone, respondents were sent a confirmation letter and a consent form that they could review ahead of time. The confirmation letter reiterated the focus group's purpose,

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how the information collected would be used, logistics (location/map, timeframe, lunch, etc.), the incentives, etc. (see Appendix B). The consent form provided similar information and explained their rights as a volunteer participant (see Appendix C). Participants were instructed to bring the signed consent form with them when they arrived at the focus group.

4. Lastly, a few days before the focus group, respondents received a reminder telephone call to assure their attendance and to field further questions.

4.3 FOCUS GROUP ADMINISTRATION

The focus group was scheduled to last 2 ¼ hours with a 45-minute break for lunch, about halfway through the focus group. Respondents were asked to arrive 30 minutes early to assure that there was enough time to sign in, collect their consent forms, enjoy beverages and snacks, and meet the UA research team and other participants. The focus group was administered by a trained and experienced social scientist. A staff member scribed notes on a whiteboard throughout the focus group so participants could reference what had been stated. Each section/question was timed, and once the time lapsed, the facilitator led the group to the next segment. In addition, a PowerPoint with the question that was posed by the facilitator was projected so that respondents could reference the question as the facilitator moved through the protocol. All participants had name plates so that he/she could be addressed by their first name.



Focus Group Administrator, Anne Mottek Lucas

Photo Credit: Christopher Jones

4.4 FOCUS GROUP PROTOCOL

A focus group protocol was developed based on the study's purpose and objectives (see Section 1.0 Introduction, Purpose, and Background pg. 1) (see Appendix D). In addition, the protocol incorporated NMSU's background information and literature review.

The focus group protocol began with staff and participant introductions. After introductions, the protocol included the ground rules and the background and purpose of the study.

The protocol covered seven main sections:

1. Main threats affecting individual/community well-being;
2. Program content and communication;
3. Program's goals and outcomes;
4. Measure program impacts;
5. Competing issues;
6. Program format; and
7. Program sustainability.

4.5 FOCUS GROUP TRANSCRIPTION AND CODING

The focus groups were audio-recorded and transcribed. The transcripts were reviewed in detail by the UA research team and used to code responses. Focus group data was organized into matrices to develop findings within the communities.



Globe Focus Group

Photo Credit: Christopher Jones

5.0 DEMOGRAPHIC DATA – PAYSON AND GLOBE (GILA COUNTY)

Understanding the demographic composition of a community is an important factor in designing a Climate Master program. Consequently, to describe the demographic composition of both Payson and Globe, the UA research team summarized data from the U.S. Census Bureau’s American Community Survey 5-Year Estimates (2018). In addition, voter registration data for Gila County is provided below. This information provides an overview of the composition of each town’s population with attributes like political affiliation, ethnicity, education, and age. Lastly, focus group participant demographics are summarized for each location and are compared and contrasted to national Census data as well as to each community.

5.1 GILA COUNTY VOTER REGISTRATION REPORT

According to the State of Arizona Voter Registration Report (January 2020), in Gila County, 30,824 people are registered to vote. Of this total, close to half (45%, n=13,744) are registered as “Republican,” a little over one-quarter (28%, n=8,664) are registered as “Democrat,” none are affiliated with the “Green Party,” 0.6% (n=178) are “Libertarian,” and 27%, (n=8,238) are registered as “other.”¹

5.2 U.S. CENSUS BUREAU DEMOGRAPHIC DATA PAYSON, ARIZONA

According to the U.S. Census Bureau’s American Community Survey 5-Year Estimates (July 2018), the following summarizes the demographic composition of Payson, Arizona:

POPULATION. 2014-2018 population estimates total 15,439.

GENDER. Males comprise 47% of the total population, while there are more females, at 53%.

AGE. The median age is 59, and most residents are represented in the 65 to 74-year range (20%) (see Table 1).

Age Range (years)	Percent
Under 20	13%
20-24	5%
25-34	8%
35-44	8%
45-54	11%
55-59	8%
60-64	12%
65-74	20%
75-84	13%
85 and over	4%

Source: U.S. Census Bureau 2018 American Community Survey 5-Year Estimates (July 2018)

¹All percentages throughout the report are rounded; therefore, percentage totals may be slightly higher or lower than 100%.

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RACE. An overwhelming majority (91%) of the population in Payson is white. Following this, 4% identify as American Indian, 3% some other race, 1% each African American and Asian, and another 1% are two or more races.

ETHNICITY. Almost all of Payson's citizens (94%) are of non-Hispanic or Latino origin, with only 6% identified as Hispanic/Latino.

EDUCATION. The majority of Payson's citizens (92%) have earned a high school degree and one-quarter (25%) have earned a bachelor's degree or higher.

INCOME AND POVERTY. The median household income is \$50,049. Per capita income in the last 12 months (2018 dollars) is \$29,636 and 12% are "in poverty."

COMPUTER AND INTERNET USE. The majority of households have a computer (89%) and Internet (80%).

PAYSON DEMOGRAPHIC SNAPSHOT

In summary, Census results reveal that Payson is a demographically homogenous, small town. The population is characterized as those who are mostly:

- Republican (the predominant political affiliation in Gila County);
- senior citizens;
- white and non-Hispanic;
- high school graduates with some higher education;
- earning a median income (\$50,049) that is approximately \$10,000 lower than national figures (\$60,293) and have a lower per capital income (\$29,636) than what is reported nationally (\$32,621); and
- at the same poverty level as the rest of the country (12% each).

5.3 PAYSON FOCUS GROUP DEMOGRAPHICS

Although 12 Payson residents were successfully recruited for the focus group, one respondent cancelled, resulting in 11 participants. Demographic information that is reported below was collected during a survey that was administered over the telephone during the recruiting process prior to the focus group (see Focus Group Methodology pg. 8) (see Appendix A). Income was not collected from the focus group participants; however, they were asked to describe their occupation. All respondents had access to a computer and the Internet.

GENDER. Most participants (n=7, 64%) were female, while 36% were male (n=4).

AGE. Participants ranged in age from 21 to 90 years. The median age is 72 years. A little over one-third (36%, n=4) of the respondents were 75 to 84 years of age, while the remaining respondents' (n=7) ages varied widely, with one respondent each (9%) representing seven different Census designated age categories (20 to 24, 35 to 44, 45 to 54, 55 to 59, 60 to 64, 65 to 74, and 85 and older).

RACE. All of the participants identified their race as "white."

ETHNICITY. The majority (91%) identified their ethnicity as "non-Hispanic/Latino" origin, while one respondent (9%) described their ethnicity as "Hispanic/Latino," specifically, "Mexican, Mexican American, Chicano."

EDUCATION. Close to half (45%) of the participants had earned a master’s degree, while a little over one-third (36%) of respondents had earned a high school degree and 9% each had earned either an associate’s degree or a doctoral degree.

OCCUPATION. Most respondents (64%) said that they are retired, while about one-quarter (27%) said they are employed, and one respondent (9%) reported being a college student. Most retired respondents worked in a variety of professional fields, while those currently working are involved in the service industry, public service, or higher education.

POLITICAL AFFILIATION. Respondents were asked politically whether they “lean to the right (conservative),” “lean to the left (liberal),” or “somewhere in-between.” The same proportion (36% each) said they “lean to the left” or “somewhere in-between.” Slightly over one-quarter (27%) identified as someone who “lean[s] to the right.”

PAYSON FOCUS GROUP DEMOGRAPHIC SUMMARY

Generally, the focus group participants resembled the demographic profile of Payson. The primary differences were that the participants in the focus group represented a higher proportion of females, an older age range, and higher educational levels than Census reported demographics for Payson. In addition, politically the group resembled that of Gila County, with most (63%) stating they “lean to the right” or “somewhere in-between.” Although this is not definitive, an assumption could be made that a proportion of those saying they are “somewhere in-between” are registered as Republican. Likewise, participants represented almost the same proportion of Democrats in Gila County (27% and 28% respectively).

5.4 U.S. CENSUS BUREAU DEMOGRAPHIC DATA GLOBE, ARIZONA/COMPARISON TO PAYSON

Demographic information for the town of Globe are summarized and compared to Payson in the list below (U.S. Census Bureau 2018).

POPULATION. 2014-2018 population estimates total 7,346, which is about half of Payson’s population.

GENDER. Males and females are almost equally distributed (51% and 49% respectively). This is similar to Payson.

AGE. The median age is 43 years, and most (23%) Globe residents are represented as under 20 years of age. This illustrates a much younger population than Payson (see Table 2).

Age Range (years)	Percent
Under 20	23%
20-24	9%
25-34	12%
35-44	11%
45-54	11%
55-59	9%
60-64	6%
65-74	11%
75-84	7%
85 and over	3%

Source: U.S. Census Bureau 2018 American Community Survey 5-Year Estimates (July 2018)

RACE. A majority of the population in Globe is white (85%). Following this, 7% identified with two or more races (mostly white and American Indian), 3% each are either American Indian or Asian, and 1% African American. In comparison to Payson, Globe is more racially diverse.

ETHNICITY. Almost two-thirds (59%) of Globe residents are of non-Hispanic/Latino origin, while 41% identified as of Hispanic/Latino origin. There is a much higher proportion of Globe residents who are Hispanic /Latino than those who live in Payson.

EDUCATION. Most (85%) who live in Globe have earned a high school degree and almost one-fifth (18%) have earned a bachelor’s degree or higher. In comparison to Payson, fewer residents in Globe have graduated from high school and fewer have earned a degree in higher education.

INCOME AND POVERTY. The median household income is \$47,086. Per capita income in the last 12 months (2018 dollars) is \$23,147, and 18% are considered “in poverty.” Relative to Payson, Globe has a slightly lower median income, a moderately lower per capita income, and a higher poverty level.

COMPUTER AND INTERNET USE. The majority (82%) of households have a computer and over half (57%) have Internet broadband service. Technological access is less in Globe than in Payson.

GLOBE DEMOGRAPHIC SNAPSHOT

Census results reveal that Globe is a small town with a somewhat demographically diverse population. The population is characterized as those who are mostly:

- Republican (the predominant political affiliation in Gila County);
- younger adults with children and families;
- white with a significant number of those who are Hispanic/Latino;
- high school graduates;
- earning a median income (\$47,086) that is approximately \$13,000 lower than the nation’s median income (\$60,293), a substantially lower per capita income (\$23,147) than nationally (\$32,621); and
- at a higher poverty level (18%) than the rest of the country (12%).

5.5 GLOBE FOCUS GROUP DEMOGRAPHICS

Similar to the Payson focus group, 12 residents from Globe were successfully recruited; however, three did not attend, resulting in nine participants in total.

GENDER. One-third of participants were female, and two-thirds were male.

AGE. Participants ranged in age from 48 to 79 years. The median age was 62. One-third (33%) of the respondents were 65 to 74 years of age, and 22% each fell into the 55 to 59 and 60 to 64 age ranges. Another 11% each were either in the 45 to 54 or 75 to 84 age categories.

RACE. All of the participants (100%) reported their race as “white.”

ETHNICITY. The majority of respondents (89%) identified as “non-Hispanic/Latino” origin, while one (11%) said that they were “Hispanic/Latino,” specifically, “Mexican, Mexican American, Chicano.”

EDUCATION. One-third each (33%) earned either a bachelor’s or master’s degree, 22% graduated from high school, and 11% (n=1) earned a doctoral degree.

OCCUPATION. Two-thirds (66%) of the participants said that they are employed, while about one-fifth (22%) reported that they are semi-retired, and only one respondent (11%) is retired. For those who are working, they work in a variety of fields including higher education, civil engineering, museum personnel, and placed-based agriculture.

POLITICAL AFFILIATION. The focus group participants were divided equitably with one-third each (33%) identifying as politically either “lean[ing] to the left,” “lean[ing] to the right,” or they fell “somewhere in-between.”

GLOBE FOCUS GROUP DEMOGRAPHIC SUMMARY

In comparison to the Census demographic profile of Globe, the focus group participant composition was not as indicative of Globe’s population as the UA research team had strived for. Initially, the UA research team successfully recruited two Native American participants and one African American participant who ranged in ages from 54 to 65 years. Although all three had agreed to participate, they did not attend the focus group.

The primary demographic differences between Globe attendees and national Census demographic data are that the participants in the focus group represent a higher proportion of males, whites, older adults, and those who are of non-Hispanic/Latino origin. In addition, participants obtained higher educational levels. Although Gila County has more Republican registered voters, politically the group contained equal proportions across the political continuum. All participants had access to a computer and the Internet.

