

Welcome!

While we wait for everyone to join...

Methods to Analyze Surveys: Qualitative Data

Jennifer Sedell, Ph.D., Program Planning and Evaluation Analyst

Christina Becker, Program Planning and Evaluation Analyst

September 30, 2025

Check Your Zoom Name

- On your square-right corner-click blue box
- Select “Rename”
- Enter full first and last name (if not already listed)

Desired Outcomes

Participants will gain...

- Understanding of types of qualitative analysis that can be done on open-ended survey data for program evaluation
- Hands-on experience of coding qualitative data and extracting themes using Excel, and reporting the findings
- Practice identifying a mixed methods design to evaluate a program.

Agenda - Methods to Analyze Surveys: Part 1 Qualitative Data

10:00 - Welcome and overview

10:05 - Introduction to qualitative analysis

10:20 - Activity: Qualitative analysis and interpretation

11:00 - Group discussion and sharing out

11:10 - 5-minute break

11:15 - Examples of how to report and visualize qualitative data

11:25 - Mixed Methods brief lecture and activity

11:55 - Open discussion / Technical assistance and wrap up

12:00 - Post-Workshop Survey and Adjourn

Qualitative Data

Why ask open-ended questions in surveys, interviews, and focus groups?

- To explore respondents' thoughts and opinions
- To collect more context or detailed information on successes, challenges, barriers, etc.
- When you don't know what close-ended response categories to use
- To answer *how* and *why* research and evaluation questions

What are other types of qualitative data?

- Observations and field notes
- Documents, reports, web pages, and other textual sources
- Photographs and videos

To track and document changes in behavior, adoption of recommended actions or policies, and/or changes in environment.

For example,

- “Almond growers have adopted six-spotted thrips as a natural enemy in almond pest management, as observed by UCCE”
- A commodity board features an emerging plant pathogen on their home page after UCCE involvement
- Students showcase new fruit and vegetables they tried in a social media campaign
- Homes in a wildfire-prone neighborhood show evidence of home hardening



Qualitative Analysis: Overview

- Making sense of non-numerical data (text, images, observations)
- Akin to highlighting a textbook
- Purpose of qualitative coding:
 - data reduction or abstraction
 - organization of data
 - data analysis

or even scale identifiers (local, regional, national, global).

One special type of descriptive code is called *in vivo codes*; they are descriptive codes that come directly from the statements of subjects or are common phrases found in the texts being examined (Strauss and Corbin 1990). For example, if interviews were done with elderly women and they repeatedly mentioned concern with crime in their neighbourhoods, 'crime' would become an *in vivo* descriptive code—the term is used by and describes something important to the subjects. *In vivo* codes are a good way to get started in coding, particularly in projects that are designed to be inductive or exploratory.

Ethnographers also develop *analytic codes* to code text (or other forms of data) that reflect a *theme* the researcher is interested in or one that has already become important in the project. Analytic codes typically dig deeper into the processes and context of phrases or actions. For example, it might become apparent that the elderly women mentioned above were especially afraid of young men and boys

Cope (2010) "Coding Qualitative Data"

Qualitative Analysis: Thematic Coding

Thematic codes identified both **deductively** and **inductively**.

- Deductive: derive from a theoretical framework, logic model, theory of change, reporting requirements → predetermined or preset codes
- Inductive: emerge from engagement with the data itself (from Grounded Theory) → emergent codes
- In practice, we typically use both

Table 1. Concepts, Themes, and Keywords Used in the Study

Concept (no. of keyword mentions)	Theme (no. of keyword mentions)	Keywords used to quantify theme/concept
Connection to food and land (345)	Food (71)	food, corn, maize, bean, squash, tomato, persimmon, fruit, vegetable, veggie
	Land (274)	land, garden, soil, dirt, seeds, crop, plant, planting, plantita, plus keywords included for "Food"
Sense of belonging (268)	Sense of belonging (268)	community, comfort, support, included, inclusive, access, represent, respect, care, dedication, honor, value, tradition, custom, positive interactions, safety, home, where I come from
Ancestors, family, resistance, and sense of community (201)	Family (40)	family, parents, mom, dad, grandparents, grandmother, grandfather, grandpa
	Community (119)	family, ancestor, home, culture, cultural, root, represent, respect, care, dedication, honor, value, friendly, welcoming, inviting
	Activism (35)	representation, activism, fight, social justice, movement, history, hxstory, historical
	Original stewards (7)	Native, Indigenous, tribal
Health and healing (63)	Healing (63)	serenity, calm, peace, relax, spiritual, meditate, meditation, reflect, reflection, destress, place to go if I feel stressed, alleviate stress, healing, health, healthy, benefit

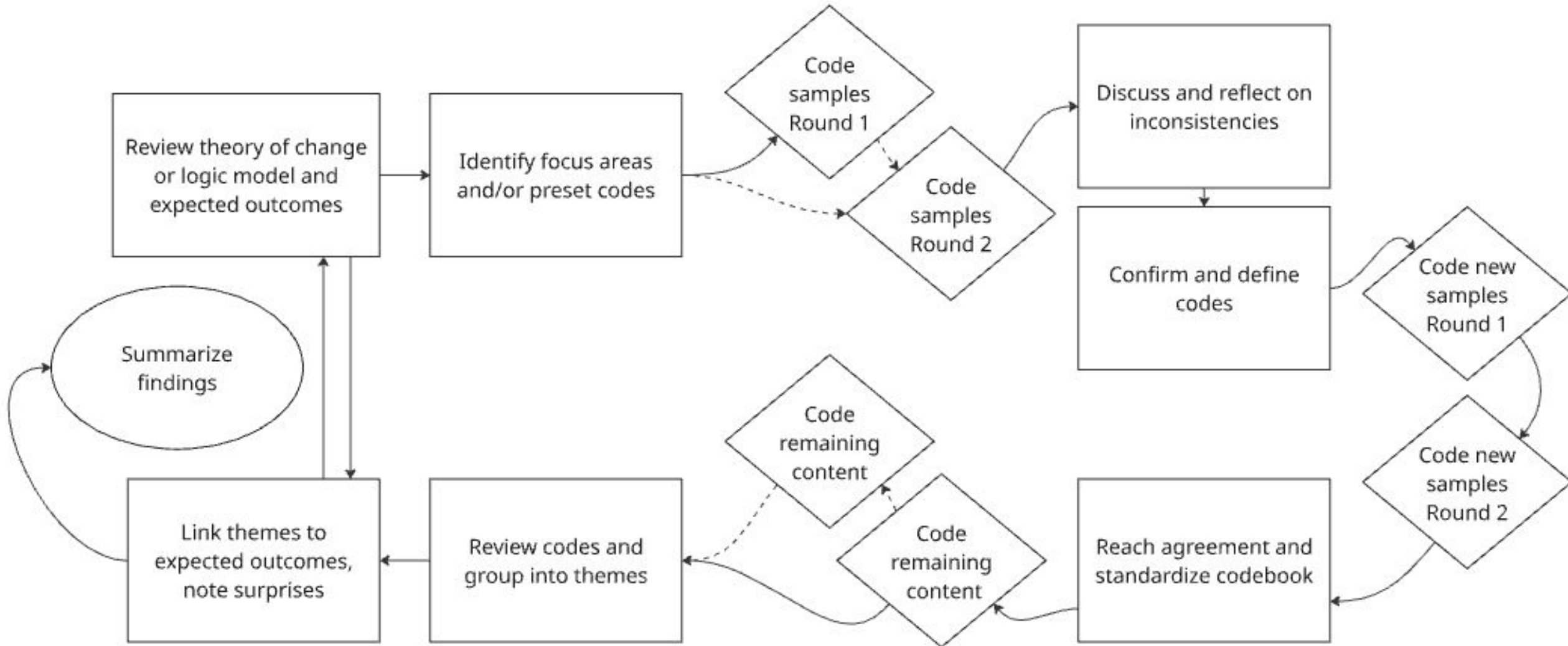
Deeb-Sossa et al. (2022) "Aqui Estamos: Cultivating a Sense of Belonging among Chicana/o Studies Students at a Student Farm"

Thematic Analysis

- Before beginning, review theory of change or logic model (of program, grant, project) and outcomes expected by partners, funder(s), county board of supervisors, other stakeholders
 - at minimum, sets guidelines to help you focus; at maximum, helps you identify some preset themes (or codes)
- Several rounds of analysis and reflection and/or discussion
 - Individuals code the same lines of text then discuss as a group, especially when there is disagreement
 - Individual reviews data, does first pass at coding; reflect, discuss with others; do second pass
- Codes are redefined. Once intercoder agreement established, then code the rest individually
- Grouped similar codes, which became themes for the manuscript

Example: “Volunteer Outcomes and Impact: The Contributions and Consequences of Volunteering in 4-H”

Thematic Analysis Schematic



We analyzed responses from 1,245 individuals who answered either one or both open-ended questions. We applied iterative inductive thematic analysis without a pre-existing coding scheme to each question independently (Braun & Clarke, 2006). We applied separate codes for each distinct idea or concept contained in the response. Specifically, to begin, we selected a representative subsample consisting of 2% of the sample based on six factors (age, gender, years volunteering, race/ethnicity, level of education, and geographic location). The first three authors independently reviewed and created low inference codes anchored to the data, i.e., initial coding (Corbin & Strauss, 2015). We came to agreement on these initial codes, code definition, relationships between codes, and application of codes to the data. When disagreements arose, we discussed until reaching consensus. We repeated this process twice more with a second and third subsample. In each iteration, the coding scheme was modified with codes added or merged. Next, we each coded a separate subsample of 80 responses, and co-coded approximately 20% of these responses from the other two coders. The final step was to code the remaining responses. Each coder also coded approximately 10% of another's block. Our process relied on intercoder agreement, including "intensive group discussion, 'dialogical intersubjectivity,' coder adjudication, and simple group consensus as an agreement goal" (Saldana, 2016, p. 37). We discussed disagreements and conflict and revised code definition; twice during the process, each coder then went back through their assigned responses to affirm code application. After every response was coded, we reviewed relationships between codes and grouped similar codes, which became our emergent themes.

