Needs Assessment Processes and Methods

September 14, 2018
Kearney Agricultural Research and Extension Center

Vikram Koundinya, Evaluation Specialist (Asst. CE Specialist)
Katherine Webb-Martinez, Associate Director, Program Planning and Evaluation
Presentation Outline

- Needs Assessment Processes
- Methods to collect Needs Assessment Data
- Best Practices for Developing and Administering Surveys
- Best Practices for the Initial Contact with Community
- Cultural Considerations in Needs Assessment
- Writing Good Questions
- Needs Assessment Priority Setting Filters
- Evaluating Questions Activity
What is “Need?”

The measurable discrepancy between “what is” (or the present state for group or situation of interest) and the “what should be” (or desired state) (Witkin & Altschuld, 1995)

- Needs not wants
- Needs not solutions
What is Needs Assessment?

- Is the very first step in the overall program planning process.

- Needs assessment is driven by the question “What do clients need and how can those needs be met?” (Patton, 1982).
“A systematic set of procedures undertaken for the purpose of setting needs-based priorities and making decisions about program design/improvement and allocation of resources.” (Altschuld & Kumar, 2010).

It is the process of identifying needs as gaps between current and desired results, placing those needs in priority orders based on the cost to meet each need versus cost of ignoring it, and selecting the most important opportunity or solutions to eliminate or reduce the problem (Kauffman et al., 2003).
Why do Needs Assessment?

- Improve services and products for clientele
- Strategically use limited resources
- For better program planning and evaluation
- Part of job description
When to conduct a Needs Assessment?

- The program is brand new.
- You are new to the job.
- You want to learn more about what your clients need related to a specific condition.
- You need to document the needs for funding (Angima et al., 2014)
- You need additional information to communicate with your stakeholders.
- If the program evaluation focus is on how well it meets the needs of the intended audience (Patton, 1982)
When NOT to conduct a **New Needs assessment**
(Berkowtiz & Nagy, 2014)

- Your clients view the assessment as redundant or wasteful.
- The issue requires a quick action.
- A recent needs assessment results are still timely.
- When there is absolutely no doubt what the most important needs are
What Needs Assessment can be

- Different potential uses
  - Definitely
    - Developing your program: from goal setting to evaluation
    - Performance appraisal
  - Maybe
    - Commissioned study
    - Journal article
    - Justify requests for funding
    - Collaborative research project

- Choice of scale and scope
- Informal vs. formal approaches
# How Can We Span the Boundaries between Wildland Fire Science and Management in the United States?

Susan D. Kocher, Eric Toman, Sarah F. Trainer, Vita Wright, Jennifer S. Briggs, Charles P. Goebel, Evgenie M. Mont Blanc, Annie Oskarzi, Donna L. Pepin, Todd A. Steckman, Andrea Thode, and Thomas A. Walchop

In 2019, the Federal Joint Fire Science Program (JFSP) initiated a national network of fire science consortia, to address the need for addressing, understanding, and using of wildland fire science in the United States. Three assessment conducted by experts in different regions of the United States identified key needs and gaps in wildland fire science. Needs assessments conducted by experts in different regions of the United States revealed striking similarities in how fire science is accessed and used, as well as important differences. Needs identified included intentional and systematic science communication, effective program models, professional development for staff, and consistency in messaging and branding.

## Abstract

The California 4-H Science Leadership Team conducted a statewide assessment to evaluate the needs of county-based 4-H programs related to the key areas of the 4-H Science Initiative: program development and design, professional development, curricula, evaluation, partnerships, and fund development. The use of multiple qualitative data sources proved effective in identifying needs and gaps. Integrated findings provided evidence of institutionalization of 4-H Science; the assessment also revealed gaps that represent opportunities for future efforts and directions. Needs identified included intentional and systematic science programming, effective program models, professional development for staff, and consistency in messaging and branding.

