Cooperative Extension can better frame its value by emphasizing policy relationships

Cooperative Extension will be most relevant in policy circles if it embraces both its technical and relationship-based strengths.

by Clare Gupta, David Campbell and Alexandra Cole-Weiss

Cooperative Extension (Extension) prides itself on its technical expertise and its ability to disseminate research-based information; this is the basis of the story we often tell one another, as well as our funding partners, to justify our contribution to society (Peters et al. 2010; Peters and Franz 2012). Yet long-term disinvestment in the Extension system, along with public skepticism of science, threatens the system's ability to deliver the expertise and research-based information that it promises. In 1990, over 475 academics — both specialists and advisors — served California and its 58 counties through UC Cooperative Extension (UCCE). Today, that figure is approximately 280, representing a decline of about 40%. In response, Extension leaders have sought ways to more compellingly demonstrate Extension's public value (Franz 2011). Such efforts often rely on a familiar narrative framework, one that emphasizes the value of detached, objective science — and the ability of such science to shape evidence-based policy and practice. Against this backdrop, our research addresses two pivotal questions: Does this

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Abstract

Based on research-to-policy narratives provided by UC Cooperative Extension (UCCE) academics, we argue that current, effective Cooperative Extension (Extension) practices support a broader, more convincing account of Extension's public value than its leaders often articulate. This proposed account incorporates the familiar Extension narrative in which technical expertise and objectivity are emphasized. It also incorporates the insight, derived from our data, that Extension can achieve its greatest relevance in policy circles when it weaves together its ability to provide trustworthy technical knowledge with its capacity to influence policy dialogue, debate and practice across multiple settings and over the long term. In a policy world often marked by short-term thinking and polarization, Extension's ability to foster deliberative, context-sensitive and future-oriented policymaking is a critical contribution to society. Interview data reveals three approaches to effective policy-oriented relationship building: community-government partnership building; stakeholder-oriented experimental research; and community empowerment. Understanding these approaches can help reframe the story that we in the Extension system tell ourselves and the public about the public value we create.

Thomas Getts, left, UCCE advisor based in Lassen County, at the UC Davis Agronomy Field Headquarters. Providing trustworthy technical advice is a key part of Extension's mission, but the organization maximizes its public value when it combines technical knowledge with relational work.

traditional narrative adequately convey Extension's actual practices and their resulting public value? And if not, what alternative narrative can better frame our contributions to public policy and society?

To address these questions, we analyze data related to a competitive grant program that the UC Division of Agriculture and Natural Resources (UC ANR) initiated in 2011. The grant program aimed to catalyze rigorous, timely research that was relevant to high-profile issues of state policy — and thus to garner greater visibility and funding for UC ANR. In 2015 UC ANR contracted with us to evaluate the grant program's policy impacts. Our evaluation included document review as well as 30 interviews with grant recipients and their policy partners. The interviews were intended to elicit answers to three research questions: (1) What was the nature of the Cooperative Extension activities funded by the grant? (2) What tangible products and policy outcomes resulted? (3) What approaches, mechanisms and processes contributed to producing the observable policy impacts?

The data reveals practices that can form the basis for a fuller, more convincing account of Extension's public value than Extension often offers on its own behalf. This broader narrative incorporates the familiar, narrow Extension narrative that emphasizes technical expertise and objectivity but also extends well beyond it. Our data shows that when Extension weaves together its ability to provide trustworthy technical knowledge with its capacity to influence policy dialogue, debate and practice across multiple settings and over the long term, it can achieve its greatest public value. In a policy world often marked by short-term thinking and polarization, Extension's ability to foster deliberative, context-sensitive and future-oriented policymaking is a critical contribution to society. Our research, by examining successful cases of Extension's research-to-policy practice — and by analyzing how such projects weave together technical and relationship-building work — contributes evidence that can inform decisions about better facilitating, supporting and promoting such work.