Worker, Espinoza, Kok, Go, Miller (2020) - <https://jyd.pitt.edu/ojs/jyd/article/view/20-15-4-SIA-01>

Data Jams

- Working meetings with large diverse group of individuals
- Meaning making occurs through working meetings, discussion and consensus
- Write up the findings together; a report is the output of the data jam

Example: Wisconsin Statewide Fatherhood Needs Assessment

- Teams of 3-5 collaboratively discussed, developed, and applied emergent themes (codes) together over meetings
- Teams reviewed and synthesized each other's codes into overarching themes over subsequent gatherings
- Culturally responsive evaluation (Hood et al. 2015): include outliers and all findings
- Explicitly paid attention to positionality of team members

https://parenting.extension.wisc.edu/files/2022/11/UW-Fatherhood-Needs_Assessmen_October_2022.pdf



Interpreting Qualitative Findings

Findings review and summarize the data that falls under each code. Similar codes can be grouped and summarized together.

- “Participants reported x, y, and z.”
- Writing up results extends qualitative analysis
- Judicious use of quotes

Interpretation connects findings back to original proposal, logic model, theory of change, and/or theoretical framework.

- Implications

Hands on analysis activity

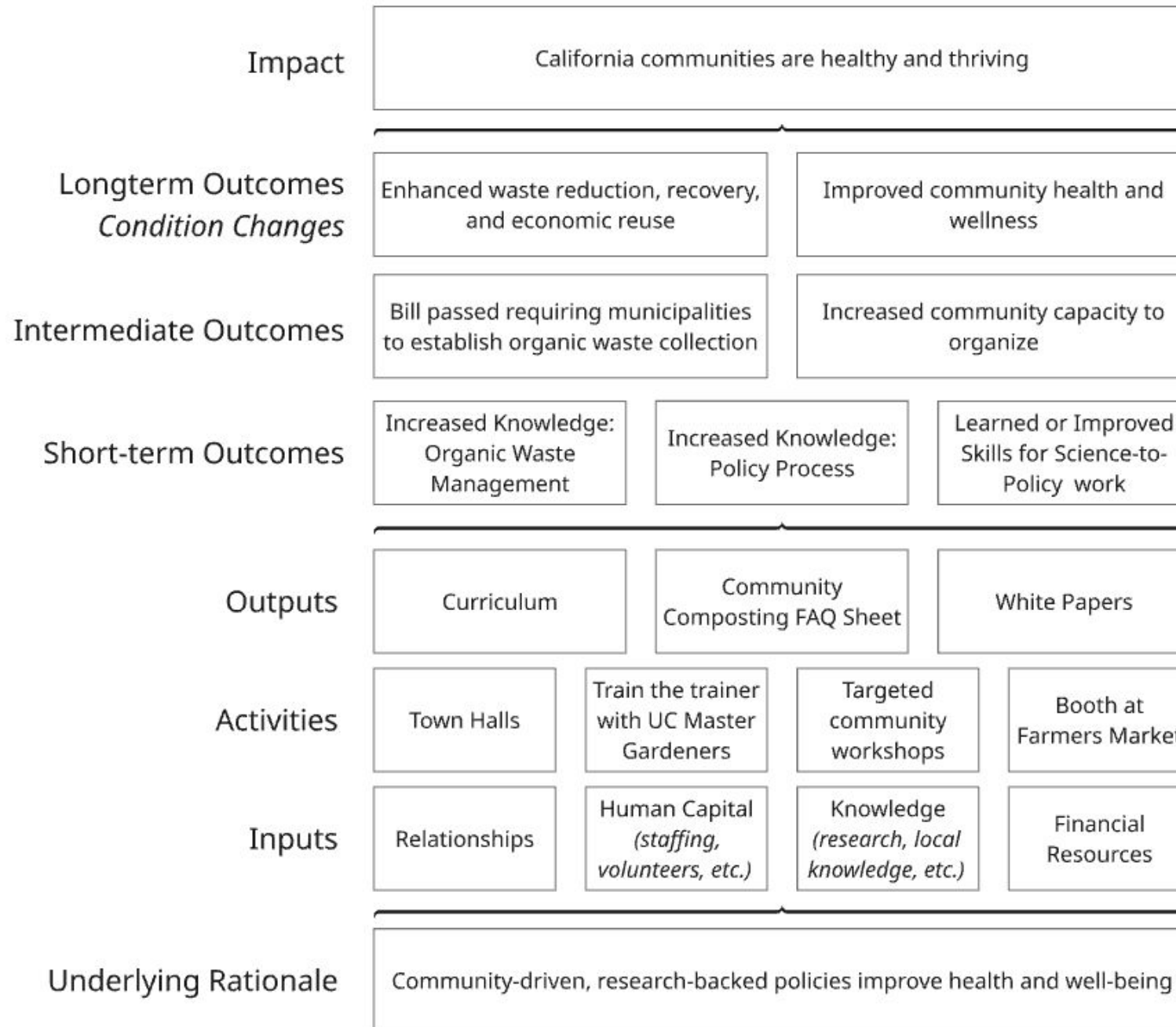
Code qualitative survey data, develop a codebook, and interpret one theme.

Project Background

Extension Program: Community campaign to achieve public policy change. The program consisted of several Extension activities (e.g., meeting with policy makers, conducting public policy presentations, working with the media). Staff believe that residents who work on the campaign will not only help bring about change on this one issue (establishing local organic waste collection) but also increase skills and build community capacity for other public policy work.

UCCE Campaign Examples: School breakfast, armyworm management to growers, drinking water campaign

Theory of Change: Municipal Organic Waste Campaign



Evaluation Question



After organizing around organic waste management, how have residents (community activists) increased their skills in effecting public policy change?

Demonstration

1. Review end-of-session/workshop evaluation data example, Q5: "What is the greatest benefit that you have gained as a result of working on the campaign"
2. Review original rationale/theory of change posited by staff.
3. Develop and apply *codes* individually and describe your process in the codebook tab.
4. Discuss with a partner codes, resolve any discrepancies, identify themes/categories.
5. Summarize findings, identify key quotes, and interpret by linking to original rationale.



Activity 1: Code on your own, validate with group

1. Make a copy of “Demo of Qualitative Data Analysis” file in Google Sheets or download and open in Excel.
2. Read through seven responses in the “Activity” tab and background info in the “Original Rationale and Eval Question” tab.
3. Develop and apply codes individually and describe your process in the “Code Book” tab (in your own copy of file).
4. Discuss with a partner the codes you created, resolve any discrepancies, recode together if necessary, and identify themes/categories. Note: Themes may or may not be the same as codes; come to agreement with partner.
5. Write up a short summary of findings (1-3 sentences). Think about: what is important to know about the responses to this question? How would you summarize for stakeholders/funders? How might you link the findings to the original rationale/theory of change?

Share out



How did the activity go? How did you resolve your coding differences?

Share your summary of findings.

Describing and documenting results

“Three major themes emerged from our analysis. First, we saw evidence that volunteers *gained skills needed to effect public policy change*. They described how their ability to communicate, collaborate, and understand policy increased as a result of their involvement. Second, volunteers described not only learning new skills but also *applying and amplifying those skills*. This was evidenced by how they described their ability to contribute to change and their suggestions for ideas for improvement. Third, the findings suggest that in order to be most effective, volunteers need *more resources, training and support*.”

Group Discussion

Any tips and best practices from your own experiences?

Questions?

- If you do have multiple coders, should they all be coding all of the responses?
- When using Excel, is it better to clump codes into a string in one column separated by commas or have a separate row for each code?