<table>
<thead>
<tr>
<th>Author</th>
<th>Position</th>
<th>Institution</th>
</tr>
</thead>
<tbody>
<tr>
<td>Steven M. Worker</td>
<td>4-H Science, Technology, Engineering, and Mathematics Coordinator</td>
<td>Division of Agriculture and Natural Resources University of California Davis, California</td>
</tr>
<tr>
<td>Lynn Schmitt-McQuitty</td>
<td>Development Advisor and County Director</td>
<td>Division of Agriculture and Natural Resources University of California Hollister, California</td>
</tr>
<tr>
<td>Andrea Ambrose</td>
<td>Corporate and Foundation Relations Director</td>
<td>Division of Agriculture and Natural Resources University of California Davis, California</td>
</tr>
<tr>
<td>Kelley Brian</td>
<td>Youth, Families, and Communities Advisor</td>
<td>Division of Agriculture and Natural Resources University of California Auburn, California</td>
</tr>
<tr>
<td>Emily Schoenfelder</td>
<td>4-H Youth Development Advisor</td>
<td>Division of Agriculture and Natural Resources University of California Davis, California</td>
</tr>
<tr>
<td>Martin H. Smith</td>
<td>Specialist in Cooperative Extension and Faculty Member</td>
<td>University of California Davis, California</td>
</tr>
</tbody>
</table>
Grower Needs Assessment for Sustainable Food Production in San Diego County

One Time Funding Request for FHA/UCCE/LUEG
Submitted by: Ramiro Lobo, Small Farms Advisor & Jan Gonzales, Community Education Specialist
July 1, 2017 – June 30, 2018

Collaborative Research Project
UC SAREP Grant

Needs assessment for small scale livestock harvesting and processing facilities in Northern California
Things to consider before getting started

- Find out what is already known or available
- Determine if you need more information from stakeholders
- Clientele readiness for assessment
- Political aspects of the activity
Context is important

- Extension programs exist within a situation or environment that is often complex and changing.
- The more we know about the situation, the more solid the foundation of our program.
- Examine the available resources and relevant research, knowledge and experience to better understand the situation.
- Involving others helps to build a better understanding of the context or situation, as well as buy-in to the program.
First steps for new advisors

- Get out and introduce yourself
- Develop relationships
- Define your clientele
- Get the lay of the land

This informs who and what to ask about needs
How to organize a Needs Assessment (Donaldson & Franck, 2016)

Phase 1: Exploration
◦ NA purpose, potential uses, audience, explore secondary data sources, what & how to collect data

Phase 2: Assessment
◦ implement NA plan: collect, analyze, & synthesize data

Phase 3: Utilization
◦ use the data to set program priorities, develop action plan to address needs/issues, communicate results

McKillip (1998) and Lepicki and Boggs (2014) as cited in Donaldson and Franck (2016)
Worksheet: Organizing a Needs Assessment

Phase One: Exploration
- What are the potential uses of the assessment information and who are the potential users of the assessment information?

- Are you looking at one town or county or a specific audience?

- What existing information do you have?

- What data still need to be collected?

- How will you collect the data?

Phase Two: Assessment
- What data did you gather?

- How did you access the data?

- What did you learn or confirm?

- Was there overlap in the needs identified as shown by different sources?

Phase Three: Utilization
- What are your priorities based on the needs assessment?

- How will you share the needs assessment information with others?
Commonly Used Data Collection Methods
For secondary data:
- Literature/Document review

For primary data:
- Individual Interviews
- Group interviews (focus groups)
- Key-informant interviews
- Observation
- Surveys
Document/Literature Review