Literature review

Our research is informed by two primary literatures. The first literature, rooted in public policy studies and science and technology studies, describes relational dynamics in the research-to-policy process. The second literature illuminates debates over the meaning and purpose of Extension and raises questions about *who* we serve and *how* we relate to the public.

Relationships, research, policy

Several studies in science and technology find that the utilization of research in policy arenas depends on robust relationships and strategic networking (Graffy 2008; Jasanoff 2009). Relational ties, embedded in social networks, serve as channels through which research is communicated, debated, utilized and developed (Morton 2015; Nutley et al. 2007; Weiss 1979). The shared premise of these studies is that research users engage actively and selectively with research, using and reusing it within specific contexts to create impact (Morton 2015). Influence on policymaking rarely results solely from presenting objective scientific evidence. Instead, research becomes meaningful when (1) its creators and users strategically deploy language, objects and acts that establish greater validity for certain knowledge claims than for others (Pearce et al. 2014); (2) it is attentive to local contexts, lay knowledge and political demands (Campbell and Feenstra 2005; Pearce et al. 2014); and (3) it is embedded in relationships and

interwoven with the priorities, cultures and contexts of organizations and institutions (Best and Holmes 2010).

While effective knowledge transfer depends significantly on timing and context (Murdock et al. 2013), certain practices have been shown to facilitate the research-to-policy process. For example, the involvement of research users from the beginning of a research project, along with the coproduction of knowledge during the project, increases research utilization (Murdock et al. 2013; Patton and Blaine 2001). López Cerezo and González García (1996) argue that expert knowledge by itself is not sufficient for exerting policy influence because this knowledge is constrained by social, political and economic factors. They propose the idea of "negotiated expert knowledge," which uses public voices and deliberation to gain new perspectives and incorporate useful information. This concept helps avoid the expert versus layperson dichotomy and instead establishes a more nuanced view of knowledge creation (Collins and Evans 2007). In general, the literature suggests the need to rethink the relationship of expertise to "situated knowledge," defined as information — about impacts, problems, contributory causes, unintended consequences and so forth — that members of the public know because of their lived experience (Epstein et al. 2014).

This literature emphasizes the idea that researchers are less detached than, in traditional research-to-policy narratives, they appear to be. Indeed, the ideal of policy shaped by sound science often confronts the reality that decision-making arenas are characterized by multiple parties, contested values and power imbalances. Simply understanding how researchers relate to government policymakers is inadequate; instead, one must realize that both are part of a larger knowledge-action system in which knowledge is coproduced by multiple parties and in which researchers must navigate and shape complex "knowledge governance" arrangements (Clark et al. 2016; Muñoz-Erickson 2014).

Framing Extension's engagement

The meaning of the land-grant ideal has always been contested. Historians of land-grant universities note a split between those who emphasize the development and dissemination of technical knowledge and those who emphasize the public work of building common values, social capital and active civic engagement (Peters et al. 2010; Putnam 2000). In their pure forms, these competing conceptions imply very different Extension roles and practices. A conception emphasizing technical knowledge implies that Extension will focus on providing technical solutions to problems as researchers see them. A conception emphasizing values, social capital and civic engagement implies that Extension will help communities define and solve their own problems, with assistance from university researchers. Supporters of the latter approach use the dictum "researchers on tap, not on top" to differentiate their preferred emphasis from the other camp's technical emphasis — but previous research suggests that both views oversimplify a complex reality. Cash (2001) views Extension as a "boundary organization" that nurtures trusting relationships and navigates tensions between science, politics and policy. Extension professionals engage with the public by coordinating public meetings or interacting with advisory groups (Frederick 1998), by listening to public perspectives to inform policy development (Morton 2002) and by working with and through community coalitions to facilitate pooling of resources, sharing of information and coordination of efforts (Smathers and Lobb 2015). Extension agents Patton and Blaine (2001) distinguish

between Extension's roles as content expert and process expert — with the former focused on applied research capacities and the latter on the ability to frame an issue in public terms and facilitate public deliberation and issue resolution. Often, Extension professionals find themselves juggling their content and process roles — that is, they insert science into public discussions that they themselves have convened. Overall, the research suggests that Extension can be particularly effective at building well-functioning stakeholder and community networks precisely because of its identity as a trusted source of information and technical assistance.