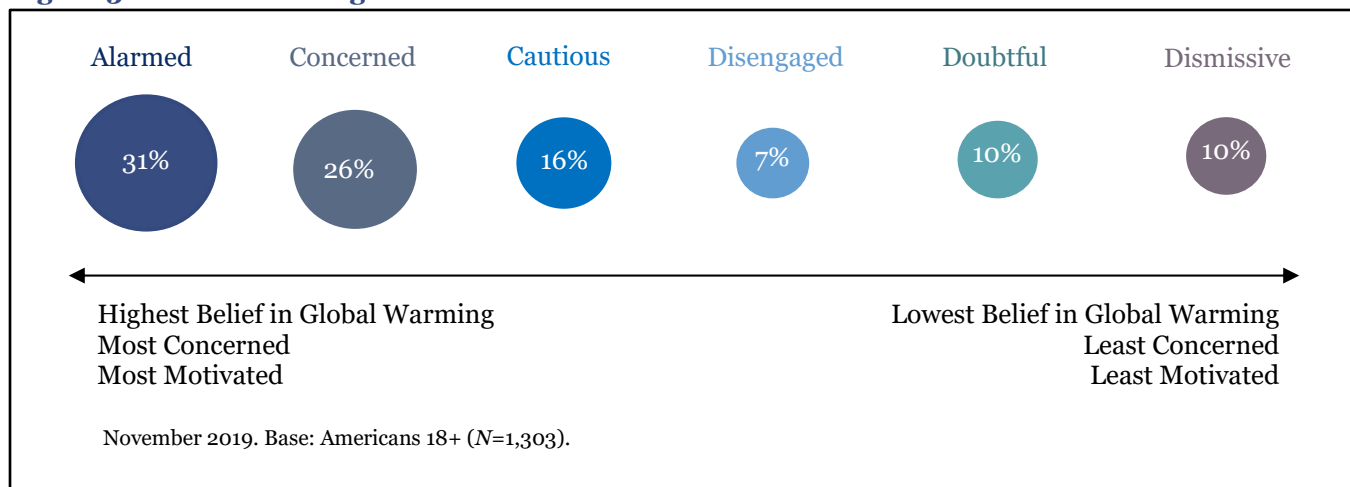
6.0 GLOBAL WARMING'S SIX AMERICAS

The Yale Program on Climate Change Communication is part of the Yale School of Forestry and Environmental Studies at Yale University. The mission is to “advance the science of climate change communication, help leaders communicate more effectively and increase the public's understanding of climate risks and opportunities” (2019). This program was initiated in 2005 at the “Americans and Climate Change” conference. Their team of social scientists have conducted public opinion and messaging research to better understand the root of public opinion and how this affects subsequent climate change behaviors and actions. Associated recommendations assist various organizations to communicate more effectively about these issues.

People’s cultural, political, environmental, and/or psychological backgrounds affect their perceptions and whether and how they choose to address climate-based issues, solutions, and actions. To understand who your audience is, and subsequently develop communication messaging and tools, the Climate Change Communication program’s research resulted in defining six unique audiences within the American public called “Global Warming’s Six Americas” (Yale Program on Climate Change Communication 2019).

An extensive representative survey of American adults from across the nation was initially conducted in 2008. The survey questionnaire included a broad set of metrics designed to better understand the public’s climate change perceptions and what the underlying barriers are to achieving actionable results. Subsequently, six audiences were identified, and are categorized between distinct levels of engagement within the climate change realm (see Figure 3). The continuum ranges from “alarmed,” those who are convinced about the seriousness of global warming and are taking immediate personal actions to address solutions to this issue to “dismissive,” those who deny there is a problem, thus opposing climate action and policy.

Figure 3. Global Warming’s Six Americas



Source: Yale Program on Climate Change Communication (November 2019)

The remaining four categories, which lie in the middle, “concerned,” “cautious,” “disengaged,” and “doubtful,” differ in their perceptions, beliefs, knowledge, level of risk, political engagement, and behaviors as they contemplate their position in climate change and global warming. “Concerned”

individuals are convinced that global warming is a reality and is a grave problem but have not personally engaged in the issue. The three other Americas' categories, "cautious," "disengaged," and "doubtful," represent different phases of awareness, understanding, and acceptance of the issue, and people who are represented in these categories are not involved or taking action to mitigate climate-related effects.

6.1 SIX AMERICAS SUPER SHORT SURVEY (SASSY!)

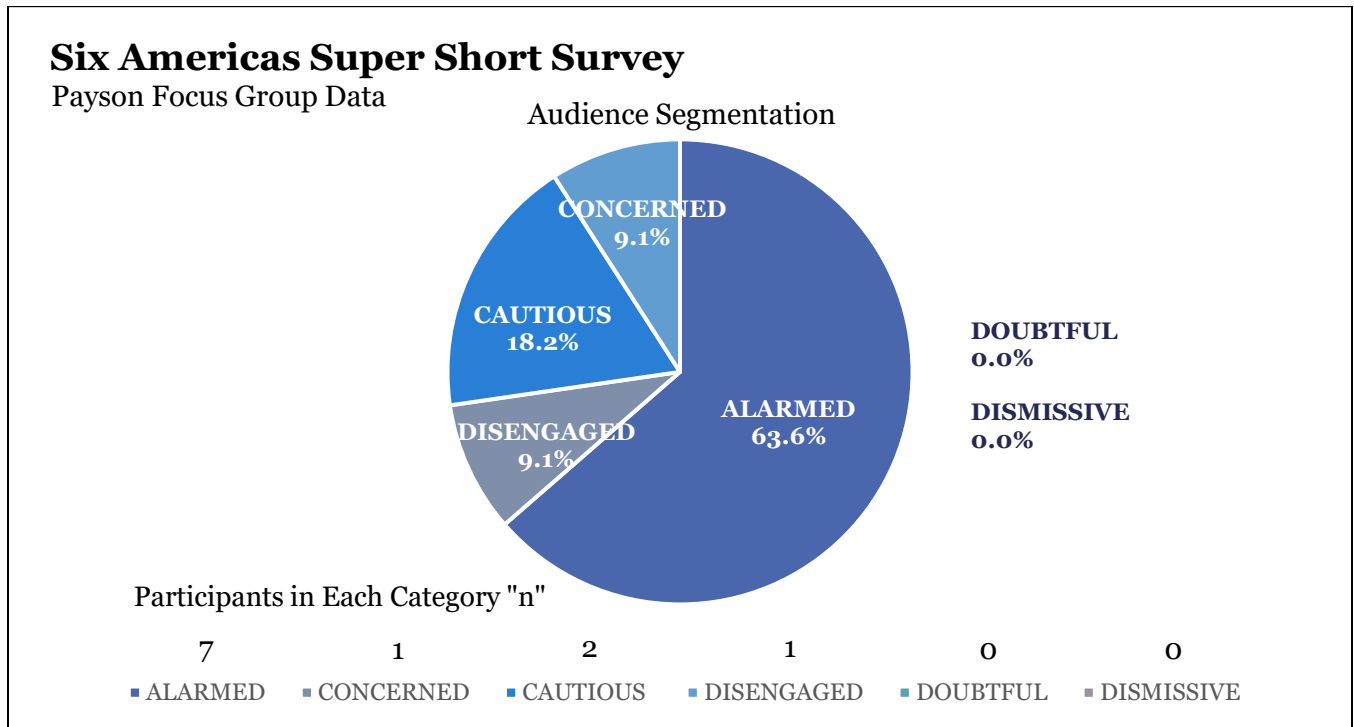
The original 36-question survey (Maibach et al. 2011) was reduced to only four questions in the Six Americas Super Short Survey (SASSY) (Chryst et al. 2018). The SASSY instrument used the original Six Americas' screener and results from a series of nationally representative surveys, "Climate Change in the American Mind" (n=18,000+). Although the SASSY is a much shorter survey, results still sort respondents into the six respective audience groups who perceive and respond to global warming in different ways. Further, results reveal how a particular individual or group compares to Americans across the country. These results can also be used to develop communication messaging and tools for respective groups.

6.2 SASSY RESULTS: PAYSON COMPARED TO NATIONAL ESTIMATES (NOVEMBER 2019)

As respondents were recruited on the telephone to attend the focus group, they were asked the four questions that comprise the short SASSY survey (Chryst et al. 2018). Of the eleven respondents who participated in the Payson focus group, almost two-thirds (64%) were "alarmed," as compared to just under one-third (31%) of national SASSY estimates (November 2019) (See Figure 4 and 5). Following this, about one-fifth (18%) represented the "cautious" group, and this closely resembled national estimates (16%). The remaining respondents represented a smaller proportion (9% each) of either "concerned" or "disengaged." Nationally, about one-quarter (26%) are "concerned" and 7% are "disengaged."

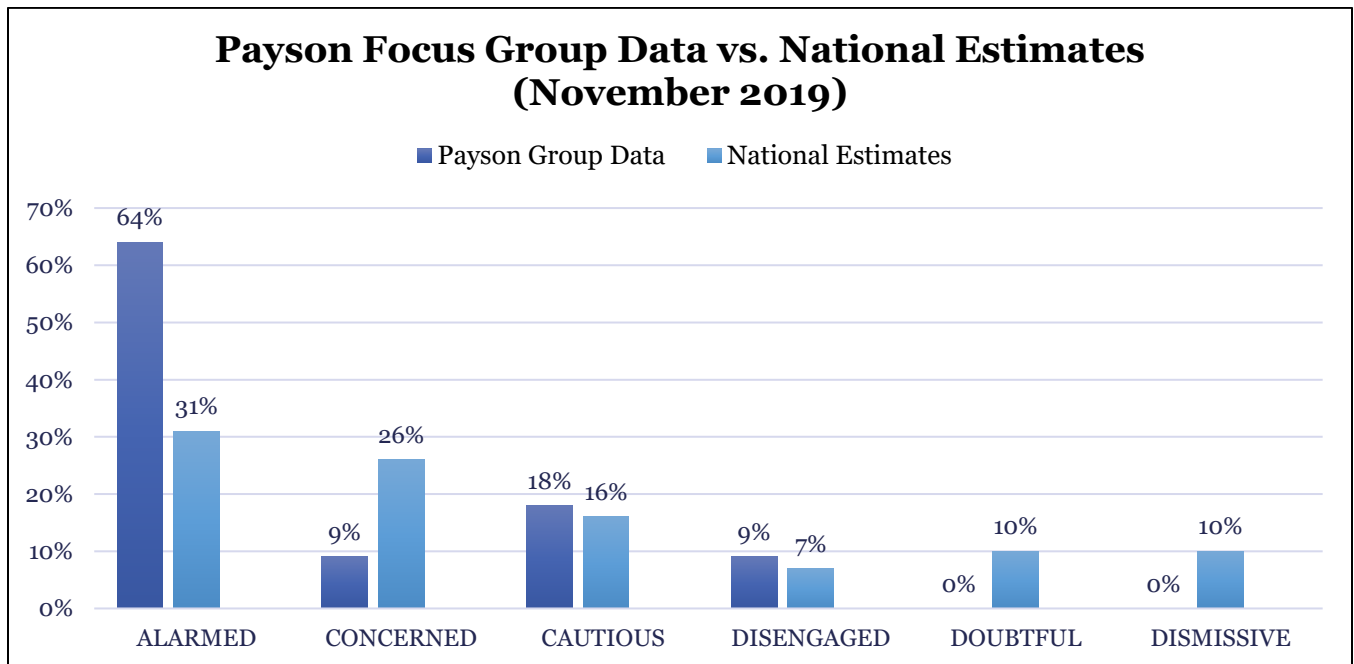
Although "alarmed" and "concerned" respondents varied widely from the national results, the "cautious" and "disengaged" participants more closely resembled national values. None of the participants sorted into "doubtful" or "dismissive" categories, in which a small percentage (10% each) of the American public are represented within these categories.