5-minute break, return at 11:15AM

Reporting qualitative findings: UCCE Examples

“Yolo, Solano, and Sacramento Valley growers changed nitrogen management behaviors for what is reported to the ILRP, as observed by UCCE through one-on-one consultation. Improving nitrogen management will minimize over and under fertilization. This reduces nitrogen leaching, thereby improving water quality, reducing excess costs, or potentially increasing agricultural productivity.”

“Several testimonials and media products indicate accelerating behavior change within California's pest control industry with regards to cockroach baiting, especially for peridomestic species.”

“[Participants were] asked what, if any, impact this project had on their future education plans or future career interests, responses included:

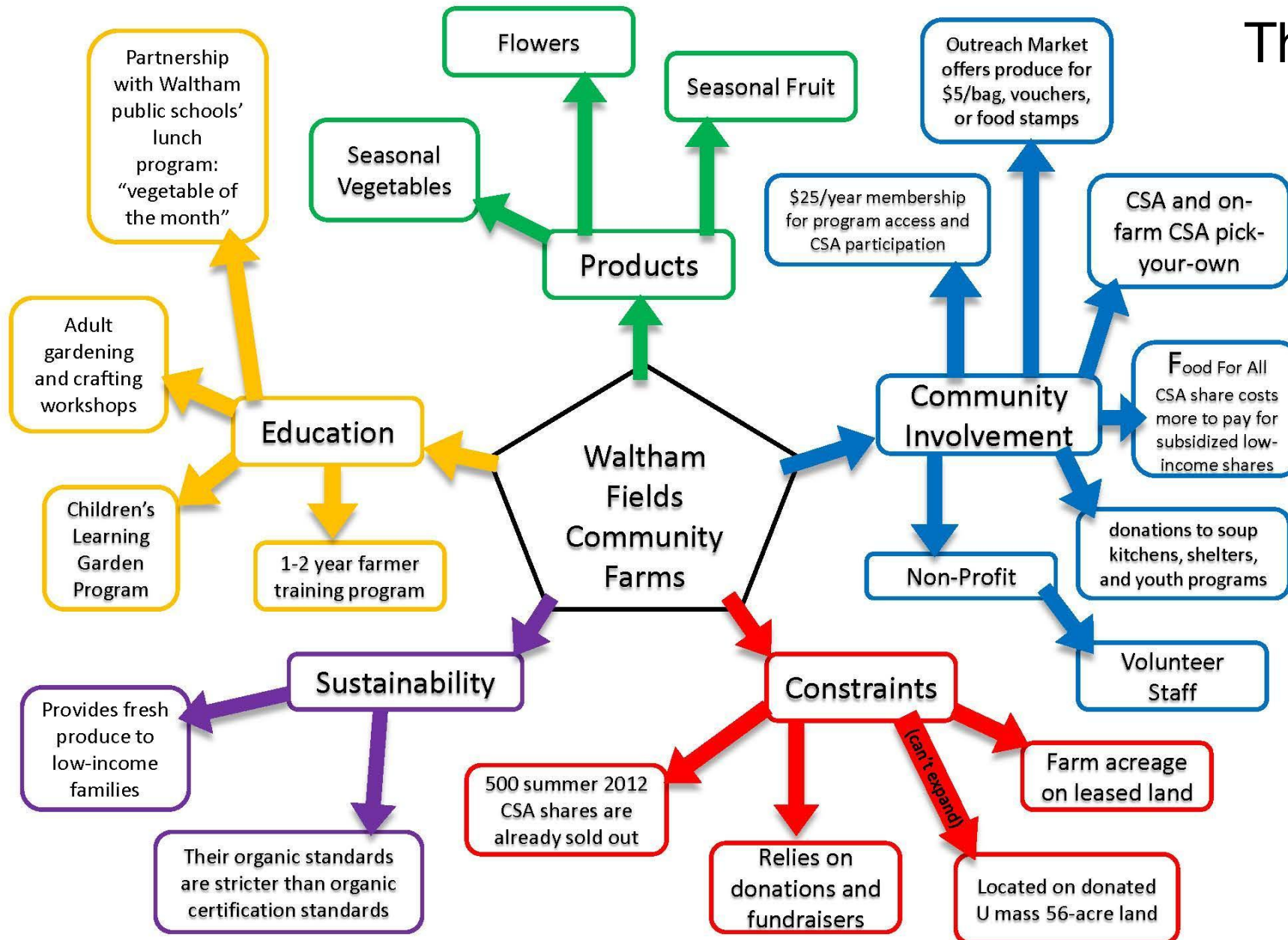
This project has opened my eyes to many different issues in my community and I feel like in my future job/career interests I will bring these issues with me and try to make a change so new generations don't see the same issues that we did. I want to make a change with my line of study.”

Visualizing qualitative findings

Visualizing qualitative findings can be as basic as a table or flow chart or as complicated as a your graphic design brain wants to go!

⇒ Key resource: Evergreen Data Viz has a qualitative chart chooser

Thematic Map Mind



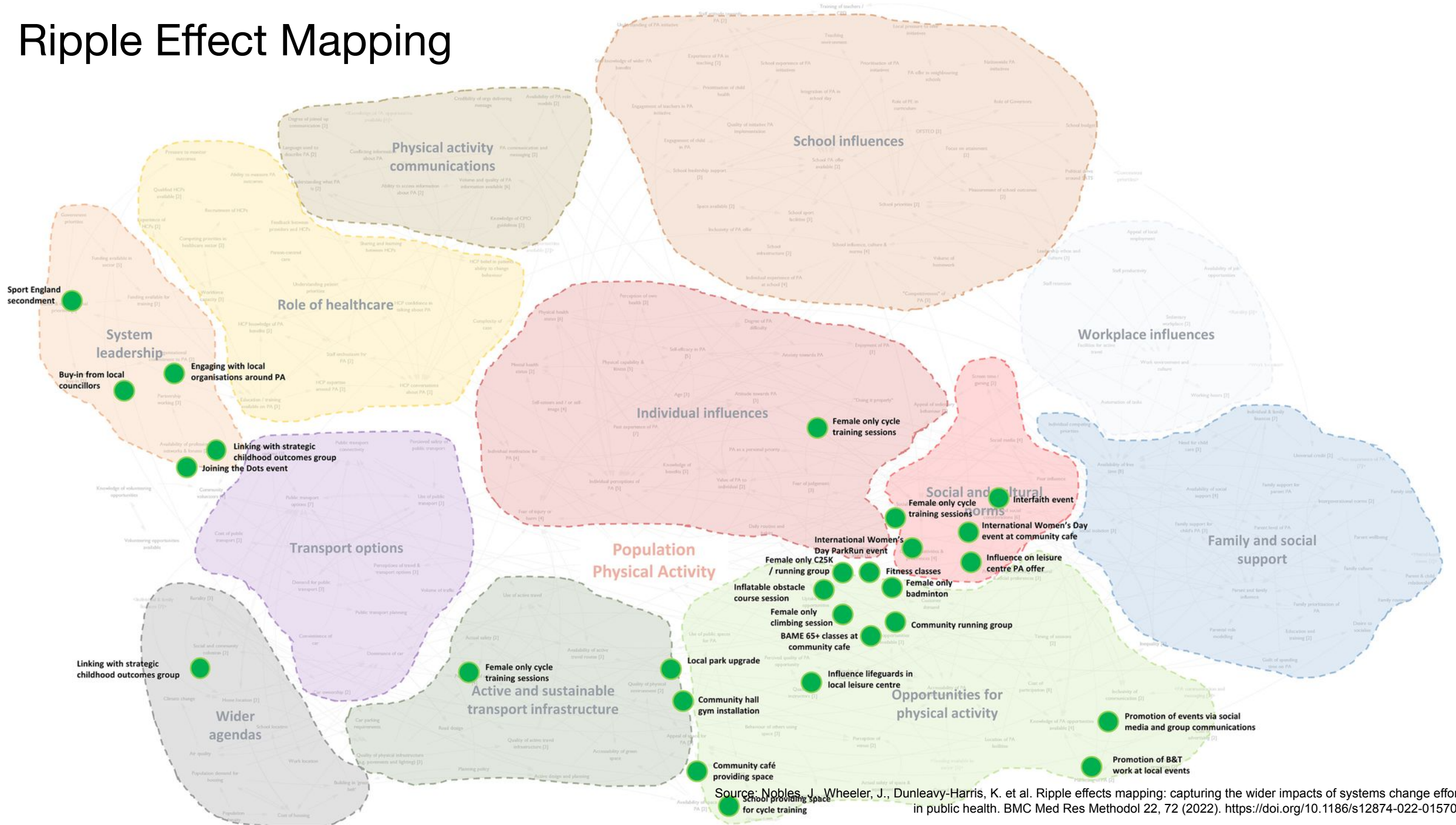
Source: <https://agssystemsthinking.net/2012/07/01/mindmap/>

User journey or experience maps show change over time. The visualization of the big findings went in the main report (right). The detailed codebook (excerpt below) went in the appendix.