Methods

In the competitive grant program we studied, grants were awarded to proposals that demonstrated both technical competence and the potential to impact high-priority policy issues of immediate relevance to California decision-makers. Because UC ANR contracted with us to evaluate the program's policy impacts, we had access to program documents.

To select a sample of projects for in-depth analysis, we reviewed all 52 projects that had gained funding through the grant program's competitive process during the three initial funding cycles (2011 through 2013). We read each project's initial proposal, its yearly progress reports and, if available, its final report. We then selected as case studies 11 projects that had been more successful than the other funded projects in terms of policy engagement. We used the following criteria to guide our selections:

- Did the project influence the design of a policy?

- Did the project influence whether a policy was adopted or not?

- Did the project influence how a policy was implemented?

- Did the project reports indicate significant engagement with policy-oriented audiences?

While the term "policy" has multiple meanings, our focus was primarily on public policy as established through governmental decision-making processes — and secondarily on the policy or policies of industries or organizations whose impact on issues of public importance is significant.

Of the 11 projects we selected as case studies, seven had been completed and four were ongoing. For each project, we interviewed the principal investigator (PI), co-PI or key collaborator; and one or more of these individuals' key policy partners. We conducted 30 interviews between April and July 2015, with a minimum of two interviews for each case study. Most interviews were taped and transcribed; in a few cases, the interviewer instead took detailed notes. The interview protocol included questions about the background of each research project and its policy environment; the policy

impacts of the project; unique or particularly successful features of the project; challenges encountered in linking research to policy; and lessons learned. Transcribed interviews and related notes were uploaded into NVivo software for qualitative analysis and then content-coded so recurring themes could be identified.

To generate findings, we conducted three rounds of qualitative coding. First, we coded directly for responses to the questions asked; this allowed us to compare respondent answers. Second, we coded for themes that recurred across multiple interviews. (The thematic coding scheme we created was derived from notes taken during and immediately after each interview. We refined these codes as we read the full transcripts and performed multiple iterations of coding — in some cases collapsing categories and in others adding more specific subcodes for topics that occurred frequently or seemed particularly relevant to our research goals and questions.) Third, we performed a more interpretive round of coding that identified underlying approaches to research-to-policy work. This part of the analysis used a comparative method akin to what Weick et al. (2005, 409) term "sensemaking," a process that "occurs when a flow of organizational circumstances is turned into words and salient categories." In pursuing this approach, we compared each case to each other case, looking for categories that could be used to parsimoniously describe underlying similarities in approach.

We worked with a graduate student researcher on the first two rounds of coding. In these rounds, at least two people read each interview transcript more than once, after which all team members engaged in iterative

Participants in an urban agriculture project analyzed for this research get their hands dirty at WOW Farm in Richmond, Contra Costa County. The project's policy outcomes included governmental support for local urban agriculture ordinances.

Elise Gornish, left, then a UCCE specialist, inspects a restored section of Stemple Creek in Sonoma County. A separate creek restoration project analyzed for this research focused on carbon sequestration.

David Lewis

conversation at coding sessions until they reached final agreement on applicable codes. The third, more interpretive round of coding work was conducted by the authors specifically for the analysis that we now present. Various methods have been proposed for ensuring the quality of qualitative research findings (Reynolds et al. 2011); the primary method we have used is peer validation. UCCE personnel, including those we interviewed, have had the opportunity during multiple UCCE-sponsored presentations and training events to review and comment on our categorization scheme.

Results and analysis

The case study evidence suggests that Extension's research-to-policy work has particular public value when it combines technical *and* relational activities — when it provides a space for deliberative and reflective policy conversations over time.