Content analysis of existing information, secondary data

- Little to no participant burden

**Best practices:**
- Have an audit trail
- Document systematically
<table>
<thead>
<tr>
<th>S. No</th>
<th>Title of the article</th>
<th>Year published</th>
<th>Questionnaire Validity</th>
<th>Population</th>
<th>Response rate</th>
<th>Major inservice need</th>
<th>Major recommendation</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Inservice needs and problems of agricultural science teachers in Krara state, Nigeria</td>
<td>1988</td>
<td>Face and content validity</td>
<td>All agricultural science teachers in the 60 secondary schools that offered agricultural science course during 1985 school year</td>
<td>97%</td>
<td>To either increase their knowledge in agriculture or update and keep current in agricultural development. Topics on teaching methods and techniques.</td>
<td>School administrators of the board should design short and long-term plans for in-service programs. In-service workshops on Ag mechanics should be organized.</td>
</tr>
<tr>
<td>2</td>
<td>An assessment of microcomputer utilization in Kansas vocational agricultural programs</td>
<td>1989</td>
<td>Face and content by expert panel (Face inferred)</td>
<td>All 158 secondary vocational agriculture programs in Kansas. Random sample of 87 unique programs.</td>
<td>93%</td>
<td>Inservice on agricultural specific software.</td>
<td>Implied that computer related inservice activities should continue to be offered. Microcomputer competencies should be required for certification of new teachers (preservice).</td>
</tr>
<tr>
<td>3</td>
<td>An analysis of the agricultural mechanics laboratory management inservice needs of Missouri agriculture teachers</td>
<td>1990</td>
<td>Since original competencies were developed by nationally recognized agricultural mechanics education experts, the instrument was judged to be valid</td>
<td>All 240 secondary agriculture teachers listed in 1988-1989 Missouri Agricultural Education Directory</td>
<td>84%</td>
<td>In the area of agricultural mechanics laboratory management and the greatest need was in the area of safety.</td>
<td>Programs should be conducted to improve the agricultural mechanics laboratory management abilities.</td>
</tr>
</tbody>
</table>
Mixed methods: Literature review then Key informant interviews
Methods for Collecting Primary Data
Sampling Process

1. Determine the sampling frame: compile a comprehensive and accurate list of your target audience

2. Choose sample type:
   • Convenience sample
   • Stratified sample (diverse audience)
   • Random sample

Best practices

✓ Use existing lists and check for accuracy
✓ Plan to oversample
Individual Interviews

- personal contact is desirable
- sample group is smaller
- sample group is unlikely to respond to a written survey
- sample has people incapable of taking a survey
- you are not sure what is most important to potential respondents

Best practices
- State the purpose upfront
- Be consistent and neutral
- Use probing questions
- Send questions 1-2 days in advance
Informal Interviews piggy backing on existing meetings
Susie Kocher,
UCCE Forestry/
Natural
Resources
Advisor

Semi-structured Interviews
Group Interviews/Focus Groups

- Don’t know what questions to ask
- Want to know more from survey responses
- Foster trust and relationship-building
- Piggy back off existing meetings
- Understand common issues or needs

Best Practices
- 8-10 people
- Explain the rules
- Make deliberate efforts to get answers from everyone

Video: https://www.youtube.com/watch?v=FHcCNufXLsg
Key-informant interviews

- Verify collected data (e.g.: to understand needs vs wants)
- Get inputs from knowledgeable and influential people (opinion leaders, spark plugs etc.)
- Explore unanticipated ideas

Best Practices
- Have a mix of people from different ages, races, ethnicities etc.
- ~10 people
Ramiro Lobo,
UCCE Small Farms
& Ag Economics
Advisor

Mixed methods:
Online survey, In-
person interview &
Focus Groups
Observation

- Observe practice/behavior
- Want to see and listen
- Confirm fidelity of implementation

Best Practices
- Have an observation guide
- Take field notes
# Observation Guide: Elkus Ranch Summer Camp (June 25th – Aug. 26th, 2018)

Adapted from: 4-H YOUTH STEM RESIDENCY CAMP (JULY 20-24, 2015)

<table>
<thead>
<tr>
<th>Observation Prompts</th>
<th>Actions You See or Comments You Hear</th>
</tr>
</thead>
</table>
| 1) Engagement/Delivery                            | a. How are students engaging in the activities?  
 b. What is their body language?                   |
| 2) Learning                                       | a. Are students expressing what they are learning?  
 b. Is the environment conducive to learning?    |
|                                                   | c. Are students forming new connections? Why/How? |
| 3) Staff friendliness & circulation               | a. Warm tone of voice and respectful language.   
 b. Attentive and responsive                       
 c. One-on-one interactions with every student    |
| 4) Emotional safety                               | a. Respect to all students and insistence in mutual respect. 
 b. Staff address any incidents in which student(s) are made fun of or where there are misunderstandings |
| 5) High expectations & good challenge             | a. All students are encouraged to try out new(-) skills. 
 b. Students seem challenged (in a good way) by the activities |
| 6) Active, cooperative and experiential learning  | a. Activities include both hands-on and cognitive processes  
 (problem-solving, practicing skills, manipulation of ideas, creatively expressing ideas and building with materials exercises) |
| Other observations                                | a. Anything stand out from a positive or negative perspective?  
 b. Any other observations?                       |

Adapted from


Summary of Observations of Five 4-H Camps at Las Posadas 2016
By Steven Worker, 4-H Youth Development Advisor serving Marin, Sonoma, and Napa
Revised September 15, 2016

Purpose: A summary of my observations and suggestions resulting from camp visits. I visited each week (Sonoma, Marin, and Napa counties) and observed and interacted with campers, teen staff, and adults; learned about camp activities, educational sessions, and flow of the schedule; got a general sense of the atmosphere of youth-stuff interactions; learned about the Las Posadas facility; and started to determine what the needs for future camps might be.