Figure 4. Payson Focus Group Participant SASSY Survey Results (n=11)



Source: Yale Program on Climate Change Communication (November 2019)

Figure 5. Payson Focus Group Participant SASSY Survey Results vs. National Estimates

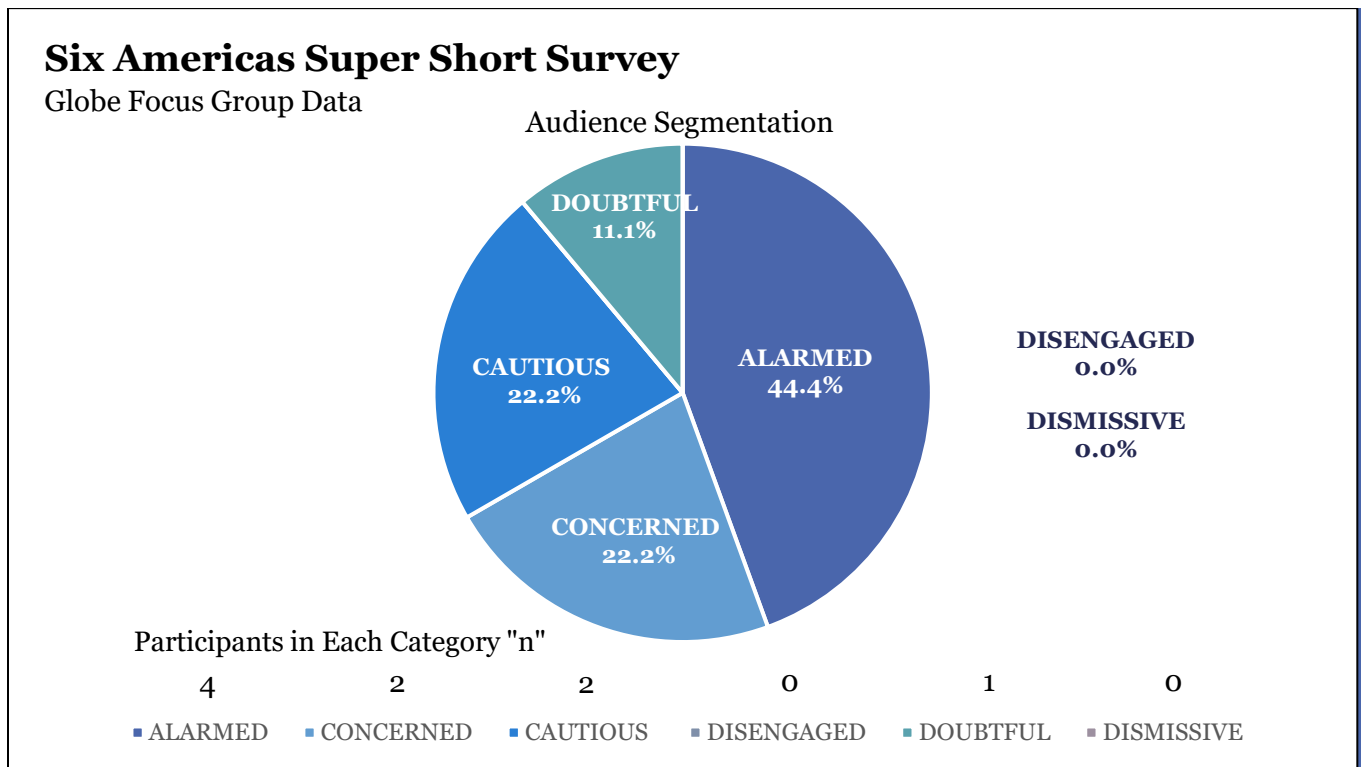


Source: Yale Program on Climate Change Communication (November 2019)

6.3 SASSY RESULTS: GLOBE COMPARED TO NATIONAL ESTIMATES (NOVEMBER 2019)

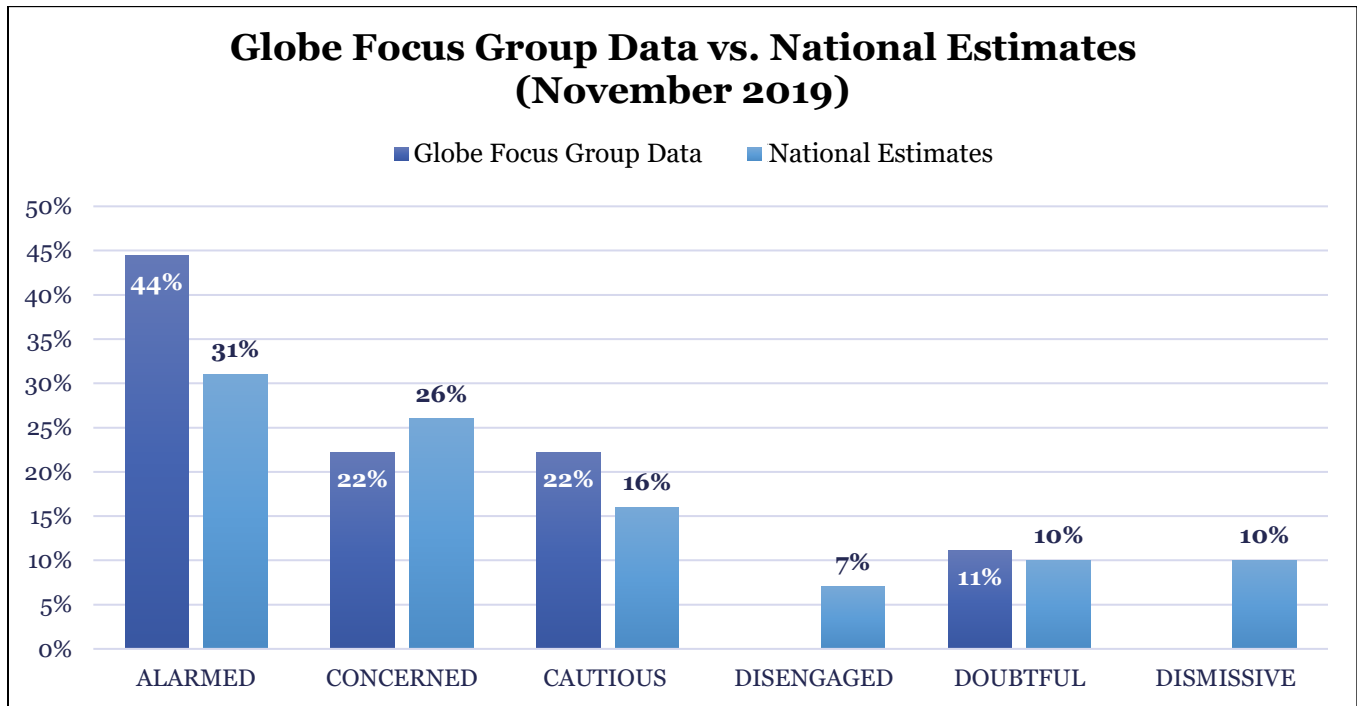
Of the nine respondents who participated in the Globe focus group, most (44%) were “alarmed,” while about one third (31%) of Americans qualified as “alarmed” (See Figure 6 and 7). About one-fifth each (22%) ranked as either “concerned” or “cautious.” Those “concerned” were slightly lower than national estimates (26%) and those “cautious” were somewhat higher than their American counterparts (16%). The remaining respondents were “doubtful” (11%), which closely matches Americans (10%) across the country. None of the respondents in this group fell into “disengaged” or “dismissive.” Nationally, 7% are “disengaged” and 10% are “dismissive.”

Figure 6. Globe Focus Group Participant SASSY Survey Results (n=9)



Source: Yale Program on Climate Change Communication (November 2019)

Figure 7. Globe Focus Group Participant SASSY Survey Results vs. National Estimates



Source: Yale Program on Climate Change Communication (November 2019)

6.4 SASSY NATIONAL RESULTS: PAYSON TO GLOBE

In comparing the Six Americas’ audience groups of Payson to Globe, Globe more closely resembled national results. Nationally, numbers in each group generally progress downward from “alarmed” (31%) to “dismissive” (10%).

7.0 FOCUS GROUP PARTICIPATION AND RESULTS

7.1 FOCUS GROUP PARTICIPATION

Typically, seven to 12 people are an ideal size for a focus group, and participants are selected because they share specific characteristics that are relevant to the study's objectives and the subsequent protocol of designed questions (Marshall and Rossman 2016). As stated previously, most participants were selected because they had been involved with UA Extension programming. Although 12 potential participants were initially recruited over the telephone for each focus group, 11 attended in Payson and nine in Globe.

7.2 FOCUS GROUP RESULTS

Focus group results are organized and mirror the protocol's seven broad sections and underlying questions. Results are presented separately for each community.



Payson Focus Group

Photo Credit: Christopher Jones



Globe Focus Group

Photo Credit: Christopher Jones

8.0 PAYSON FOCUS GROUP RESULTS

8.1 INTRODUCTIONS

Initially, participants were asked to introduce themselves. Although several members are retired, they mentioned a wide range of occupations such as education, engineering, computer systems, and public service. Most stated that they had taken the Master Gardeners and/or the Climate Extension Master course offered by UA Cooperative Extension. Many of the participants self-identified as being involved in environmental issues, either personally, professionally, or both.

8.2 MAIN THREATS AFFECTING INDIVIDUAL/COMMUNITY WELL-BEING

Respondents were asked to think about the top three threats or environmental catastrophes that have affected them or their community's well-being as a result of changes in the weather or other environmental circumstances. In answering this question, the group derived eight main themes that include wildfire/forest health, flooding and erosion, changing weather patterns, water quality, sea level rise, pollutants and toxins, flora and fauna disease, and emergency preparedness. A summary is provided below.

WILDFIRE/FOREST HEALTH. Since Payson is surrounded by a transition zone with a mix of forested and shrub-like flora, a common thread that arose was linked to the forest, in which they declared that their community has been impacted by longer and more severe wildfire seasons.

FLOODING AND EROSION. Coupled with increased intensity and size of wildfires, respondents revealed subsequent threats that arise in its aftermath, which include flooding and erosion.



Home Lost Due to Wildfire near Payson, Arizona in 2010

Photo Credit: Martin DeMasi

CHANGING WEATHER PATTERNS. Participants specifically mentioned drier summer monsoons, later rain events, increased frequency of irregular flooding patterns, and long-term drought.

WATER QUALITY. Respondents revealed that they were concerned about loss of ample potable water to sustain their quality of life.

SEA LEVEL RISE/MELTING ICE CAPS. Although participants admitted that living in central Arizona they could not experience these effects first-hand, they identified melting ice caps and subsequent sea level rise as a formidable threat to ecosystems, humans, and wildlife.

POLLUTANTS/TOXINS. Various pollutants were identified as main threats found in the atmosphere and in agricultural practices.

- **Air pollution.** The group talked about air pollution as a concerning threat, which includes atmospheric overloads of carbon dioxide (CO²) emissions and toxic chemicals.
- **Agricultural toxins.** Similarly, respondents mentioned concern over chemically-based agricultural pesticides and herbicides.

SYNDROMES IN FLORA AND FAUNA. The group also pointed out concern for changes in the environment that could lead to novel diseases in flora and fauna.

EMERGENCY PREPAREDNESS. Several focus group members stated that lack of disaster preparedness is a primary threat to their well-being.

8.3 PROGRAM CONTENT AND COMMUNICATION

Participants were asked to think about the issues that were just identified and begin to match these with messaging that should be included in a climate-smart community outreach program. To frame this, respondents were directed to think about messaging that would resonate with their community and lead to:

1. increased community awareness;
2. better preparing communities for changes in the environment and adopting sustainable practices;
3. motivating individuals and communities to act and provide tangible solutions; and
4. influencing decision makers and political leaders to provide solutions to the community's identified priorities and expect them to promote policies that support these solutions.

As the group thought about and discussed these issues, they identified topical areas and how the community could deliver and communicate effective messaging to residents and visitors alike. Tables 3 through 7 describe the topic areas and communication methods focus group participants suggested for disseminating the information.

In considering messaging to increase community awareness, five main themes were identified that include communicating (see Table 3):

1. threat of severe wildfire;
2. community concerns to visitors/tourists;
3. adoption of Firewise principles;
4. environmental sustainability; and
5. the need for forest thinning and wildfire mitigation projects and actions.

Table 3. Messaging that leads to increased community awareness.