The research-to-policy approaches utilized by the UCCE professionals in our sample fall into three broad categories — which can be described as community-government partnership building, stakeholder-oriented experimental research, and community empowerment. In the community-government partnership building model, researchers work directly with both government and other intermediary partners (such as nonprofits) to serve as conveners of a policy dialogue, while also providing their partners relevant research data. In the stakeholder-oriented experimental research model, researchers partner with a community entity to conduct experimental, proof-of-concept research, which provides data to inform implementation of an existing policy. In the community empowerment model, researchers partner with a community group to provide data that the group then uses on its own to engage with decision-makers.

All 11 of our cases fit (to varying degrees) within one or more of these three models. Table 1 summarizes the case data, noting each project's name; the research-to-policy approach used; project outputs (tangible products); delivery method; project outcomes (demonstrated impact on policy); and the stage of the policy process that the work impacted. The last category uses a standard set of stages first codified by Jones (1984) to distinguish among (1) how issues come to attention and get on the policy agenda (agenda setting); (2) how

policy goals and intentions are developed and specified (formulation); (3) how these goals and intentions become codified into laws, regulations or other formal policy statements (legitimation); (4) how enacted policies are then turned into working procedures and processes and are supported by public resources to create tangible impacts (implementation); and (5) how those impacts, both intended and unintended, are assessed by various stakeholders or objective observers (evaluation). As the table makes clear, the 11 projects collectively address all five stages of the policy process, and many individual projects address multiple stages. Below, we use case examples to characterize the three broad research-to-policy approaches found in our data.

Partnering with intermediaries

In four projects, researchers used intermediary groups such as nonprofits or government agencies to expand the influence of their research. In all four, researchers played dual roles as knowledge providers (focusing on content) and dialogue facilitators (focusing on process). For example, the Oak Woodlands project team addressed a Northern California group's concerns that policies governing timber harvesting privilege conifer protection over oak conservation, despite the key ecosystem function played by oak woodlands. Researchers responded by assessing, through primary data collection, levels of encroachment on oak woodlands — but they also took leadership to promote stakeholder dialogue on policy changes, such as amendments to current policies. They sponsored field trips to oak woodland sites for the Forest Practice Committee (part of the California Board of Forestry and Fire Protection); presented research briefings; and later organized a series of in-person meetings, workshops, monthly conference calls and public tours in which stakeholders considered legislative changes.

In a similar fashion, the Sierra Forest Restoration project team used its research to create dialogue between the U.S. Forest Service and civil society groups interested in environmental conservation. Working with partners from nonprofit organizations over time can seed policy relationships that Extension researchers might not be able to foster on their own. In the words of one researcher on the Sierra Forest Restoration team:

> I've always thought of [Sierra Forest Legacy, a large environmental nonprofit] as very, very engaged. They read our papers even more carefully sometimes than we do. They talk to us a lot. I'm happy to talk [because] they have [a focus on] real policy implications. They know Senator Feinstein well. I've always thought that policy development is working with these engaged publics . . . that connection with individuals on a particular forest, and in the region, too — that is huge. It's [rare that] a new research paper comes out and it's like, "Oh, this is going to change the way we