My background: 4-H alumnus from Santa Barbara County where I served as a youth counselor and teen staff at Santa Barbara County’s 4-H Camp Wahoo! In addition to my 10 years as a 4-H member & volunteer, I worked for 14 years at the State 4-H Office.

Observations: June 16 for Napa Week 1, July 1 for Sonoma Week 1, July 6 for Sonoma Week 2, July 14 for Marin, July 21 for Napa Week 2; approximately 10:00am to 3:30pm each visit.

Summary: I observed a positive atmosphere, vibrancy, and positive interactions between campers, teens, and adults at each camp. There was evidence of tremendous effort, time, and organization in the preparation and implementation of each week of camp by a dedicated group of adults and teens. Dozens of adults shared their decades at camp, which painted a clear picture of emotional investment in camp and the Las Posadas facility. I was impressed with the attention to health and safety, including the posting of 4-H Clover Safe Notes, ample fire protection at both campfire pits (hose and extinguisher), and 4 of 5 camps ensuring campers’ hands were clean (or sanitized) before meals.
Surveys

- To collect standardized information from large sample
- Privacy is important or independent opinions and responses are needed
- When there are resource constraints (mainly time and money)

**Best practices**
- Be clear about the purpose
- Be focused: only ask what you need to
- Establish reliability and validity of the questionnaire
- Follow design principles
Response rate

achieved in Extension…..

Archer, 2008
- Meeting or Conference Evaluations - 57%
- Needs Assessments - 40%
- Output or Impact Evaluations - 51%
- Ballots - 62%

Koundinya, Klink, Deming, Meyers, and Erb, 2016
- Electronic follow up survey 10 month follow up: 33%
- Electronic follow up survey 2 month follow up: 51%
- Mailed surveys two months follow up: 39%
- Mailed surveys 10 months follow up: 31%

# answered = Response Rate
# contacted
Best Practices for Developing and Administering Surveys

(Dillman, Smyth, and Christian (2014))
Online Surveys

- Decide how the survey will be programmed and hosted
- Evaluate the technological capabilities of the sample
- See that questions display similarly across different devices and browsers
- Decide how many questions you want per page
- Have interesting and informative welcome and closing screens
Online Surveys continued

- Allow respondents to back up in the survey
- Consider *whether or not* to use graphical progress indicator
- Allow respondents to save and finish the survey later
- Use multiple contacts and vary the message
- Take steps to ensure that e-mails are not flagged as spam
Mailed Surveys

- Construct in booklet forms
- Decide question layout and order
- To the extent possible, personalize all contacts
- Create interesting and informative front and back cover pages
Take steps to ensure that mailings will not be mistaken for junk mail or marketing materials

Strategically time all the contacts

Assign an individual ID number to each sample member

Send a token of appreciation with the survey request
Betsy Karle,  
UCCE Dairy Advisor

Mail & Online Survey
Survey Incentives?!
### FIGURE 10.9
Examples of the effects of advance token incentives in mail surveys.