Topic	Communication Methods
<p>Communicate the threat of uncharacteristically severe wildfire.</p>	<ul style="list-style-type: none"> • When using the Internet, understand users’ online habits and needs. • The local newspaper, <i>The Roundup</i>, is known for publishing numerous series of environmental stories related to forest fires and watershed effects.
<p>Communicate local community concerns to visitors/tourists from close by urban areas, like Phoenix.</p>	<ul style="list-style-type: none"> • The Chamber of Commerce can share fire mitigation messaging with those who do not live in the area and may not understand local concerns, like fire danger. • Widely used social media applications are Facebook and Twitter; Instagram and Snapchat are more popular with youth. The popularity of the platform differs across the country. • Post bulletin board announcements in local businesses like grocery stores and the post office.
<p>Influence forest policy that enables implementation of forest thinning and wildfire mitigation projects. Barriers that were identified are the lack of mill infrastructure and processing capacity and short-term stewardship contracts.</p>	<ul style="list-style-type: none"> • Governing entities such as the United States Forest Service (USFS), Gila County, and the County Board of Supervisors were identified organizations that could disseminate this information and progress to the community. In the group’s opinion, this information is more relevant and needed than facts on open trails and road systems.
<p>Incentivize/teach environmental sustainability/awareness; plant the seed in youth.</p>	<ul style="list-style-type: none"> • Gear programming to school-based and community youth activities for elementary through high school age students. • Hold community projects/events, like hikes, trash collection day, etc. • Post program related videos on Gila County and Town of Payson websites. • Show short video clips in movie theaters that advertise Firewise principles and regularly scheduled clean up days. The group believes that repetitive messaging is important, and the cost is relatively low. • Conduct programming at popular and well-known sites like the library. Adult and youth-based programming should be held simultaneously to involve various segments of the population.
<p>Instill Firewise/fire adapted community principles and actions.</p>	<ul style="list-style-type: none"> • Include in youth programs promoted through the schools and Gila County. As an example, youth assist senior citizens with conducting Firewise activities around their properties. • Use local newspaper announcements to advertise these events.

Managing for Climate Change: Climate Master Outreach and Extension

In considering messaging to better prepare communities for changes in the environment and adopting sustainable practices, five main topics were identified in the list below (see Table 4):

1. restore the recycling program;
2. ban single use plastics;
3. reduce use of/reuse consumable items;
4. assure Arizona Corporation Commission (ACC) supports forest biomass for energy production; and
5. promote solutions to injunctions on federal public lands that hinder implementation of forest thinning projects.

Table 4. Messaging that resonates with their community and leads to better preparing communities for changes in the environment and adopting sustainable practices.

Topic	Communication Methods
<p>Revive the recycling program. When the recycling program existed, residents/visitors abused the program, and did not follow the rules (i.e., disposed of trash in recycle bins).</p>	<ul style="list-style-type: none"> • Conduct and/or join events at regular intervals throughout the year. There are already long-standing events such as “Take Pride in Pine Strawberry Project.” • Encourage legislatures and lawmakers to establish recycling programs across the state. • Assure recycling bins are available. • Fund recycling bins through local business sponsors and recognize them with business logos. • Mandate recycling statewide. • Post acceptable recycling practices and develop educational programs such as signage on recycle bins and/or trash cans that provide information/graphics with permissible and non-permissible items. • Develop policy that promotes recycling and reduces landfill waste. For example, when residents do not follow recycling rules, garbage collection services are suspended. • Since a recycling program does not currently exist, develop a Facebook page that teaches best practices (i.e., reduce and reuse before discarding and/or take recycling items to a city that supports a recycling program).
<p>Ban single use plastics (i.e., plastic bags).</p>	<ul style="list-style-type: none"> • Develop policy through municipal, county, and statewide legislation. • Assure reusable shopping bags are available.
<p>Repurpose/reuse versus throwing items in the trash (i.e., reuse water bottles, coffee mugs, purchase clothing at thrift stores, etc.).</p>	<ul style="list-style-type: none"> • Conduct a general community outreach campaign.

ACC is not authorizing the use of forest biomass for energy production. Currently, there are a limited number of facilities that process biomass for energy, and transportation is expensive. The group suggested increasing the number of biomass facilities across the state so that transportation cost is reduced. Respondents explained that although this would be a formidable investment, this could be offset by the cost of mitigating severe wildfires and maintaining the watershed.

- Develop messaging designed for ACC members and legislatures.

Injunctions related to the Mexican Spotted Owl on federal public land hinders implementation of forest thinning projects. This, in effect, impedes new investments in logging and processing operations and businesses.

- Design messaging for interest groups (i.e., Center for Biological Diversity).



Pine Canyon Trail near Payson, Arizona

Photo Credit: Adam Levine from Creative Commons

Managing for Climate Change: Climate Master Outreach and Extension

In considering messaging that resonates with their community and leads to actions and tangible solutions, the group discussed three key topics listed below (see Table 5):

1. emphasize risks and effects of disasters (i.e., severe wildfires);
2. highlight concern for water supply; and
3. promote Firewise actions and forest thinning projects.

Table 5. Messaging that resonates with the community and leads to motivating individuals and communities to act and provide tangible solutions.

Topic	Communication Methods
<p>Emphasize how disasters (i.e., wildfires) will personally affect residents. For example, highlight evacuation concerns with limited ingress and egress.</p>	<ul style="list-style-type: none"> • Promote awareness through public information and school programs that constantly remind people of potential and pervasive life-threatening issues, like wildfire. • Develop programs designed for new residents moving into the community. • Hold community meetings to plan for and offer solutions to these issues. A respondent offered, “[We need] real buy-in from the locals.” • Incentivize community action. • Work with elected officials who are already focused on these issues. • Assure messaging includes individual responsibility. In supporting this, a member stated, “[It’s] our responsibility.” Base assertions on protecting livelihood and lives in the community. A respondent supported this in saying, “Unfortunately, we don’t ever do that until smoke is in the air.” • This kind of messaging needs to originate from the ground up. In other words, warnings are initiated from those who are living in the community.
<p>Currently, water supply is a concern.</p>	<ul style="list-style-type: none"> • Identify those who are not aware of potential water shortages, and relay actions that need to be taken to mitigate water inadequacies. • Develop neighborhood programs that are focused on this issue. • Hold town hall meetings. • “Create small communities of awareness.” • Involve leaders of local churches.
<p>Promote Firewise actions on properties and for forest thinning projects.</p>	<ul style="list-style-type: none"> • Hold events and encourage funding opportunities to back this work. • Incentivize home and property owners to take Firewise actions and assist those who are physically or economically limited (i.e., elderly) by providing community programs, like clean up days that include transporting debris to the landfill. A participant stated, “We all have a vested interest in this.”

- Mandate defensible space/home ignition zone requirements for home and property owners.
- Homeowners' associations sponsor an established annual event and a means to remove flammable forest litter and debris. With this in place, homeowners are aware and can plan for the event on an annual basis.
- Place forest debris dumpster in a centrally located, highly visible and accessible location for an allotted period of time.
- Provide a chipping program for forest litter debris to create mulch for residents' gardens.



View from Promontory Trail on the Mogollon Rim, near Payson, Arizona

Photo Credit: David Pinter

In discussing messaging that motivates communities to act and provide tangible solutions, focus group participants emphasized how disasters like wildfires personally affect residents. They described this in saying,

*“[We need] real buy-in from the locals,”
“Unfortunately, we don’t ever do that until smoke is in the air,” and
“We all have a vested interest in this.”*

Managing for Climate Change: Climate Master Outreach and Extension

When the discussion shifted to messaging that influences political leaders to address and promote solutions to the community’s top climate-related issues, participants pinpointed integrating political leadership with education and community service (see Table 6).

Table 6. Messaging that resonates with their community and leads to influencing decision makers and political leaders to provide solutions to the community’s identified priorities and expect them to promote policies that support these solutions.

Topic	Communication Methods
Considering the biomass/forest thinning issues and other issues identified above, tie together education with political leaders and community service, “under some umbrella.”	<ul style="list-style-type: none"> • Encourage residents to get involved by attending meetings, and tie them to fun events, like a chili cookoff. • Hold town hall meetings. • Conduct school-based service programs. • Sponsor online petitions that are delivered to political leaders (i.e., Facebook).

During the last question in this section, respondents deliberated programming that is relevant to Payson’s culture and values. Table 7 describes participant’s thoughts, which include targeted messaging to engage second homeowners, illustrate economic benefit, embody holistic community benefit, and impart environmental education programs.

Table 7. Programming that is relevant to their community’s cultures and values.

Topic	Communication Methods
Derive strategies to involve second homeowners.	<ul style="list-style-type: none"> • Engage homeowner associations.
Illustrate how environmental consciousness saves residents money and improves their quality of life (i.e., reusing and recycling saves money).	<ul style="list-style-type: none"> • Target younger families who are not a typical audience for this type of messaging. • Encourage businesses to incentivize reusing containers with cost-saving promotions. • A respondent stated, “[There is a myth that being environmentally conscious is a] rich person’s game.” Considering Payson’s economic disparity, countering this type of messaging is important.
Sell the “community” message versus the “rugged individual” message.	<ul style="list-style-type: none"> • Promote at churches and other venues.
Instill environmental education programs. Youth have inherited the current environmental issues, and they have to take action to find solutions because the effects will be felt by their generation. They are the up and coming generational voters.	<ul style="list-style-type: none"> • Target messaging to youth and motivate them to take action (Greta Thunberg was used as an example). • Work with county and municipal governments, schools and the USFS.

“[There is a myth that being environmentally conscious is a] rich person’s game.”



View from Potato Butte, near Payson, in Northern Gila County, Arizona

Photo Credit: Ashley Hall

8.4 PROGRAM’S GOALS AND OUTCOMES

During this section of the focus group, participants discussed what they believe should be the top three goals and associated outcomes of the Climate Master program. Responses consisted of general aspirational goals and the associated intrinsic value of the program, targeted activities and key issues, and overall associated collective actions, which are summarized below.

8.4.1 ASPIRATIONAL GOALS AND ASSOCIATED INTRINSIC VALUE

DEVELOP EDUCATIONAL PROGRAMS THAT PROMOTE REVERSE INFORMATION FLOWS.

Participants identified creating conditions conducive to a reverse information flow that begins with children and students and is transmitted to other family members that include siblings, parents, and grandparents, as an effective means to promote change. They suggested encouraging sustainable practices such as water catchments and composting.

CONSISTENCY IN PROGRAMMING IS IMPORTANT. Another component in assuring that the program is valuable is consistency. More specifically, consistency in communicating the issue(s) at

hand, the program’s objectives, the associated messaging, and in its leadership. Similarly, creating connectedness with politicians and community members to focus on “a real future” was identified as a necessary ingredient to a successful program.

8.4.2 TARGETED PROGRAMS, KEY ISSUES, AND COLLECTIVE ACTION

PROTECTION AND MAINTENANCE OF THE WATERSHED IS A PRIORITY. The group identified safeguarding and maintaining the watershed as the number one priority. The concern stems from the risk of an out of control wildfire that renders the water undrinkable.

FOOD CONSERVATION IS VALUED. Specific programs that would be valuable to their community include food conservation programs. More specifically, the group identified a large homeless population in Payson and some elderly residents who would benefit from receiving free or low-cost food. They suggested partnering with restaurants to distribute unconsumed food.

CONNECT WITH SUMMER VISITORS. Another suggestion was to focus on summer visitors from close by metropolitan areas (i.e., Phoenix, Glendale). This could be accomplished through promoting visitors’ connections to the Payson community. For example, participants suggested asking visitors to contribute a small donation to an identified sustainable local effort when purchasing fishing or hunting licenses.

INCREASE AWARENESS AND SUPPORT FOR INITIATIVES. Another suggestion designed to increase awareness in out of town visitors, second homeowners, and residents was to promote local programs and events at Farmer's Markets. This would provide the opportunity to increase organizational and programmatic awareness and engage various segments of the population to support local environmental and sustainable initiatives; at the same time, engage citizens in influencing legislative environmentally based policy, like signing petitions.

INSTILL A “SISTER CITY” PROGRAM. Initiate a “sister city” program across the state that bolsters interest and support for novel initiatives. One respondent provided an example in which the City of Tempe and the town of Strawberry/Pine become sister cities and work together on climate-related initiatives.

DESIGN AN EFFECTIVE ADVERTISING CAMPAIGN. An aggressive advertising campaign that informs residents/visitors about the program is needed. This is especially true of people who are not usually reached. The group was essentially posing this question, “How do we reach those who are less likely to know about this program?” They suggested determining the composition of these groups and designing a targeted advertising campaign. Potential information channels include the Town of Payson or Gila County’s websites, but they said they are uncertain how much residents visit these websites.

8.5 MEASURE PROGRAM IMPACTS

Next, respondents provided input on how to measure the impact this program has on individuals, the community, and policy. The group derived four key methods to measure program impacts, which include tracking participation, administering surveys, conducting content analysis of climate-related media, and gauging political support. Responses are summarized below.