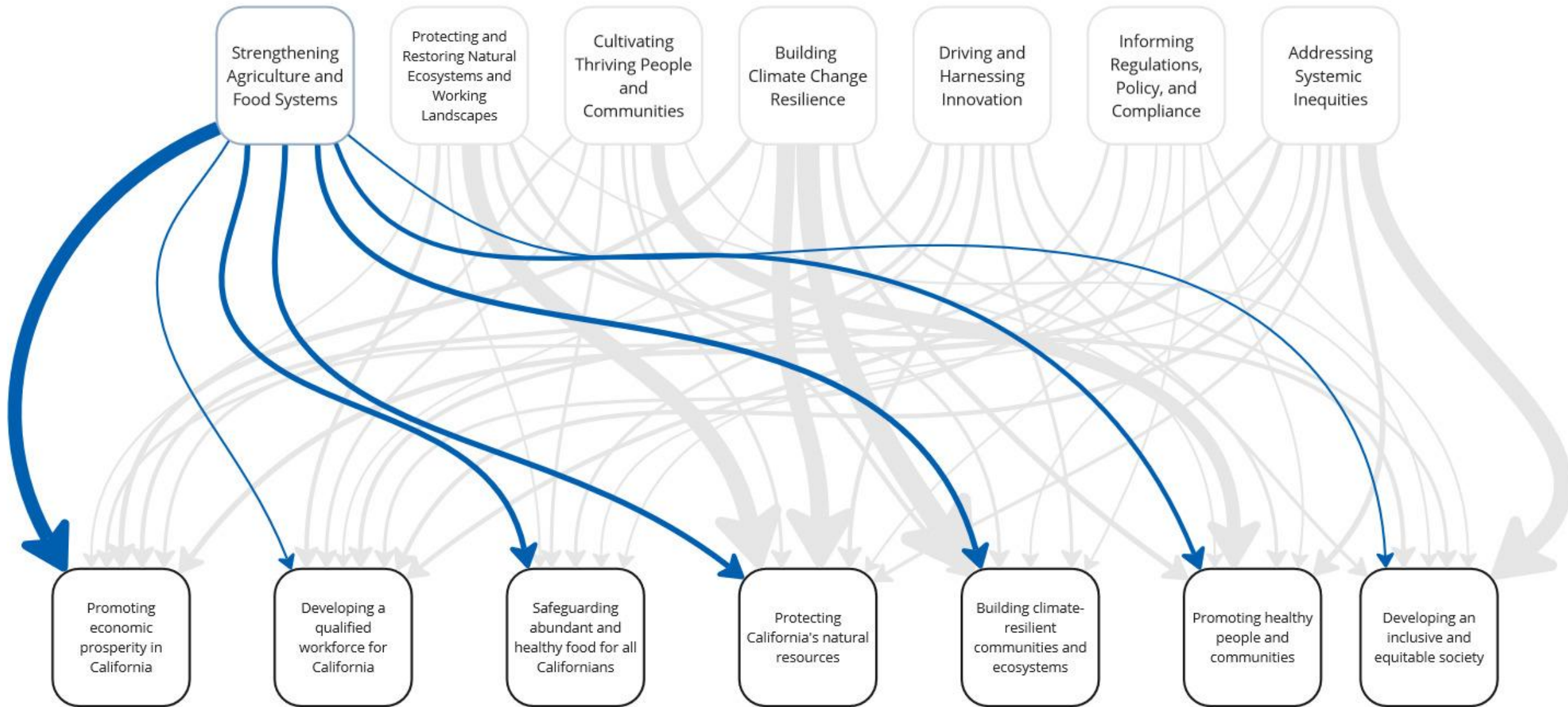
Code	Description	Files	References
Belonging in and Access to FANH Careers	Student describes how and if they included or excluded from ag-related career paths	29	31
Building professional capacity	Student describes experiences that help build their professional capabilities	51	61

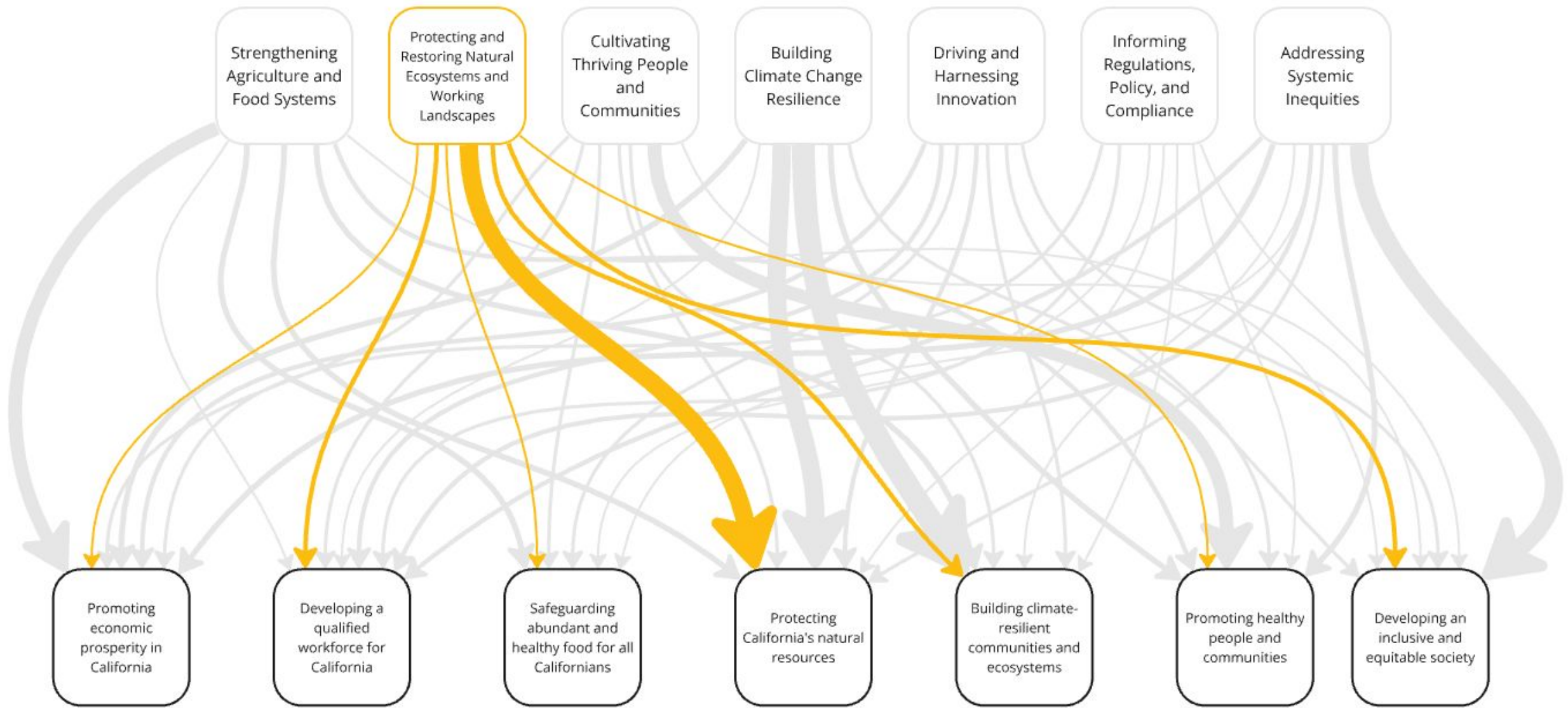
Experience Map: Rising Scholars' Fresh Focus Internship Prepared by Jennifer K. Sedell, Ph.D. on January 26, 2023			
Program Goals: 1) Increase sense of belonging 2) Increase community engagement		Data: Weekly reflection journals completed by Rising Scholars (n = 13) as part of their Fresh Focus internship	
Phase	Newcomer (Weeks 1-2)	Explorer (Weeks 3-7)	Contributor (Weeks 8-9)
Milestones	First Harvest	Riding the Mule (Farm ATV)	"Knowing what you're doing"
Directed Activities	Safety training, introduction to Student Farm history and partnerships, harvesting	Harvesting, washing produce, sanitizing bins, preparing produce boxes, helping distribute, team events, readings, lectures	Same as explorer but more self-directed
Undirected Activities	Meeting farm animals (cat, chickens), exploring single parts of Student Farm (field and/or building)	Testing and tinkering, petting cat and trying to return chickens to coop, exploring more of Student Farm and campus food system, trying new food	Exhibiting greater efficiency in tasks, collaborating ad hoc, wider ranging exploration, trusting chickens to return to coop on their own
Thinking 1: Focus on Community	Relationship to land and Patwin People (including three federally recognized tribes)	Broader questions about food security, autonomy, sovereignty	Considering career goals, especially how to continue to support food security and autonomy into the future
Thinking 2: Focus on Learner	What to wear and how to use equipment; developing learning objectives for internship	Revising and refining learning objectives	Re-evaluating how to achieve academic success; reconsidering personal relationship to food and how it is grown
Emotions	Nervous, excited, shy, trespassing	Accomplished, supported, curious, but also frustrated and grossed out at times	Satisfied, comfortable, confident, more knowledgeable
Sense of Belonging	New and welcomed, but also trespassing on land, ill-equipped	Forging relationships with individuals, growing sense of team at Student Farm	Having a place on campus and group of people of which they feel a part