<table>
<thead>
<tr>
<th>Population (year, survey director)</th>
<th>Sample Size</th>
<th>Experimental Groups</th>
<th>Response Rate</th>
</tr>
</thead>
<tbody>
<tr>
<td>Oregon State University students who left the College of Agricultural Sciences without graduating (1997, Lesser)</td>
<td>133</td>
<td>$0</td>
<td>28%</td>
</tr>
<tr>
<td></td>
<td>130</td>
<td>$2 Check</td>
<td>44%</td>
</tr>
<tr>
<td></td>
<td>125</td>
<td>$2 Bill</td>
<td>53%</td>
</tr>
<tr>
<td>Recent graduates of the College of Agricultural Sciences at Oregon State University (1998, Lesser)</td>
<td>129</td>
<td>$0</td>
<td>59%</td>
</tr>
<tr>
<td></td>
<td>135</td>
<td>$2 Bill</td>
<td>67%</td>
</tr>
<tr>
<td></td>
<td>141</td>
<td>$5 Bill</td>
<td>81%</td>
</tr>
<tr>
<td>Oregon State University distance education students (1997, Lesser)</td>
<td>249</td>
<td>$0</td>
<td>20%</td>
</tr>
<tr>
<td></td>
<td>91</td>
<td>$2 Check</td>
<td>25%</td>
</tr>
<tr>
<td></td>
<td>92</td>
<td>$2 Bill</td>
<td>32%</td>
</tr>
<tr>
<td></td>
<td>87</td>
<td>$5 Check</td>
<td>31%</td>
</tr>
<tr>
<td></td>
<td>97</td>
<td>$5 Bill</td>
<td>32%</td>
</tr>
<tr>
<td>Oregon State University June 1997 graduates (1998, Lesser)</td>
<td>231</td>
<td>$0</td>
<td>52%</td>
</tr>
<tr>
<td></td>
<td>234</td>
<td>$2 Bill</td>
<td>65%</td>
</tr>
<tr>
<td>New residents of Washington who obtained a state driver’s license (1994, Dillman)</td>
<td>368</td>
<td>$0</td>
<td>44%</td>
</tr>
<tr>
<td></td>
<td>357</td>
<td>$2 Bill</td>
<td>63%</td>
</tr>
<tr>
<td>New residents in Iowa who obtained an Iowa state driver’s license (1997, Lorenz)</td>
<td>317</td>
<td>$0</td>
<td>42%</td>
</tr>
<tr>
<td></td>
<td>313</td>
<td>$2 Singles</td>
<td>70%</td>
</tr>
<tr>
<td></td>
<td>313</td>
<td>$2 Bill</td>
<td>73%</td>
</tr>
<tr>
<td>New residents of Idaho aged 50 to 70 (1996, Carlson)</td>
<td>526</td>
<td>$0</td>
<td>53%</td>
</tr>
<tr>
<td></td>
<td>526</td>
<td>$2 Bill</td>
<td>72%</td>
</tr>
<tr>
<td></td>
<td>524</td>
<td>$300 Lottery</td>
<td>58%</td>
</tr>
<tr>
<td>Centre County Pennsylvania Residents (1998, Neill)</td>
<td>470</td>
<td>$0</td>
<td>39%</td>
</tr>
<tr>
<td></td>
<td>288</td>
<td>$2 Bill</td>
<td>62%</td>
</tr>
</tbody>
</table>

Dillman, Smyth, and Christian (2014)
Other Considerations

- Keep the email/letter short and to the point.
- Use smaller paragraphs and sentences.
- Paper surveys: Have white space (less busy)
- Look up design/visualization principles (e.g.: Gamification Theory)
Best Practices for the Initial Contact With Community

- Tell that you are a UC ANR/UCCE person.
- Specify the purpose of the study.
- Tell that their participation would contribute to improvements in others lives and their society. However, do not use subordinating language.

(Dillman, Smyth, and Christian (2014))
Examples of Subordinating Language

“For us to help solve the school problems in your community, it is necessary that you participate in this study.”

“Will you please be part of helping to solve the farming problems in your county? Your responses can assist the county farmers in fully understanding the issues facing the farms here.”
Establish trust.

Ask for advice.

Stress that the opportunities to contribute to this study are limited.

Convey that others are also participating.

When appropriate, use incentives as social exchange.
Formatting Considerations

- Keep the letter short and to the point.
- Use smaller paragraphs and sentences.
- Avoid using words such as ‘survey’, ‘respond’ in the subject line.
- Mobile-friendly.
- Paper surveys: Have white space (less busy)
- Look up design/visualization principles (e.g.: Gamification Theory)
Protecting Human Subjects

“A **human subject** is as a living individual about whom an investigator conducting research obtains (1) data through intervention or interaction with the individual; or (2) identifiable private information.”