TRACK ATTENDEES AND WEB-BASED USERS. Tallying the number of attendees at meetings and various events is a metric that can be easily tracked. Moreover, these figures can provide

trends over time. Participants provided examples of climate-related events, like associated courses; town meetings; realtor, utility, and not-for-profit sponsored events; enrollment in environmentally based college courses; and youth-focused events. Similarly, measuring the number of visits and page views for the program's website would indicate the use, efficacy, and the specific content that web-based visitors are most interested in.

ADMINISTER SURVEYS AT COMMUNITY EVENTS. The group also suggested collecting information through surveys conducted at events. They provided examples like, designing surveys that reveal respondents' sustainable habits and practices (i.e., degree to which they practice recycling, composting, and subscribing to alternative energy sources). To collect this information, the group suggested occasions like Farmer's Markets and church sponsored events.

CONDUCT CONTENT ANALYSES OF MEDIA RELEASES. Another recommendation from participants in measuring program impact is to conduct content analyses of climate-related media. Respondents provided examples such as letters to the editor, newspaper articles, and conversations on local radio talk shows.

GAUGE POLITICAL SUPPORT. In considering measuring impacts through policy, the number of bills put forth by the state's legislative bodies related to environmental/climate change issues was identified as an appropriate metric. The group explained that constituents form an agenda and communicate this to their leaders through petitions, letters to the editor, direct calls, and written correspondence. In turn, these actions inform and influence state legislatures to promote changes in policy.

8.6 COMPETING ISSUES

In the next section, participants discussed competing issues that may affect them personally, or other community members, and deter them from participating in the program. The group derived five main themes that include economic factors, potential reductions in property value and jobs, lack of local education and training, time constraints, and policy issues. A summary of competing issues identified by the focus group respondents is below.

CONSIDER ECONOMIC DISPARITIES WITHIN YOUR COMMUNITY. Respondents identified affordable housing as an issue for those who live in Payson. They explained that a majority of residents work in the tourism industry, sometimes working multiple jobs, and do not have employment or financial security. Given this situation, they believe that this segment of the population does not have the capacity to devote time to issues reflected in a changing climate.

ENVIRONMENTAL CATASTROPHES LEAD TO LOSS OF PROPERTY VALUE AND JOBS. In thinking about the potential of an out of control wildfire that contaminates the watershed, respondents pointed to the fallout, which would include dramatic losses in property value and lost revenue to the tourism/service industry. This, in effect, would trigger many residents to leave the area.

LACK OF TECHNICAL TRAINING/EDUCATIONAL FACILITIES DIMINISHES THE RECRUITMENT POOL. Lack of technical training programs in Payson was identified as an underlying constraint. This in effect, decreases potential for those who may have interest and become involved in the program. The group explained that young adults have to leave the area to receive training that may include specializing in sustainable practices, like renewable energy (i.e., solar). They

tied this to the lack of opportunity in the area for young families and that climate-based issues were less likely to be addressed because the workforce/volunteers are lacking. To address this issue, respondents identified ways of connecting the program to educational processes, like online training, continuing educational credits, and related community college courses.

TARGETING YOUNG ADULTS AND THEIR FAMILIES IS KEY. Since the Payson community has a majority of older retired residents, respondents pointed out that the elderly have medical issues and less energy to devote a lot of time to community-based programs. This is the reason that it is important to recruit young adults and their families. However, this group typically has limited free time because they are providing for their families, taking care of their children, and establishing their careers. Moreover, young families want to spend time together on the weekend. However, the group stated that including family-based programming could assist with alleviating these time constraints. In effect, these interactions would contribute to teaching children about these important issues and formulating constructive individual and community responses.

CONSIDER PREVAILING STATE AND FEDERAL POLICY AND EFFECTS TO PROGRAMMING. A respondent stated that recent policy changes to the Environmental Protection Agency is a deterrent to establishing programs that current policies contradict. If Federal policies are not in line with environmentally based programs, recruitment strategies need to consider how this may affect enlisting participants.

8.6.1 PERSONAL COMMITMENT TO THE PROGRAM

As a follow-up to this section, participants were asked whether they would personally prioritize and spend energy and time on a Climate Master program as either a volunteer trainer or a participant. The group's responses covered six main themes: competing issues, commitment, organizational value, level of involvement, recognition and acknowledgement, and organizational identity. A summary of these topical areas is below.

COMPETING ISSUES CAN IMPEDE PARTICIPATION. Many enthusiastically said yes, they would consider enlisting in this program, but several pointed to competing issues outlined above.

ASSURE PARTICIPANTS' COMMITMENT. Some group members noted that in past local initiatives there is apparent enthusiasm, but commitment is lacking. Tagging the slogan, "[Just] show up," was a means of addressing true commitment.

PROGRAMMATIC ORGANIZATION IS VALUED. Respondents were emphatic in stating that the undertaking has attributes that exemplify a well-organized program, and they believe the time that they are committing is valuable and meaningful. This ties to assuring that the mission statement, objectives, and associated outcomes are clearly articulated. Further, this is linked to members clearly understanding their roles, contributions, expectations (i.e., time commitment), accomplishments, and end goal.

CREATE SPACE FOR VARIOUS LEVELS OF INVOLVEMENT. Although some in the group have the desire to participate, a participant explained that competing issues, like obtaining concurrent training and reaching personal goals, prevents her from further commitments. However, this same respondent stated that she could contribute nominally such as attending town hall meetings or assisting with a yard cleanup day.

PUBLICITY AND RECOGNITION MATTERS. The group discussed past events that were held in Payson. Prior successful activities were well publicized and covered in televised news reports. After observing the community’s reaction to receiving newsworthy recognition, respondents believe this is a nexus to recruiting and motivating participants. In addition, this created excitement for the issue at hand and illustrated support for the initiative.

CREATE ORGANIZATIONAL IDENTITY. Participants recognized that it is important that members are identified for their expertise, and perhaps they have a specialty that they oversee within the program. One respondent described this in saying, “they’re part of something greater than themselves.” In meeting this objective, some suggested providing a uniform (i.e., T-shirt with an emblem or logo) to recognize members for their commitment and efforts. A participant explained, a uniform is “something to show that, hey, you’re part of the team.”

It is important for participants to be recognized as being “part of something greater than themselves.”

8.7 PROGRAM FORMAT

Focus group participants were asked several questions about the program’s format. They discussed potential names and ways to describe the program, effectiveness of in-person workshops and various learning scenarios, addressing barriers to participating, and technological alternatives. Results are summarized below.

8.7.1 PROGRAM’S NAME

Initially, the group discussed whether “Climate Master” is an appropriate name for the program. In thinking about this, participants devised a list of names that instilled both positive and negative connotations (see below). Participants revealed that the program’s mission, once defined, would assist in deriving the best name for the program. They prefaced this in saying that it depends on a person’s overall views and whether or not specific descriptors conjure a negative reaction. The group added that perceived negative connotations of terminology can trigger conflict amongst group members, and they referred to them as “buzz words.” Lastly, as the group thought about including the term “master” in the name, there were conflicting opinions.

BROADLY ACCEPTED TERMS, POTENTIAL PROGRAMMATIC DESCRIPTORS AND NAMES.

- Include “conservation” in the name, for example:
 - “Rim Country Conservationists;”
 - “Conservation Corp;”
 - “Conservation Team;” and
 - “Master Conservationist.”
- Include “stewardship” in the name.
- “Master Naturalist Program” was suggested.
- Extension programming started with “Master Gardeners.” A name that begins with “Master” is connected to Extension programs.

TENTATIVE TERMS/PERCEIVED AS “BUZZ WORDS.”

- “Climate.”
- “Climate change.”
- “Environmentalist.”

OTHER COMMENTS REGARDING THE USE OF “MASTER.”

- “Climate Master” is misleading; a respondent initially thought it described a master’s degree curriculum.
- “Master” is a relic reference to Extension-sponsored programs.

8.7.2 IN-PERSON WORKSHOPS

Next, the group discussed the potential effectiveness of in-person workshops for program delivery, and results are discussed below.

IN-PERSON WORKSHOPS ARE MORE EFFECTIVE THAN WEB-BASED

WORKSHOPS. As focus group participants considered the effectiveness of in-person workshops led by trained volunteers, they said they believe face-to-face workshops are a “very effective” format. In thinking about web-based programming, a respondent, who works in online learning systems, explained that many people are not proficient on a computer; therefore, many are reluctant to take online courses.

8.7.3 WORKSHOP LEARNING SCENARIOS OR FORMATS

During the next subsection focused on the program’s design, respondents considered the types of learning scenarios or formats that would be conducive to a Climate Master program. Participants highlighted combining focus group and classroom type formats with online progress and recognition reports. In addition, the group suggested sponsoring various events that include home-based gatherings, competitions, festivals, and field trips, which are detailed below.

COMBINE FOCUS GROUP AND IN-CLASS FORMATS. Participants expanded on this idea and noted that they found this focus group format amenable to open and honest discussion and debate. A participant explained, “People feel like they’re going to be listened to, instead of sitting back listening.” Respondents referred to the focus group gathering that they were currently experiencing and described valuable attributes observed, like high levels of organization and that the ground rules and expected decorum were laid out at the onset. This was important to them because they knew how to effectively contribute and what to expect from the event. Those in the group that had taken a UA Extension course, which in their opinion was an effectively facilitated class, thought these two formats would be effectual if they were combined.

COMBINE IN-PERSON FORMAT WITH ONLINE PROGRESS/RECOGNITION.

Another respondent said that she participated in a “Climate Reality Leadership Corp” training that Al Gore initiated. This was a face-to-face workshop with a supplemental web-based feature that included progress tracking and associated recognition. This respondent pointed to a presentation template that is available through this program that can be tailored to meet specific community’s needs and values.

CONDUCT AN OPEN HOUSE EVENT. Another respondent suggested holding events with friends and neighbors at volunteer trainers’ homes, like an open house, which includes a

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presentation/discussion, hors d'oeuvres, wine, etc. As part of the ground rules, a participant noted, it is important to assure attendees that it is a non-partisan gathering.

SPONSOR COMPETITIVE EVENTS. The group talked about hosting a competition, and suggested dubbing it, “Rim-Country Conservation Face-Off.” They also recommended creating a video, which could be shared on Facebook and with the media. They offered an interactive example, in which the video provides instructions on how to measure an individual’s carbon footprint. These individuals would then form competitive teams and combine individual scores to proclaim a “winner;” the team with the lowest carbon footprint.

SPONSOR A CLIMATE/CONSERVATION-BASED FESTIVAL. Participants also discussed holding a climate and conservation, family-oriented festival. This may include classes and demonstrations (i.e., reusing, recycling, etc.). In their opinion, demonstration is a powerful change agent, and eventually, normalized sustainable behaviors catch on. To extend the festival’s reach, they suggested advertising to Phoenix residents who are second homeowners or summer visitors.

HOST FIELD TRIPS. Another thought that arose was hosting field trips to areas affected by changes in the climate. For example, host a field tour to an eroded area downstream of a fire scar. This, in effect, will illustrate the issue (severe wildfire) at hand, and the detrimental effects (flash flooding and erosion) that the community faces.

Participants found this focus group format amenable to open and honest discussion and debate. In describing this, a participant explained, “People feel like they’re going to be listened to instead of sitting back listening.”



Payson Focus Group
Photo Credit: Christopher Jones

8.7.4 ADDRESSING BARRIERS

In thinking about potential barriers in attending a face-to-face workshop and how they could be addressed, the group brainstormed and provided the following ideas:

- Provide child and/or pet care.

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- Offer programming at variable times of the day and during the week (i.e., evenings, mornings, weekdays, and weekends). This will assist in meeting the needs of various groups in the community (i.e., older adults prefer weekday mornings and younger adults prefer evenings or weekends).
- Provide programming at a host's home or at a senior center that is easily accessible by public transportation. This will address transportation issues that some community members face.
- Provide an audio option for those who are travelling, like a CD or podcast.

8.7.5 TECHNOLOGICAL ALTERNATIVES

Next, focus group members were asked to consider potential technological alternatives for those who are unable to attend a face-to-face workshop and to gauge potential effectiveness of websites, social media sites (i.e., Facebook, Twitter) and other applications. The points that surfaced included utilizing Internet programming as a supplement to personal interactions, gauge users' aptitude and willingness to interact electronically, and implement a multipronged approach. Detailed comments are below.