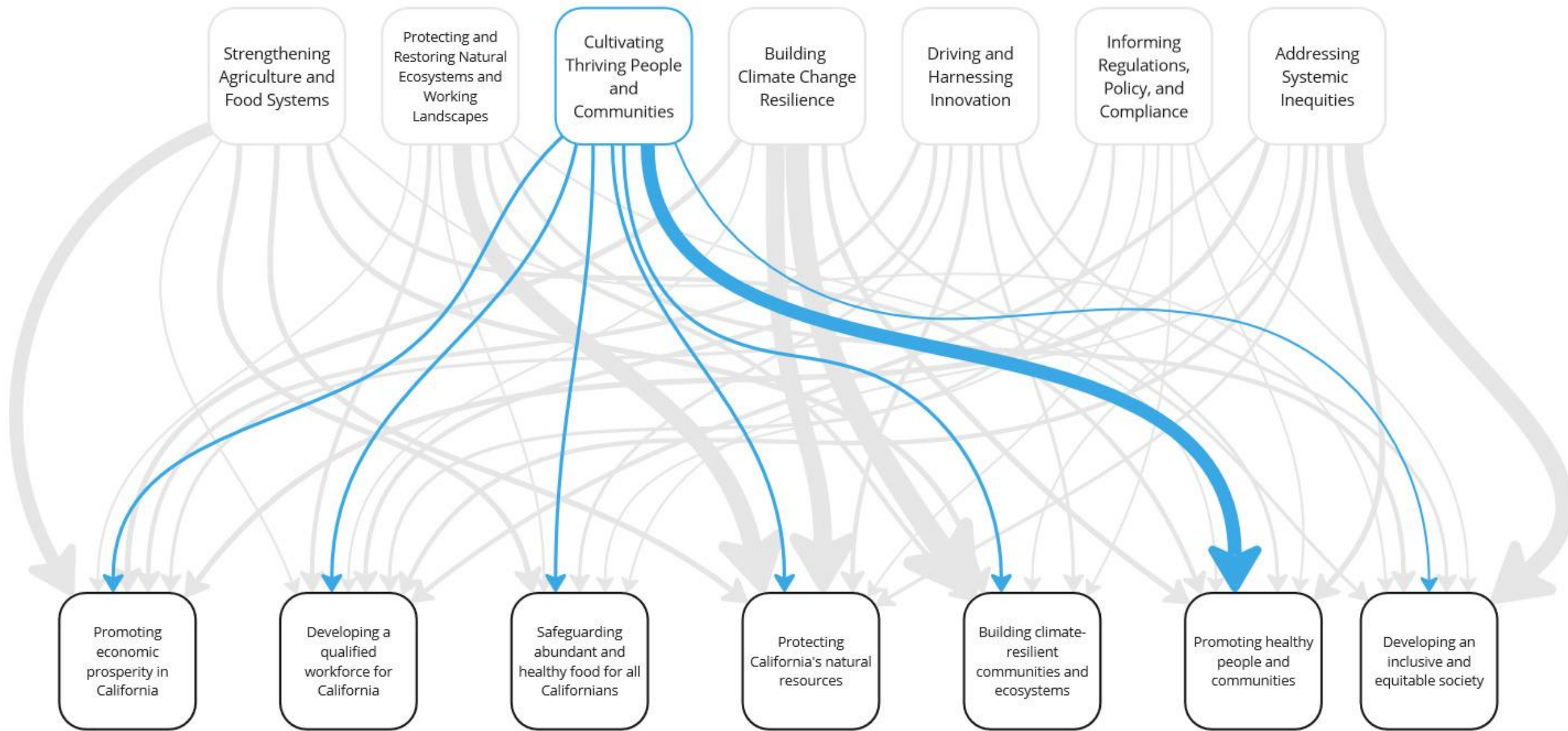
Ripple Effect Mapping

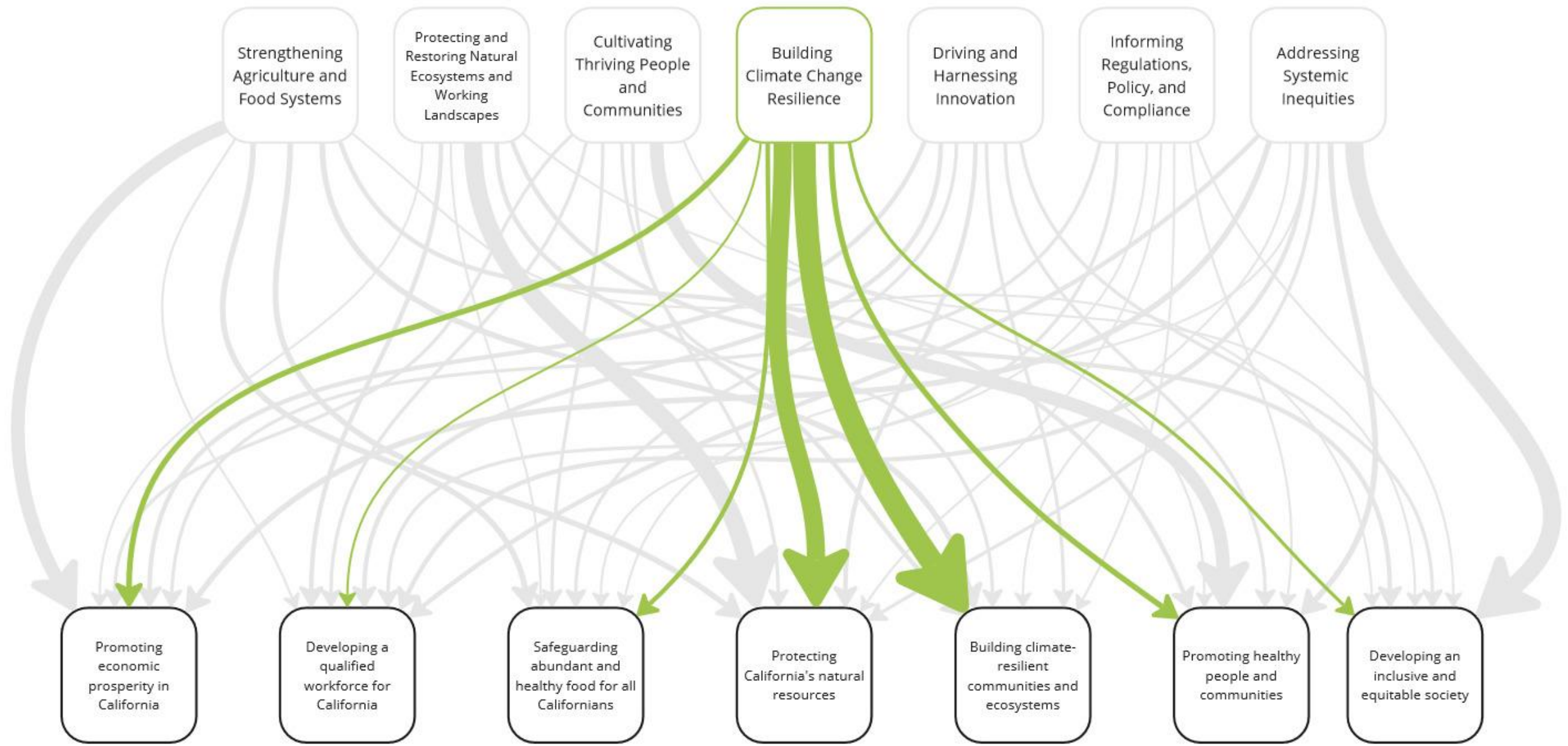


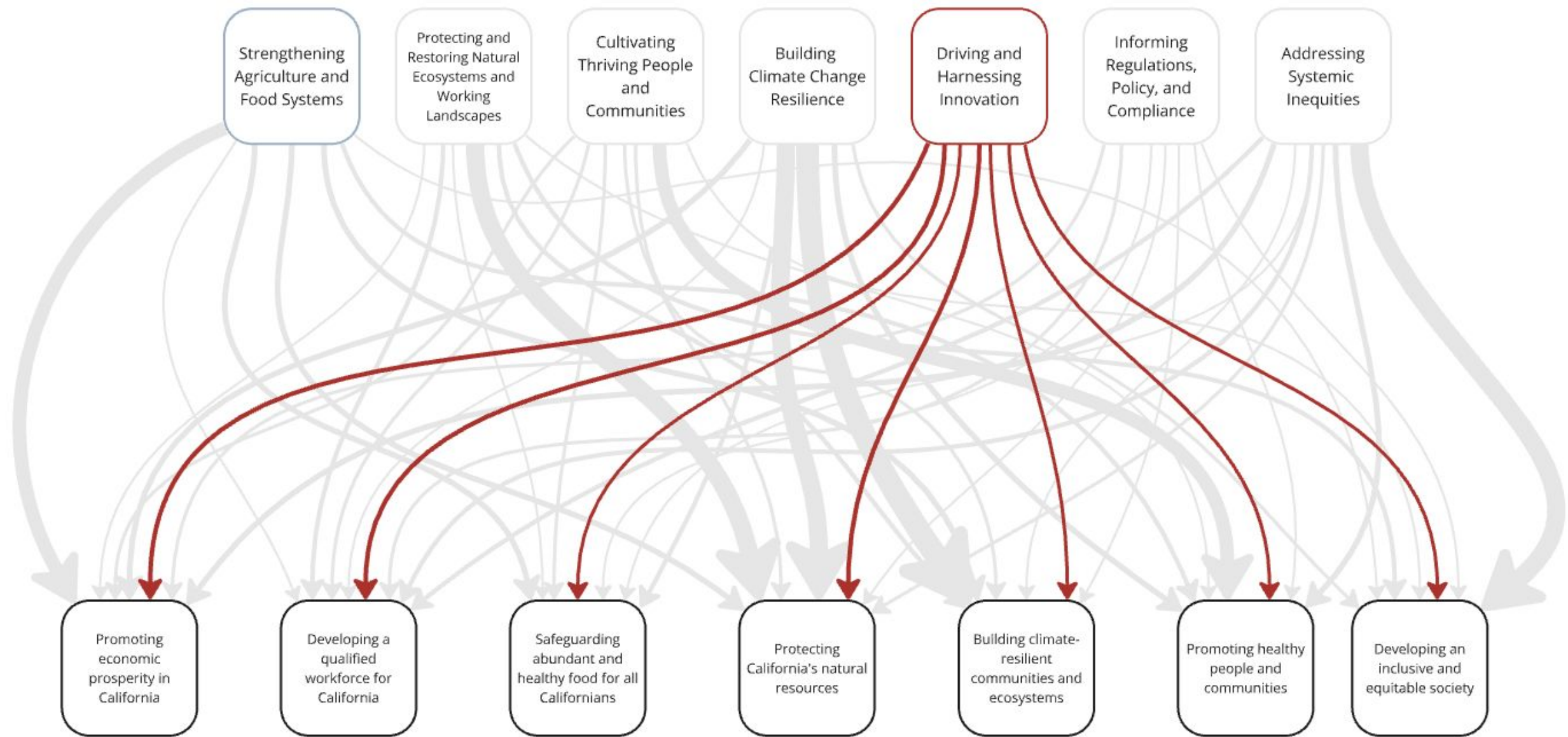
Source: Nobles, J., Wheeler, J., Dunleavy-Harris, K. et al. Ripple effects mapping: capturing the wider impacts of systems change efforts in public health. *BMC Med Res Methodol* 22, 72 (2022). <https://doi.org/10.1186/s12874-022-01570-4>