Institutional Review Board = IRB

**Core Principles**: Respect, Beneficence, Justice
Do you need IRB approval?

- Do the human subjects represent a vulnerable population (e.g., youth, institutionalized individuals, or others whose participation may be considered involuntary)?
- Is it likely that participants’ identities and/or contact information can be linked to their responses?
- Will evaluation results be published (in peer-reviewed journals)?

(Adapted from Ellen Taylor-Powell’s *Building Capacity in Evaluating Outcomes*)
Michelle Leinfelder-Miles,
UCCE Farm / Delta Crops Advisor

**Mixed Methods:**
Document review,
Survey using Clickers &
Informal Interviews
Ensuring Culturally Competent Needs Assessment

Cultural Competence:
“a set of congruent behaviors, attitudes, and policies that come together in a system, agency, or among professionals and enables that system, agency, or those professionals to work effectively in cross-cultural situations.”

[Cowles (2005)]
Cultural Considerations

How might participant characteristics affect your needs assessment?

- Language
- Age
- Abilities: mental, physical, social
- Male-female interactions, communication styles, family relationships, decision-making styles
- Attitudes to conflict
- Concept of time
- Approaches to knowing and ways of knowing

How might you make the following data collection methods more culturally sensitive?

- Written questionnaire
- Mailed survey
- Observations
- Interviews

Borrowed from *Building Capacity in Evaluating Outcomes*, Univ. of WI - Extension
Margaret Lloyd, UCCE Small Farms Advisor

On farm Observation & Interviews
Writing Good Questions
Some Guidelines (Ary, Jacobs, Razavieh, & Sorenson, 2006)

- Make it simple, short, and direct.
- Phrase in a way that they can be understood by every respondent.
- Do not use abbreviations, slang, or acronyms.
- Phrase questions so as to elicit unambiguous answers. Quantify responses whenever possible.
Avoid bias that may predetermine a respondent’s answer

Avoid questions that might lead to unstated assumptions

Avoid leading questions, which imply a desired response

Avoid questions that may elicit embarrassment, suspicion, or hostility in the respondent
- Avoid double-barreled questions.

- Make sure alternatives are exhaustive. Have "other" option where there are wide range of possibilities.

- Make sure the respondents have the information necessary to answer the questions.

- Have equal variation on both the sides of the rating scale.
- Ensure the question stem matches the answer choices.
- Decide the points on the scale based on the purpose.
- Give a timeframe/time range when necessary.
- Keep the questionnaire as short as possible (10-15 minutes).
Using the Findings to Focus and Develop Your Program
Priority Setting Filters

To help frame the needs/issues:

- Your job description
- ANR Strategic Vision 2025 and Condition Changes
- Any relevant mandates
- Resources available
- Level of support - local and institutional
- Other agencies/organizations
- Local perspectives and dynamics
Priority Setting Filters continued

- Percent audience affected
- Type of problem (technical, economic, or political)
- Frequency of the problem
- Extent of the problem - catastrophic, low loss, etc.
- Probability of successful resolution (i.e., probability of an economically feasible solution)
Using Your Needs Assessment Findings

Developing Focused, Relevant Programs

Program Action - Logic Model

**Inputs**
- What we invest
  - Staff
  - Volunteers
  - Time
  - Money
  - Research base
  - Materials
  - Equipment
  - Technology
  - Partners

**Outputs**
- What we do
  - Conduct workshops, meetings
  - Deliver services
  - Develop products, curriculum, resources
  - Train
  - Provide counseling
  - Assess
  - Facilitate
  - Partner
  - Work with media

- Who we reach
  - Participants
  - Clients
  - Agencies
  - Decision-makers
  - Customers
  - Satisfaction

**Outcomes - Impact**
- What the short term results are
  - Learning
  - Awareness
  - Knowledge
  - Attitudes
  - Skills
  - Opinions
  - Aspirations
  - Motivations

- What the medium term results are
  - Action
  - Behavior
  - Practice
  - Decision-making
  - Policies
  - Social Action

- What the ultimate impact(s) is
  - Conditions
  - Social
  - Economic
  - Civic
  - Environmental

**Assumptions**

**External Factors**

**Evaluation**
Focus - Collect Data - Analyze and Interpret - Report


UCCE Needs Assessment Resources

http://ucanr.edu/sites/CEprogramevaluation/Needs_Assessment_Resources/

THANK YOU!