WEB-BASED APPS SERVE AS A SUPPLEMENT TO IN-PERSON WORKSHOPS. Most of the participants agreed that various forms of Internet based programming could serve as a "supplement" to real time interactions and meetings.

GENERATIONAL VARIANCE IN INTERNET USE. Focus group members also highlighted that the likeliness of Internet use is "generational," and the age range within a group will make a difference in their adaptation to these technologies. For example, young users are more likely to explore web-based programming, while older adults may not. Those who are more reticent in using computer-based programs are generally older and have more time for face-to-face events; however, the group agreed that older adults would most likely complete a supplemental activity or task online. Conversely, they stated that young adults may not be as willing to complete an entire course online, unless they received college or continuing education credits.

USE A MULTI-PRONGED APPROACH. Participants suggested utilizing a multi-pronged approach that matches programming to various types of learning scenarios and addresses frailties. Considering that some participants, especially seniors, have auditory and/or visual issues, web-based interaction with this group may be difficult. Therefore, they agreed that programming offers various forms of delivery and ways of accessing the information.

8.8 PROGRAM SUSTAINABILITY

As the final question, participants were asked to think about how individuals, or their community, will prepare for future changes in the environment and access to natural resources. This was couched in how this program can remain relevant and address future issues. Responses are summarized below and represent nine main themes including: conducting programmatic evaluations, constructing progress reports, considering changes or fluctuations in the environment, using data for decision making, assuring funding streams, illustrating economic benefit, devising a leadership recruitment strategy, promoting adaptation principles, and involving political leadership.

CONDUCT REGULAR PROGRAMMATIC ASSESSMENTS/EVALUATIONS. On an annual or biannual basis, reassess the program's goals and objectives based on identified priorities, best available science, and future projections. During this process, continue to utilize the established programmatic framework.

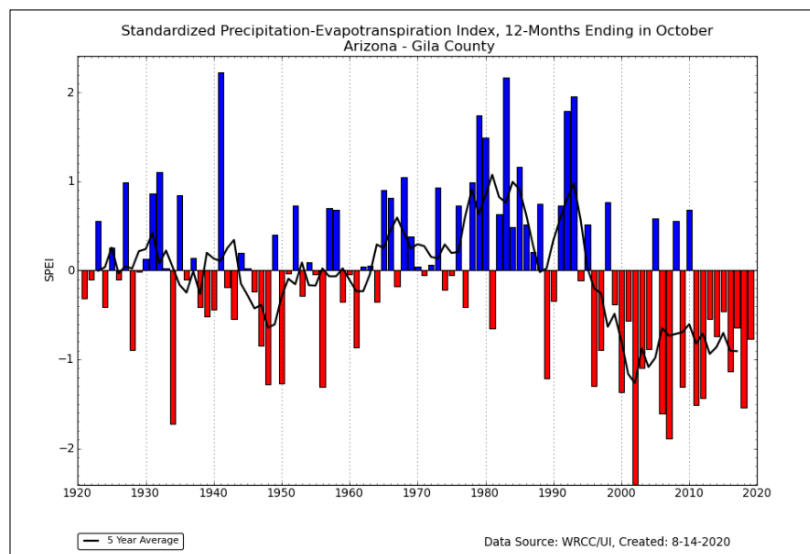
INTERPRET PROGRESS THROUGH A “REPORT CARD.” Provide city and county leaders a type of environmental “report card” at regular intervals, which can be used to implement associated actions. Use the report card to effectively publicize the program’s progress to a wide array of interest groups, including the public, local and county leadership, and state legislatures (i.e., post the report card on the project’s website and to the media).

ASSESS CHANGES IN THE LOCAL ENVIRONMENT. In revisiting field trip sites, program attendees can study changes and recovery of these sites. For example, volunteers collect point-based photos to longitudinally assess biophysical changes on the site. Another group member suggested observing forest restoration sites over time, and/or highlighting publications that reveal forest treatment effects on watershed health and preservation. In describing this, a respondent stated, “that’s pretty real.”

BASE DECISIONS ON DATA. Respondents felt strongly about collecting data and basing decisions on data-driven facts. A participant explained, “A program like this would provide meticulously valuable data on what’s happening and what we can extrapolate [from that].” Another stated, “Watch what’s happening in the community.” They also said it would be valuable to publicize the data. For example, at regular intervals, post results in a bulletin revealing the amount of carbon the Town of Payson is emitting into the atmosphere, or conversely, the carbon credits the town has earned. These results could also be posted on the Chamber of Commerce’s digital sign. Figure 8 is an example of data that could be used to support the program’s objectives and direction.

Figure 8. Drought Index for Gila County: Annual Standardized Precipitation-Evapotranspiration Index

“A program like this would provide meticulously valuable data on what’s happening and what we can extrapolate [from that].”



Source: Western Region Climate Center (2020)

ASSURE FUNDING STREAMS. Endorse funding so that the program remains sustainable.

POSITION SUSTAINABLE PRACTICES AS A COST SAVINGS. Linking sustainable practices to saving money was a popular idea amongst the focus group participants. They suggested showcasing “sustainable in-home practices,” and how this can save both service providers and consumers money. They provided several examples like using products or technology that are reusable

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(i.e., dryer balls, grocery bags) or how to save money through conserving electricity and water consumption. A participant reinforced this in saying, “it’s a win-win [situation].” They suggested further supporting this perspective with the added benefit of preserving and conserving natural resources and the environment.

INCENTIVIZE THROUGH ECONOMIC BENEFITS. As the group thought about reestablishing the recycling program, they concluded that an economic incentive is needed to motivate both the provider and consumer. Another example a participant provided to incentivize water conservation is conducting an outreach campaign that connects water conservation to saving energy and costs to both the consumer (i.e., lower utility bills) and producer (i.e., lower transportation and treatment cost). Likewise, provide residents cost-saving methods in reusing grey water for outdoor use in gardens and for washing cars.

DEVELOP A RECRUITMENT PLAN FOR PROGRAM LEADERS. Target leaders from corporations and identify a predetermined skill set that matches the program’s goals, objectives, and associated desired outcomes.

EVOKE ADAPTATION PRINCIPLES AND PRACTICES. The group members identified that in order for this program to be sustainable, community members should be prepared to adapt to “inevitable” changes in the environment.

INVOLVE POLITICAL LEADERS. Assure state legislatures, who are representing constituents living in Payson, hold town hall meetings. As the town hall meetings are planned, provide the representative with the community’s identified priority issues, and hold them accountable for addressing the concern and providing tangible solutions. This will assist in safeguarding a long lasting and meaningful program.



Forest Health Symposium; Payson, Arizona; 2019

Photo Credit: Faith Schwartz

9.0 GLOBE FOCUS GROUP RESULTS

9.1 INTRODUCTIONS

As participants introduced themselves, most stated that they have been involved with UA Cooperative Extension in some form. Many of the participants were longtime residents and lived in the Globe area for a decade or more. A good portion of the group are retired professionals, now working in a different capacity in the community. Education was tagged as a common past or current occupation amongst participants.

9.2 MAIN THREATS AFFECTING INDIVIDUAL/COMMUNITY WELL-BEING

During the first section of the focus group, members brainstormed what they believe are the top threats, or environmental catastrophes, that have affected their well-being, or their community, as a result of changes in the weather or other environmental circumstances. The answers the group provided encapsulate six main themes, which include: wildfire threat and the aftermath of flooding and erosion, peak water flows, ebbing water table, cyclical fluctuations in weather patterns, warming surface and sea temperatures, and lack of bees.

WILDFIRE THREAT. Considering Globe's remote location that lies within a mid- to high-elevation desert, respondents voiced concern and pinpointed severe wildfire as a major threat.



Pinal Fire in 2017 (photo taken from downtown Globe, Arizona)

Photo Credit: Christopher Jones

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- **Flooding.** In wildfire's aftermath, flooding of roads and loss of life from flashfloods is identified as a primary threat to their community.
- **Erosion.** Also identified as consequential to the aftermath of wildfire are erosion events, which affect water quality, personal property and subsequent decreases in property value (i.e., damage to septic systems, loss of livestock, etc.).

HIGHER INTENSITY PEAK FLOWS (NOT ASSOCIATED WITH WILDFIRE). High intensity peak flows, respondents explained, close and/or washout roads.

- **Overgrazing.** Overgrazing was identified as a contributing factor to increased flows, especially on the steep slopes that surround Globe.

RECEDING WATER TABLE. Participants provided an example to illustrate diminishing water tables; whereas, nearby ranchers were forced to re-drill wells to access the sinking water table.

- **Mining site reclamation.** Respondents stated that mining site reclamation is important for the community's sustainability and well-being. For example, although mining companies recontoured disturbed areas, they believe adding swales as a water catchment and replanting trees would assist in fully restoring mining sites while recharging the ground water aquifer.

SEASONAL FLUCTUATIONS IN WEATHER PATTERNS. Participants noted that seasons are atypical now; whereas, warmer temperatures are more common during the winter months. Similarly, they noted, precipitation fluctuates with relatively wet and dry periods that are seasonally uncharacteristic. This was confirmed by a participant who noted that deciduous tree leafing seems variable and disrupted. Another respondent added that these seasonal fluctuations have effects on local food supply and livestock.

WARMING TEMPERATURES AND SEA SURFACE TEMPERATURES. Increasing temperatures is a significant warning sign that climate fluctuations are affecting the functionality of the planet's ecosystems. Respondents connected this to increases in wildfire frequency and intensity.

ABSENCE OF BEES. Fewer bees is a noticeable change, and a participant evoked this connection to climate fluctuations and related ecological circumstances.

9.3 PROGRAM CONTENT AND COMMUNICATION

In thinking about the main threats that were just identified, focus group members discussed appropriate content and climate-smart messaging that should be included in a community outreach program. The results that are discussed below comprise messaging that increases community awareness, prepares communities for changes in the environment and adoption of sustainable practices, acts and provides tangible solutions and promotes policies to support these solutions.

9.3.1 INCREASED COMMUNITY AWARENESS

During this subsection of deliberating program content and communication, participants discussed messaging that they believe would resonate with their community and lead to increased community awareness. Seven main themes were identified, which include: highlight science in schools, offer palpable solutions, provide directed outreach programs, increase community awareness, emphasize financial benefits, connect climate effects to the local economy, and incite political buy-in. Results are summarized below.

EMPHASIZE SCIENCE IN SCHOOLS. Begin annual science-based curriculum/programming starting at pre-school age and continuing through high school.

PROVIDE TANGIBLE SOLUTIONS. Offer workshops at the community college and diversify participants. Focus efforts to recruit young adults who are less likely to participate.

PROVIDE TARGETED OUTREACH PROGRAMS (I.E., RANCHING AND MINING). For ranchers, the group suggested target messaging to best practices for grazing. For mining operations, aim messaging toward water conservation.

SHOWCASE THE ISSUE, THE EFFECTS ON THE COMMUNITY AND THE POTENTIAL SOLUTIONS. To effectively convey the message to residents and visitors alike, conduct outreach at community events like Farmer's Markets, Oktoberfest, home tours and at the Community Center. To further instill this messaging, obtain buy-in and support from the media.

EMPHASIZE DIRECT FINANCIAL BENEFIT. Highlight potential financial effects of continuing the status quo, like increased energy and food costs, versus climate conscious alternatives that illustrate cost-savings to the consumer.

ILLUSTRATE THE INTERCONNECTEDNESS OF CLIMATE EFFECTS ON THE COMMUNITY'S ECONOMY. Highlight various economic effects that demonstrate how changes in the climate cause undesirable societal systemic effects. Provide examples of potential decreases in the community's overall economic status and increased cost for utilities, transportation, and consumer goods.

ENCOURAGE POLITICAL BUY-IN. The group discussed how climate-based issues became politicized over the years. A respondent explained, scientific studies began to show that atmospheric and climatic changes were occurring; scientists were simply reporting the facts, and somehow this became politicized. To further support this premise, participants explained how they observed town hall meetings and noticed that the people who care about climate-focused issues are powerless. They believe that municipal leaders do not respond to climate-related issues because it is politicized; thus, leaders are needed who do not subscribe to their own self-interest and financial gains. Moreover, they stated, leaders need to veer from divisiveness and promote inclusiveness. A respondent explained further in expressing, "We have to be able to somehow unfold the consciousness of the community," and another stated, "[We] have become so dumbed down and so authoritarian in our thinking ... that you have to have a huge cultural change in this community to do that." Another participant inspirationally exclaimed, "This community has to remove politics when making decisions to promote [climate-based issues] for our future generations." To address this, respondents stated, "political buy-in" must be encouraged, and "we need to take politics out of climate." The group summarized their thoughts and said that until politics and climate are separated, progress in this arena is limited.