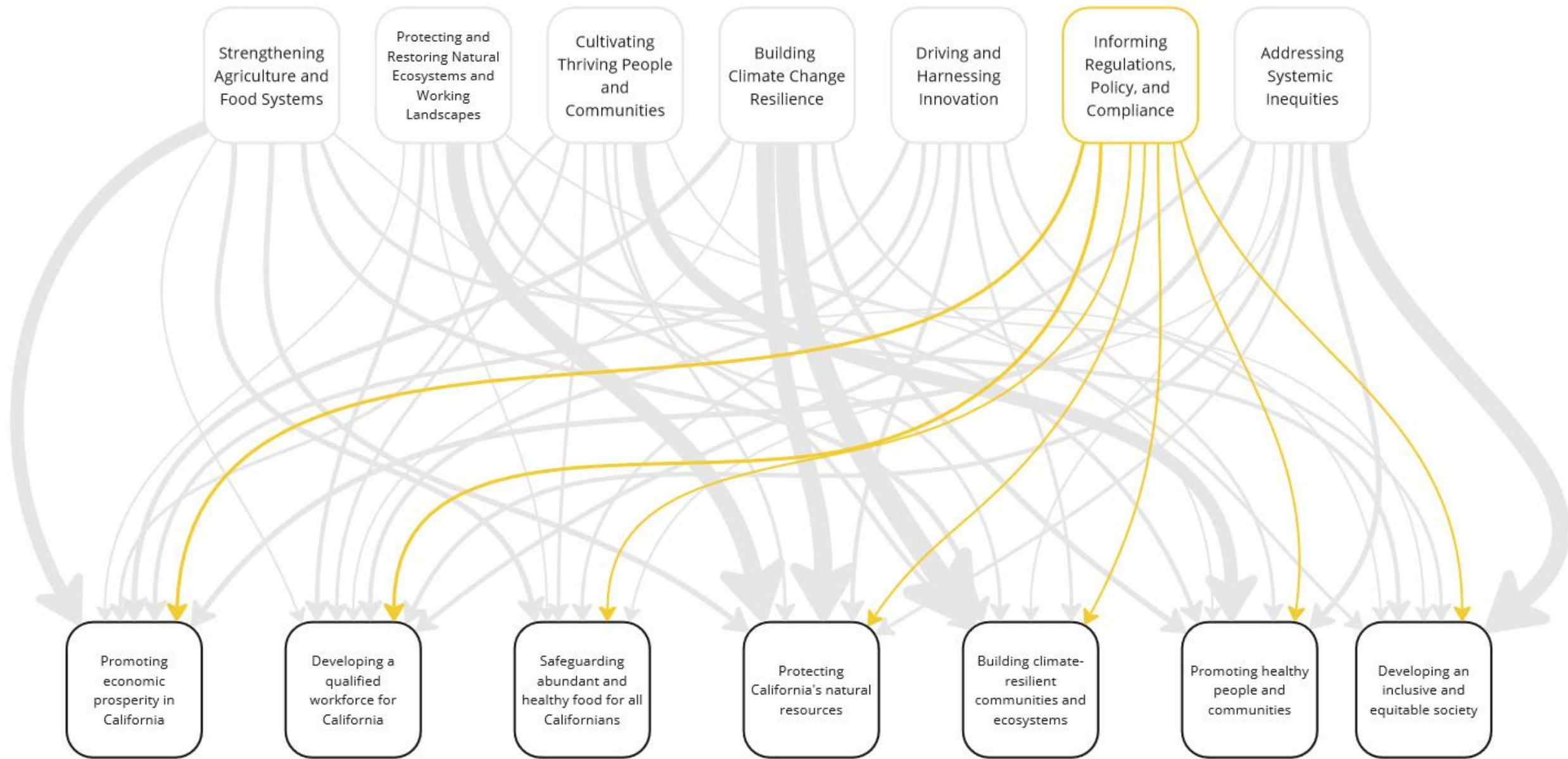


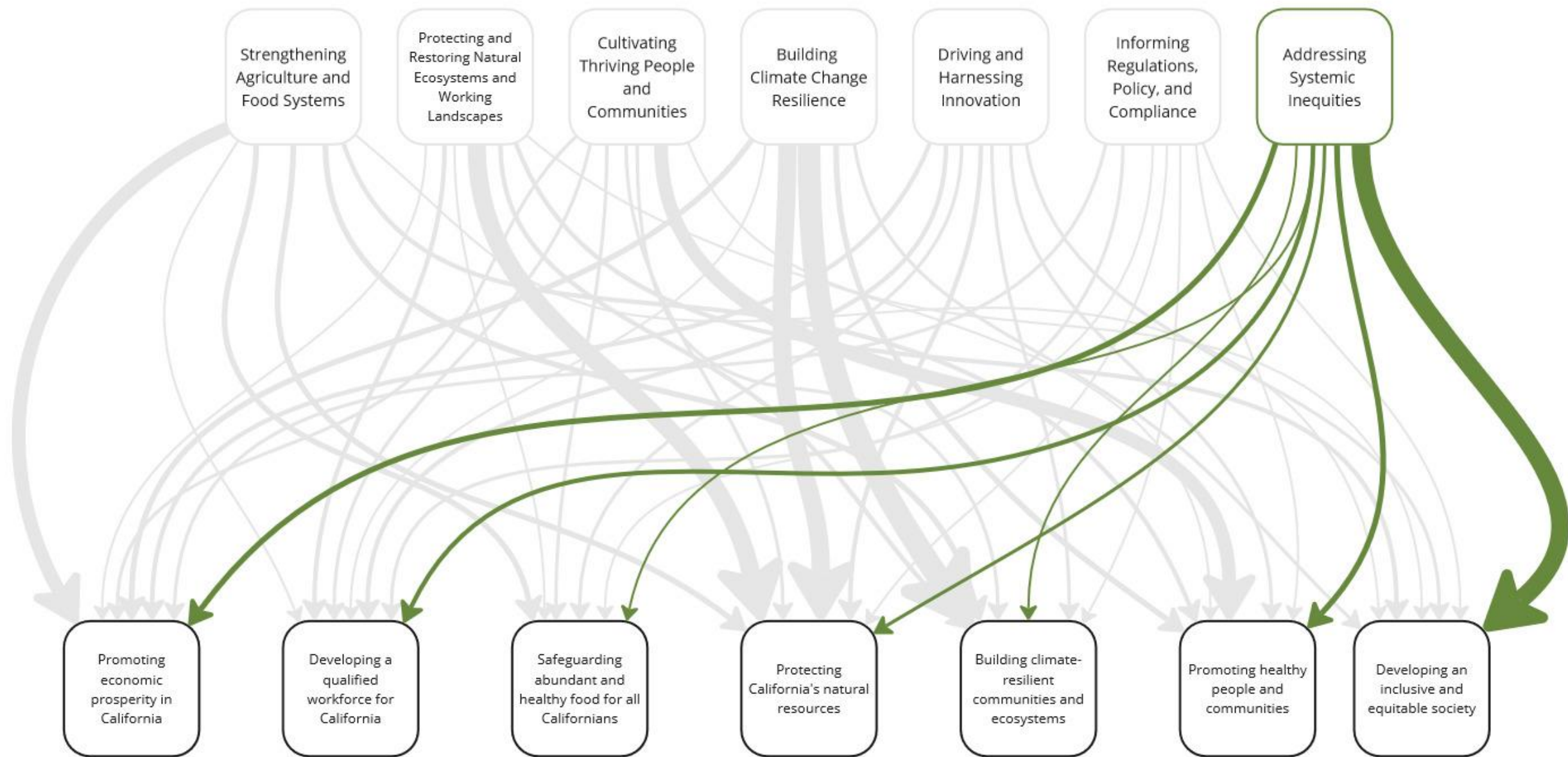


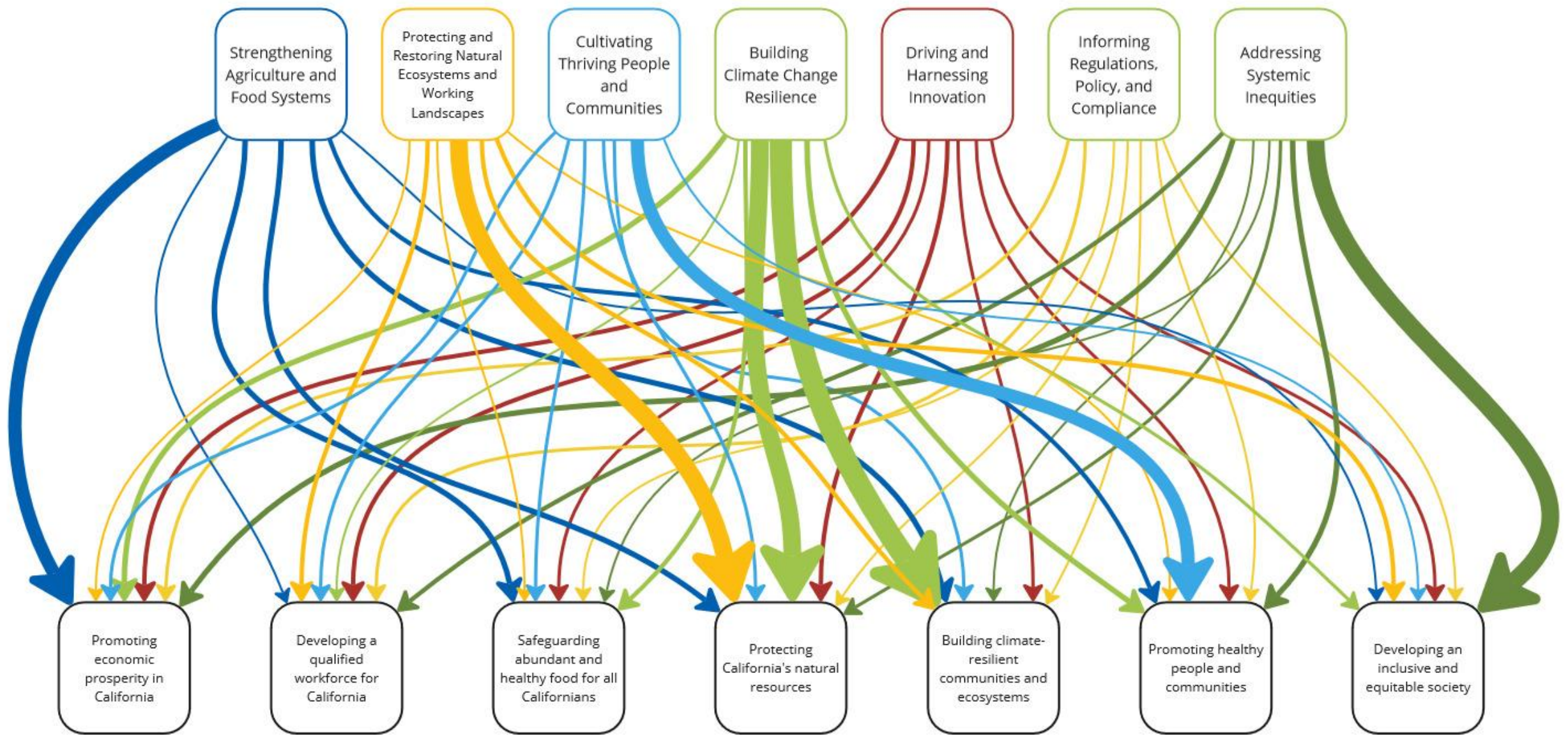












Types of Mixed Methods Design

What is mixed methods design?

- Combines qualitative and quantitative approaches to answer one question
- Provides deeper understanding of your research topic
- Leverages strengths of both quantitative (measurements, generalization) and qualitative methods (context, meaning)

Mixed-methods designs can provide a more comprehensive account than either the qualitative or quantitative method used alone, offer a better explanation of the results, and enhance the integrity of the findings. - Bryman, 2006

Types of mixed methods

1. **Explanatory Sequential** - used to explore quantitative results in more depth (quantitative then qualitative)
2. **Exploratory Sequential** - used to develop instruments/framework or when there's a lack of existing information (qualitative then quantitative)
3. **Convergent Parallel** - gain a more comprehensive understanding, compare results to see where quantitative and qualitative results align and contrast

In all cases, data collection and analysis for quantitative and qualitative phases are done separately. Results from the analyses build off each other in different ways.

Explanatory Sequential Mixed Methods Design

Description of the design:

- Phase 1: Quantitative data collection (rigorous sampling) and analysis
- Phase 2: Qualitative data collection and analysis - use qualitative approach to ask deeper questions about the quantitative results