Cobre Valley Water Forum; Globe, Arizona; 2019

Photo Credit: UA Water Resources Research Center

In discussing how climate-based issues became politicized over the years, respondents said,

*“We have to be able to somehow unfold the consciousness of the community,” and
“This community has to remove politics when making decisions to promote
[climate-based issues] for our future generations.”*

*To address this, respondents stated, “political buy-in” must be encouraged, and
“we need to take the politics out of climate change.”*

9.3.2 MOTIVATING INDIVIDUALS AND COMMUNITIES TO ACT AND PROVIDE TANGIBLE SOLUTIONS

Next the group discussed the best means of motivating community members to achieve evident solutions to climate focused issues. In thinking about providing tangible solutions, members relayed important considerations, which encompass two main themes: incentivizing sustainable behaviors and demonstrating sustainable practices. Results are summarized below.

INCENTIVIZE BEHAVIORS.

- **Reestablish and incentivize the recycling program in Globe.** Incentivize community members to practice sustainable behaviors and follow the rules; premise this behavior on lowering costs for public services like garbage collection, landfill fees, water utilities, etc.

DEMONSTRATE SUSTAINABLE PRACTICES.

- **Hold open house events that model sustainable lifestyles and homes.** Conduct sustainable home tours to provide ideas such as compostable toilets, rainwater harvesting, water conservation gardening, solar energy, etc.
- **Sponsor travelling exhibitions/film festivals and interactive outreach.** Members stated that focused events can provide a foundation for instilling community-based sustainable activities that lead to behavioral modifications. The group provided examples like exhibitions that demonstrate sustainable water use, environmental-climate-focused film festivals, and promoting youth interactive materials like video games, books, and puzzles.
- **Recruit the next generation and lead by example.** Group members believe that the current generation is apathetic and resistant to change. Therefore, they suggested teaching and imposing desirable behaviors in children who will inherit these problems. The ensuing generation are the next wave of voters who will lead by example and influence those around them.
- **Garner support from the media.** Respondents emphasized that media coverage and advertising is a critical component to success.

9.3.3 PROGRAMMING THAT IS RELEVANT TO THEIR COMMUNITY'S CULTURE AND VALUES

Focus group members were asked to think about how the program can be relevant to the Globe community's culture and values. The group began by explaining that there are many cultures represented in Globe that include mining, ranching, Native American, and Spanish Mexican. Respondents also identified the current culture of "consumerism," which, they explained, contradict climate-focused issues and sustainable practices. Ultimately, the group encapsulated cultural values with including culturally distinct leadership and programming, and they highlighted considering generational gaps. These points are detailed below.

RECRUIT DIVERSE LEADERS FOR PROGRAM DELIVERY. In thinking about the various cultures that were identified, participants suggested that program delivery should include a diverse set of teachers and/or leaders who represent the various cultures evident in Globe.

INCLUDE CULTURALLY SENSITIVE PROGRAMMING IN ESTABLISHED CURRICULUMS. Alternatively, the group suggested designing climate-based modules for already established programs/curriculums that are geared toward unique segments of the population.

CONSIDER GENERATIONAL GAPS. Members cautioned that the program should consider accessibility of information; whereas, there are two types of people that span a generational divide that comprise varying levels of technological acceptance and use.

9.3.4 HOW TO ENLIST THOSE WHO DO NOT CARE

Next participants considered how to enlist residents who do not care about climate-related issues. The prevailing theme focused on engaging with mining operators.

ENGAGE MINING COMPANIES. Members suggested engaging mining companies, which are the largest private landowners in the area. From past interactions with these companies, participants stated that mining operations profess that they are evolving practices to support “water stewardship” and “sustainability.” However, a group member stated that he had not seen evidence that these firms were implementing these practices. He continued to say, “I would like to see [mining companies] really get involved in helping the community ... because once they are gone, this place is going to be totally different at many, many different levels, and we have to prepare for that.” Mine operators are seen as an “authority;” therefore, they need to address climate change and prepare the community with tangible solutions.



Sleeping Beauty Mountains with Mine Tailings (foreground) near Globe, Arizona

Photo Credit: Christopher Jones

“I would like to see [mining companies] really get involved in helping the community ... because once they are gone, this place is going to be totally different at many, many different levels, and we have to prepare for that.”

9.4 PROGRAM'S GOALS AND OUTCOMES

As participants turned to contemplating key goals and outcomes for the program, the conversation centered around providing economic development and financial incentives, linking infrastructure improvements to sustainable practices, planning and delivering meaningful outreach and education programs, and garnering political support for these initiatives. The group premised these ideas on practicality, affordability, and economic viability.

PROVIDE ECONOMIC DEVELOPMENT OPPORTUNITIES LINKED TO SUSTAINABLE PRACTICES. Members spoke to encouraging and developing manufacturing in the area, while providing economic development opportunities that support a sustainable community. For example, a respondent explained, small family-owned businesses could create a “circular economy,” and manufacture electric automobiles. Another participant stated that since Globe is relatively isolated, and transportation is an issue, that large scale food production facilities such as indoor greenhouses would be an economically viable, sustainable model for the local community.

DEVELOP SOLAR ENERGY. The discussion turned to large-scale solar energy development in the community, with buy-in from the towns of Miami-Globe and Gila County. This investment would offer cost-savings to residents who are currently paying for town and county utility costs. In effect, this would provide another source of economic development in the area that creates a related job market, a consumable product, and “creates a healthy community.”

INCENTIVIZE TRANSITION TO CLEAN ENERGY SOURCES. In considering current energy sources such as fossil fuels and nuclear energy, the group pinpointed transitioning to and incentivizing clean energy sources. The actual incentive, they explained, is avoided opportunity costs like dependence on foreign markets that promote conflicts and wars, unnecessary water consumption, and air pollution. A respondent explained that this calls for a change in societal awareness and consciousness; whereas, the primary beneficiary is society as a whole.

ASSURE POLITICAL SUPPORT AND FINANCIAL INCENTIVES. Novel societal lifestyle shifts, like embracing clean energy, needs political support and financial incentives. If there is political will and financial backing, a respondent explained, a transition to solar energy would succeed because the technology already exists. The group added that they believe solar energy will need subsidies. Additionally, political resistance seeded in politicians' financial gains needs to be eliminated from the political process.

LINK INFRASTRUCTURE IMPROVEMENTS TO SUSTAINABLE PRACTICES. A respondent declared a long-standing local issue is Globe's deficient infrastructure and the need for improvement. This includes access to transportation to improve Globe's accessibility (i.e., airport in San Carlos), and wastewater infrastructure. In addition, the group identified lack of affordable housing, which is in demand. In thinking about these deficiencies, they surmised solutions embedded in economic development. They provided an example that builds a program to train local residents to construct modest homes from sustainably extracted local material, like indigenous bedrock. They described this as a program that could be marketed like “Habitat for Humanity.”

PLAN AND DELIVER STRATEGIC OUTREACH AND EDUCATION PROGRAMS. The group believed that an important goal for the program is outreach and education. They described the need to provide a social media platform that ties member bonds and offers a means to brainstorm and communicate. Participants also outlined an underlying premise of messaging that is non-political,

trusted, and illustrates financial benefits. They also emphasized that this messaging should be persuasive and not insistent; members should be drawn into the conversation. Further, they cautioned using terms like “catastrophic” and “apocalyptic” because these adjectives have negative connotations that will deter potential engagement.

CONSTRUCT THE GREENBELT WALKING PATH. A respondent mentioned a specific local project that has been proposed for several decades and the related feasibility studies that have been conducted on its behalf. The proposed project is known as the greenbelt walking path that parallels Pinal Creek. A mining firm had committed to completing a portion of the greenway path as a pilot project; however, the project stalled. The group suggested that this could act as a premiere project for the program.

9.5 MEASURE PROGRAM IMPACTS

In the next segment of the focus group, participants discussed how to best measure the impact this program has on individuals, communities, and policy. Overall, there were five main areas that the group identified to measure the program’s impact that include tracking: the number of participants in the program, social media site(s) use, project accomplishments/completion, sustainable development, and political input and response.

TRACK NUMBER OF PARTICIPANTS. Track the number of participants who are in the program and/or number of members who are working on specific projects.

MONITOR SOCIAL MEDIA SITES. Track the number of visitors, the pages or areas visited, and a summary, or content analysis of users’ comments.

MONITOR PROJECT ACCOMPLISHMENTS AND COMPLETION.

- **Assure metrics and methods are well defined.** During the project planning process, defining metrics and methods upfront is a critical step to assure evaluations track project and program progress and success.
- **Track media releases and the number of participants who are recognized for their work.**
- **Conduct surveys with participants and community members.**
- **Track projects at regular intervals and define the extent it has affected community assets.**
- **Collect project data to assess and report out:**
 - whether the project is on-track or complete;
 - barriers and, if applicable, how they were overcome; and
 - whether initial project goals and objectives were met (i.e., recycling program, greenbelt walkway project).

RECORD COMMUNITY SUSTAINABLE DEVELOPMENT OVER TIME. Monitor program effects in the community once project specific programming is completed. For example, if a solar energy outreach program was initiated, track the number of homes with recently installed solar panels. Similarly, monitor the number of rain catchments, sustainable gardens, etc. The group emphasized the importance of publicizing the results.

TRACK POLITICAL DIRECTION. Track whether politicians seriously address climate change. More specifically, include figures like the frequency of sustainable/climate related resolutions

supported by City Council and Gila County Board of Supervisors. These metrics would be strong indicators of political support for the program.

9.6 COMPETING ISSUES

Respondents were asked to identify competing issues that would hinder them personally, or their fellow community members, from participating in this program. Participants offered solutions to some of the issues listed below in Section 9.7.4 Addressing Barriers (pg. 51).

THE GROUP IDENTIFIED SEVERAL COMPETING ISSUES.

- **Working at a job.** Working at a job was tagged as a major deterrent to participating because of the considerable time commitment. However, the group suggested a solution that integrates programming with educational curriculums. For example, foster a professional development class that is designed to teach “volunteer trainers” in the community. In turn, all involved (the educators and the volunteer trainers) realize the value of the professional development opportunity, which incentivizes the time commitment volunteers pledge to the program.
- **Childcare/spending time with children.**
- **Volunteering at a different program.**
- **Cost/fees for the program.**
- **Consideration in level of sacrifice needed.**

9.6.1 PERSONAL COMMITMENT TO THE PROGRAM

Following this, respondents discussed whether they would personally prioritize this program and spend energy and time participating as either a volunteer trainer or as a group member. The group spoke about several incentives that would encourage their participation that involve linking programming to their interests, other community organizations, youth, and political leadership, as well as enticing participation through reframing the issue. Participants’ detailed comments are described below.

PAIR PROGRAMMING NEEDS WITH THEIR INTERESTS. Many focus group members said that they would participate, especially because it dovetails with their interests.

INTEGRATE PROGRAMMING WITH ESTABLISHED ORGANIZATIONS. The group suggested incorporating this programming with other established local organizations, like Rotary.

INCLUDE YOUTH. A respondent who has a high-school age daughter said that he would be willing to participate if he could bring her to meetings and events.

VERIFY SUPPORT FROM THE COMMUNITY AND ITS LEADERS. Another respondent explained that he would need to see “signals” from the community and realize that his time is well spent. He continued to say, if City Council and the County Board of Supervisors showed support for climate change, that would be a driving force for him to become involved.

REFRAME THE ISSUE. In thinking about persuading residents to initially participate, the group suggested that City Council present the topic with a related exercise that is not particularly tied to “environmental” or “climate crisis” issues. For example, begin with a city beautification project that includes planting trees, etc. This is a means to coax participation from groups or individuals who typically steer clear of tagged environmental projects.

9.7 PROGRAM FORMAT

This part of the protocol focused the group's conversation on the program's format. More specifically, they discussed a potential name for the program, effectiveness of in-person workshops, ideas for learning scenarios, identifying and addressing potential barriers to participating, and technological alternatives, which are described below.

9.7.1 PROGRAM'S NAME

First, participants discussed whether "Climate Master" is an optimal name for the program, and how the program is best described to reach a majority of residents in the Globe community.

TERMINOLOGY MATTERS. Group members talked about how political affiliation and subsequent views make a difference. More specifically, when "climate change" is mentioned in Globe, a respondent stated, it has a negative connotation, and "[you are immediately characterized as] a tree hugger, and you put yourself in a category that people here don't want to be in." In addition, the group cautioned framing it as a "catastrophe." This, in effect, is a "disservice to conservation." They believe climate change has been stigmatized and politicized because of the way it was introduced in Al Gore's documentary, *An Inconvenient Truth*.

TAG THE NAME, "LIVABLE COMMUNITY." In considering Globe's political culture, the group cautioned in selecting language used to describe the program. They suggested replacing the words "sustainable" and "climate change" with a "livable community." They explained that "sustainable," "climate change" and "resilient" are politically charged terms and they unearth skepticism and trigger the "deniers." Rather, explain that the community is adapting to environmental, economic, and societal changes that are occurring (i.e., adapting infrastructure) by building a "livable community." They did preface this with the need to incrementally address and recognize climate change, sustainability, and resiliency within the context of the program.

OTHER SUGGESTIONS. Other terms or portrayals the focus group members suggested in describing the program are listed below:

- **"Healthy community"** (this term is in the City's General Plan).
- **"Adapting" or "transforming."**
 - Communities need to accept that they are transforming because society and the environment are constantly in flux. They spoke to transforming the community in an equitable manner and to base this on local issues and solutions that they have the ability to address.
 - A respondent stated that he prefers "adapt" over "transform" because "transform" denotes a preconceived notion; whereas, "adapt" is based on current information and circumstances. He continued to say, the future is uncertain, but having the ability to adapt to the situation at hand is "kind of a nice culture."
 - For example, frame the premise of the program as "adapting" to current changes in weather patterns, like increased drought conditions. Relate adaptable practices such as selecting native drought resistant vegetation to modifying behaviors that match current weather-related conditions.



Southern Gila County Landscape Outside of Globe, Arizona

Photo Credit: Ashley Hall

The future is uncertain, but, having the ability to adapt to the situation at hand is “kind of a nice culture.”

9.7.2 IN-PERSON WORKSHOPS

The discussion turned to whether face-to-face workshops delivered by local community “Climate Master” volunteers is an effective format.

Participants agreed that a workshop format needs to be combined with tangible “hands on” community projects. Planning the activities to complete the project is essential and applying adaptable practices assists volunteers with a deeper understanding in operationalizing data and scientific information. In addition, a respondent explained, this is observable and measurable.

9.7.3 WORKSHOP LEARNING SCENARIOS OR FORMATS

In thinking about the workshop’s learning scenarios or formats, the group discussed effective formats or types of activities that are described in detail below and include utilizing social media, skilled speakers and leaders, field tours and incentives.

UTILIZE SOCIAL MEDIA. Social media messaging should be clearly and concisely presented.

INVITE SUBJECT MATTER EXPERTS. Include a variety of speakers and subjects. For example, invite presenters who describe parallel community projects that are successful. This can result in other communities undertaking a similar project.

INCLUDE FIELD TRIPS IN THE CURRICULUM. Participants agreed that volunteers enjoy field trips that provide an opportunity to observe and apply what they have learned. The group suggested visiting other communities throughout the state that showcase successful sustainable projects.

INCENTIVIZE PARTICIPATION. Incentivize people to “show up” in the first place. The incentive can include a work session that emanates from a workshop with snacks, goodie bags, etc. Likewise, an effective strategy for younger high school age recruits is to market the event as a social

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gathering that connects them with their peers. In addition, incentivize young adults by assuring them that their voices will be heard, and they are on an even playing field with senior counterparts.



Globe Focus Group

Photo Credit: Christopher Jones

9.7.4 ADDRESSING BARRIERS

Respondents identified potential barriers for those who may be interested in attending an in-person event, and how to address these barriers so more people can attend. The group defined four main barriers that include time constraints, health issues, financial short comings, and childcare, which are summarized below.

TIME CONSTRAINTS AND HEALTH ISSUES NEED TO BE ADDRESSED. To tackle time constraints, participants described web-based alternatives that include webinars and YouTube videos. Webinars and videos provide the ability to reach many people and are convenient. However, several members stated that they believe webinars are more informative, and for a small community of Globe's size, the most effective interaction is in-person events.

To assist community members who would like to participate but cannot always attend in-person meetings, the group suggested video recording presentations and workshops and posting online or presenting as a webinar. They continued to explain that this could spark interest in those who are less likely to join the program and may invoke a response that "a light turns on." Likewise, this may provide an opportunity for residents who are experiencing health issues to engage.

COMBINE PROGRAMING WITH ESTABLISHED ORGANIZATIONS. By networking with other organizations, like churches or the Rotary, residents will not feel as stretched or have to

decide between two initiatives or activities. The community is already gathering, so “piggyback” on another event or meeting.

OFFER FREE CHILDCARE. Offering free childcare will assist those with children and the financial constraints that this imposes.

9.7.5 TECHNOLOGICAL ALTERNATIVES

In continuing the conversation in using technology (i.e., websites, social media sites (i.e., Facebook)) to deliver programmatic information, the group discussed this medium’s applicability and effectiveness for those who are unable to attend in-person, and they decreed personal connections matter.

PERSONAL CONNECTIONS MATTER. Generally, participants believe that web-based applications are not very effective, and face-to-face meetings and activities will yield the best results. They provided examples in saying that electronic messaging and intent is ephemeral and that users are easily distracted. In addition, technology stifles the conversations that are needed to successfully initiate novel ideas and programming. They summarized this in saying, value and energy is generated through personal connections, and participants are more present and able to absorb the information.

9.8 PROGRAM SUSTAINABILITY

In the last section of the focus group, respondents discussed how the program can remain relevant and address future issues and solutions related to changes in the environment and access to natural resources. They were also asked to consider how this program remains relevant and addresses these issues into the future.

Initially, the group spoke to foundational principles that integrate programmatic flexibility and address existential challenges. In conceptualizing this, a participant stated that humans are adaptable, and there is an expectation that novel technologies will emerge and assist in addressing future environmental issues. Responses focused on various aspects in program evaluation and are summarized below.

CONDUCT ANNUAL ASSESSMENTS. To assure sustainability of the program, the group suggested utilizing an annual assessment tool that steers the program’s direction to identify:

- trends in the program’s progress;
- incipient environmental issues and concerns;
- emerging scientific information (the group cautioned that as new scientific information is published and distributed, the content needs to be digestible to policymakers and the public);
- continuing education opportunities at various competencies and age appropriate levels; and
- connecting with successful statewide community projects with similar objectives and goals.

10.0 CLIMATE MASTER OUTREACH USER'S GUIDE

Considering the rich qualitative data collected at two focus groups held in distinct rural communities in Arizona, and the potential of conducting Cooperative Extension programming, the UA research team developed this User's Guide, which is also provided as a standalone document as Appendix E. This guide is intended to assist Cooperative Extension educators and others to design a community-based Climate Master program. The following recommendations encapsulate the program's design, content, recruitment strategy, delivery, impacts and sustainability strategies for developing a novel Climate Master program.

10.1 PROGRAM DESIGN

1. Prior to initiating the program, assure community and leadership buy in.
2. Identify the community's short and long-term primary existential threats and concerns to:
 - a. assist in developing programming that it is sensitive to the community's ecological surroundings and socioeconomic dynamics;
 - b. address negative effects to quality of life; and
 - c. substantiate the program's value.
3. Evaluate the community's demographic composition and cultural values and incorporate into the program design.
4. Assure a high level of organization and consistency in communicating issues, program objectives, messaging, and leadership.
5. Integrate programmatic flexibility.

10.2 PROGRAM CONTENT

1. Address incipient environmental issues and concerns, subsequent effects, and tangible solutions.
2. Provide economic development opportunities and incentivize and demonstrate sustainable behaviors and practices linked to maintaining or improving quality of life.
3. Illustrate the interconnectedness of climate effects on the community's economy.
4. Base decisions on data and best available science.
5. Avoid politically charged terminology.

10.3 RECRUITMENT STRATEGY

1. Incentivize participants to "show up."
2. Identify and minimize barriers to participating in the program.
3. Create a targeted recruitment campaign for those who are less likely to participate.
4. Recruit diverse leaders who match the community's culture, values, and dynamics.
5. Offer various levels of involvement and commitment.
6. Reframe the premise and avoid linking to "environmental" or "climate crisis" issues.

10.4 PROGRAM DELIVERY

1. Best methods for program delivery include:
 - a. in-person workshops with various formats like focus groups, in-class courses, field tours, hands-on community projects, and festivals; and

- b. web-based programming that supplements face-to-face interactions.
2. Assess and address generational variance in technological acceptance and use.
3. Tie programming to science-based educational curriculums and well-known and established community organizations.
4. Identify and address political opportunities and barriers and assure:
 - a. political values and perspectives are independent and separate;
 - b. connectedness with elected officials and community members;
 - c. elected officials promote policies that support solutions; and
 - d. bipartisan political buy-in and support.
5. Conduct targeted grassroots environmental education outreach and advertising campaigns, and assure the media is onboard.
6. Recognize volunteers and create organizational identity.
7. Develop communication strategies for tourists, second homeowners, and new residents.
8. Conduct focused activities and integrate with established events.
9. Target youth; instill leadership skills and integrate adult and youth programming.
10. Involve school, faith-based, business, homeowner's associations, interest group, municipal, county, state and agency leaders, and elected officials.
11. Include speaker series that showcase successful statewide community projects with similar objectives and goals.

10.5 MEASURE PROGRAM IMPACT

1. To assess changes in participant and/or community perceptions toward climate-based issues, administer Global Warming's Six Americas SASSY survey. Conduct the survey at regular intervals pre- and post-programming. SASSY survey results can also assist in developing communication messaging and tools for respective groups.
2. Track projects at regular intervals and describe the extent these projects have affected community assets, impacts to the local environment, and related community sustainable development.
3. Include tracking the substance and/or number of participants, related educational courses, town hall meetings, events, website/social media use, media releases, and political discourse. Interpret progress through a "report card" and distribute widely.

10.6 SUSTAINABILITY STRATEGY

1. Based on identified priorities, best available science, and future projections, reassess the program's goals and objectives at regular intervals.
2. Assure community members are prepared to adapt to inevitable changes in the environment.
3. Assure support for and consistent funding streams.
4. Track and respond to political direction and support.
5. Establish methods and metrics to evaluate trends in the program's progress and identify:
 - a. emerging scientific information; and
 - b. continuing education opportunities at varying competencies and age appropriate levels.

11.0 CONCLUSION

Generally, focus group members in both Payson and Globe were enthusiastic about initiating an Extension sponsored Climate Master outreach and education program. Based on their feedback, this type of programming is welcome and needed. Focus group findings reveal that community members are willing to participate and contribute to a community-based program, if it is initiated. For example, respondents showed support in saying that they already practice sustainable behaviors, and they are willing to assist in recruiting volunteers. Overall, participants provided valuable insight to assure the program's success.

Subsequently, in developing a Climate Master program in these towns, a first step is to assess and apply respondent's recommendations to program development. Further, administering pilot projects as "test" communities will provide valuable insight and lessons learned that should be tracked and resolved, if possible. Once these communities are tested, and programming is initiated, other communities can utilize lessons learned and the design template to tailor programming to their community.

For Extension educators and others who are interested in delivering similar initiatives in other communities, conducting an analogous needs assessment, as was completed for this research, is recommended prior to conceptualizing the program's design. The User's Guide serves as a generic development tool that is applicable to other communities served by Extension programming. The guide provides a broad model to assist educators across the region to independently plan, initiate, and implement programming that addresses climate-centered issues. As programs are developed and refined, the initial principles contained in the User's Guide should be fine-tuned as the broader program matures. If implemented, this program will encourage inspirational benchmarks that exemplify climate resilient living and sustainable agriculture and community development practices that positively impact the environment.

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14.0 APPENDICES*

[Appendix A. Focus Group Participant Recruitment Script and Six Americas Survey](#)

[Appendix B. Focus Group Participant Confirmation Letter](#)

[Appendix C. Focus Group Participant Consent Form](#)

[Appendix D. Focus Group Protocol](#)

[Appendix E. Climate Master Outreach User's Guide](#)

*Hyperlinks available for each Appendix (above) and Appendices can be found at this link:
<https://extension.arizona.edu/climate-master-extension-outreach-research-project>