- Phase 3: Interpretation - use qualitative findings to help explain quantitative results

Example: Your survey results showed that land managers don't want to adopt a best practice approach for pest management. You interview a subset of your survey respondents to understand the barriers to implementing the pest management strategy.

Exploratory Sequential Mixed Methods Design

Description of the design:

- Phase 1: Qualitative data collection and analysis
- Phase 2: Quantitative data collection and analysis - use findings from the qualitative analysis to build your quantitative measures or hypotheses
- Phase 3: Interpretation - First report the qualitative finding and results, and then the quantitative results of the final phase of the study.

Example: You want to create a reliable survey instrument to measure food insecurity in a population that hasn't been studied previously. You run a focus group to understand how you might need to adapt an existing tool to be more accurate and culturally sensitive.

Convergent Parallel Mixed Methods Design

Description of the design:

- Phase 1: Collect quantitative data and qualitative data separately (using the same or parallel variables, constructs, or concepts) and analyze each data set separately
- Phase 2: Bring the two analyses together. Compare the 2 sets of results to find where they align and where they diverge
- Phase 3: Interpretation - integrate the findings to draw well-rounded conclusions to the research question

Example on next slide

Example: Dr. Amanda Crump and Team at UC Davis

Research question: What do farm workers want to learn from UC?

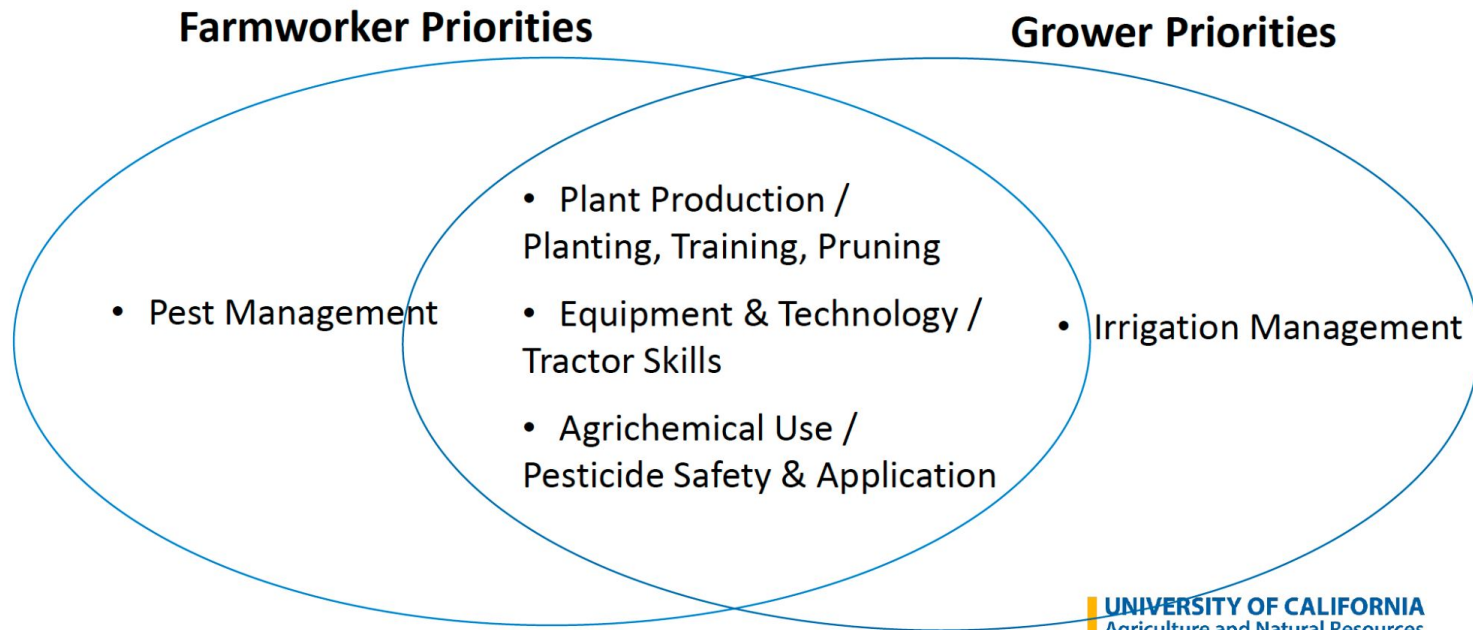
Mixed methods design (convergent parallel):

1. Qualitative: Focus groups with farm workers asking which ag production topics they want to learn about and questions that help researchers understand needed support and barriers
2. Quantitative: Survey of growers on topics they want their employees to learn about

Example: Dr. Amanda Crump and Team at UC Davis

Research question: What do farm workers want to learn from UC?

Overlapping Learning Priorities



Mixed Methods Designs Recap

Review:

- Explanatory Sequential (quant then qual)
- Exploratory Sequential (qual then quant)
- Convergent Parallel (qual + quant)

Apply (use chat or unmute): Consider following research question: You just got a new 5-year grant to introduce a farm-to-table program to child care sites across the county. Extension Activities include convening key stakeholders, building relationships, policy engagement, and forming a coalition. What mixed methods design would you apply to evaluate the effectiveness of the program and why?

Group Discussion

Have you tried a mixed methods design to evaluate one of your programs?

Would you be interested in trying one?

Training feedback

https://ucanr.co1.qualtrics.com/jfe/form/SV_e5s1krpWSEXi1Ia

Qualitative Analysis Resources

- Using Research Methods to Evaluate Your Extension Program
<http://www.joe.org/joe/2002december/a1.php>
- Analyzing Qualitative Data (University of Wisconsin)
<https://cdn.shopify.com/s/files/1/0145/8808/4272/files/G3658-12.pdf>
- Mixed Methods Procedures (Book available on Google Books or PowerPoint on Chapter 10
<https://slideplayer.com/slide/9506326/>)

Quantitative Analysis Resources

- Newberry, III, O'Leary, & Israel (2017). The Savvy Survey #16: Data Analysis and Survey Results. UF/IFAS Extension, University of Florida.
- CGBS M&E Science. Student Research. How to run statistical tests in Excel.
- Leah, J. (2004). Using Excel for analyzing survey questionnaires. Program Development and Evaluation. University of Wisconsin Extension.
- Taylor-Powell, E. (1989). Analyzing quantitative data. Program Development and Evaluation. University of Wisconsin Extension.
- Koundinya, V. (2018). How to compute and present individual change with before and after survey data. Program Development and Evaluation. University of Wisconsin Extension.

Bibliography

- Bryman, A. (2006). Integrating quantitative and qualitative research: How is it done? *Qualitative Research*, 6, 97-113. <https://doi.org/10.1177/1468794106058877>
- Johnson, R. B., Onwuegbuize, A. J., & Turner, L. A. (2007). Towards a definition of mixed methods research. *Journal of Mixed Methods Research*, 1(2), 112-133. <https://doi.org/10.1177/1558689806298224>
- Jones, K., Gwynn, E., & Teeter, A. (2019). Quantitative or qualitative: Selecting the right methodological approach for credible evidence. *Journal of Human Sciences and Extension*, 7(2), 61-87.
- Schmieder, C., Caldwell, K. E., & Bechtol, E. (2018). Readyng Extension for the Systematic Analysis of Large Qualitative Data Sets. *Journal of Extension*, 56(6), Article 26. <https://doi.org/10.34068/joe.56.06.26>
- Zhai, L., & Scheer, S. D. (2002). Influence of international study abroad programs on agricultural college students. *Journal of International Agricultural and Extension Education*, 9(3), 23-29.

Old slides for reference

Camp Description

- Week-long residential camp for middle school-aged youth.
- Goal: students understand both agriculture as a system and the connections among the various system components.
- Lectures, discussions, small group experiential activities, group mapping exercises, and field visits.
- 28 students attended the camp

Koundinya, V., Klink, J., Skluzacek, J., Barrett, C., & Chiarella, C (*in press*). Group mapping in a 4-H camp mixed methods evaluation. *Journal of Youth Development*.

Evaluation Design

A mixed methods triangulation design, where the following methods were implemented during the camp with equal weight (Creswell & Plano Clark, 2006). The study utilized:

- Group mapping (qualitative and quantitative)
- Participant-observation (qualitative)
- Student reflections in the form of group presentations (qualitative)
- Retrospective post-then-pre surveys (quantitative)

Best Practices vs. Practical Method

Example 1 - Data Jam teamwork approach

- Working meetings with large diverse group of individuals
- Meaning making occurs through working meetings, discussion and consensus
- Write up the findings together; a report is the output of the data jam

Example 2 - Iterative inductive thematic analysis

- Several rounds of analysis and discussion: Individuals code the same lines of text then discuss as a group, especially when there is disagreement.
- Codes are redefined. Once intercoder agreement established, then code the rest individually.
- Grouped similar codes, which became themes for the manuscript.

[Note on coding individually]

Both are resource intensive. Today: “Intro” to #2.

DATA ANALYSIS

MAXQDA software was used to analyze all data. A data jam teamwork approach (Schmieder et al., 2018) was used, in which groups of three to five extension educators, program managers, and specialists analyzed data together during virtual meetings. In total, around 10 to 12 different faculty and staff provided their perspectives on interpreting the data including those who facilitated or participated in interviews or focus groups.

Employing thematic analysis (Braun et al., 2006), coders engaged in open coding and identification of emergent themes. At each data jam meeting, the coding group discussed and decided on relevant codes, commenting on connections to and differences across the interviews and focus groups, as well as lived experience, previous research, and theory. Initial codes were refined and organized, resulting in final codes reflecting salient and recurring themes. Following the recommendations of culturally responsive evaluation (Hood et al., 2015), we did not ignore outliers and included all findings. We first analyzed the interviews with community partners, creating an initial coding structure. We started with the same structure for the focus groups with fathers, adding on to it as new themes and findings emerged. Some of the interview and focus group questions differentiated between needs and barriers (to being the kind of parent they want to be, to accessing services/ supports, or to serving fathers as a community partner). Our initial coding scheme differentiated between the two until the team of analysts determined there was so much overlap between the terms that the term need encompasses barriers in this evaluation.

University of Wisconsin-
Madison Extension

Full report:

Public link coming soon

POSITIONALITY

When analyzing qualitative data, it is important to acknowledge the influence of our own perspectives, views, and lived experiences. On one hand, we had a large team with a wide variety of perspectives and experiences with fathers who contributed to our findings. On the other hand, this is a report about fatherhood and our team only consisted of one father. All other team members identified as women, some of whom were also mothers and divorced or separated co-parents. Further, the majority of our team members have advanced degrees and identify as White. The team members included those who work directly with families and fathers, through avenues such as family programming and the legal system, those that do research on fathers and fatherhood, and those who do not interface with or study fathers directly. However, all members of this team were part of the Human Development & Relationships Institute in Extension, which values strong families and wants to support families and fathers in their health, well-being, and ability to support children.