TABLE 1. Key features of 11 research-to-policy case examples

Project	Approach(es)	Project output	Delivery method	Policy outcome examples	Policy process stage(s)
Urban Agriculture	Community empowerment	Urban Agriculture web portal; Urban Agriculture policy brief; implementation guide for AB 551 (Urban Agriculture Incentive Zones Act)	Urban agriculture advocates deliver information from Urban Agriculture web portal to city- and county-level policymakers	Governmental support for local urban agriculture ordinances; adoption of AB 551	Agenda setting; legitimation; implementation
Putting Youth on the Map	Community empowerment	Putting Youth on the Map mapping tool	Organizers from East Oakland Building Healthy Communities use mapping tool for youth mobilization around Prop. 47	Project informs planning efforts around crime prevention allocation from Prop. 47 implementation (converts nonviolent offenses to misdemeanors)	Agenda setting; implementation
Comanagement of Food Safety and Ecosystem Services in Fresh Produce	Community empowerment	Information sheets on comanagement; online training modules; videos on comanagement for food safety and conservation	Farmers use information sheets in conversations with food safety auditors to explain and legitimate on-farm comanagement strategy	Comanagement language incorporated into the Food Safety Modernization Act	Formulation; legitimation; implementation
Shaping Healthy Choices	Stakeholder-oriented experimental research	Integrated school wellness program	Formal presentations of results (task forces, conferences); informal sharing of results through relationships within education policy networks	School wellness advisory councils; Dept. of Public Health rollout of Shaping Healthy Choices program in other school districts (pending)	Implementation; evaluation
Interpreting the Value of Working Landscapes	Community empowerment	Information sheets on benefits of rangeland grazing in parks	Partner with park staff on signage to educate public about value of cattle grazing in parks	Policy of grazing on public lands is maintained	Agenda setting; implementation
Disturbance and Vegetation Dynamics in Northern California Oak Woodlands	Community-government partnership	Dataset on disturbance and vegetation dynamics in Northern California oak woodlands	California Board of Forestry and Fire Protection uses dataset to campaign for rule amendment to address conifer encroachment	California Board of Forestry and Fire Protection made aware of need to change policy; data supports congressional change in U.S. Forest Service rules (pending)	Agenda setting; formulation
Creek Carbon Restoration	Stakeholder-oriented experimental research; community-government partnership	Dataset on carbon sequestration dynamics of creek restoration and conservation	Partnerships with local government actors to use data to inform local climate plans	Conservation work included in county climate plans; path to develop state-level protocol for greenhouse gas mitigation (AB 32)	Agenda setting; formulation; implementation
Informing Sierra Nevada Forest Restoration	Community-government partnership	Dataset on historical forest conditions	Partnerships with U.S. Forest Service; engagement with nongovernmental organizations	*Ongoing project* (likely to impact development and implementation of U.S. Forest Service restoration policy)	Formulation; implementation
Asian Citrus Psyllid	Community-government partnership	Geospatial map of disease prevalence; economic analysis of disease costs	Engagement with Citrus Research Board, California Department of Food and Agriculture and local task forces	*Ongoing project* (likely to impact state prioritization of funding for disease control)	Agenda setting
Soil Survey Decision Support Tools	Community empowerment	SoilWeb app (decision support tool providing info about soil qualities)	Engagement with USDA Natural Resources Conservation Service (and possibly with growers, state water boards and other state agencies)	*Ongoing project* (likely to impact state zoning and conservation program implementation)	Implementation
Groundwater Banking	Stakeholder-oriented experimental research	*Ongoing project* (to provide evidence of groundwater banking's effectiveness)	*Ongoing project* (TBD)	*Ongoing project* (likely to impact implementation of Sustainable Groundwater Management Act)	Implementation

do everything." It's really about having a good relationship with people and then using that to bring forward the new information.

To create reports that would be useful in policy discussions, researchers with the Sierra Forest Restoration project went beyond the common conclusion that "this merits further research" and deliberately drew out the policy implications of their research. As a policy partner in the U.S. Forest Service explained:

When they did the research, they could have just said "Here's the data, here's what it shows." But they took it one step further. They said "Here are the impacts, the implications"; they brought it back to what it means to us as public managers. Doing this draws a distinction between them and other researchers.

The project team focusing on citrus disease management also played a convener role, bringing together growers and government agencies to create evidence-based policies for containing the spread of the Asian citrus psyllid, a highly destructive pest. The researchers, to guide both industry and public policy responses, worked actively to present findings at Citrus Research Board meetings, the California Department of Food and Agriculture and relevant task forces.

The Creek Carbon Restoration project developed out of a local collaborative, the Marin Carbon Project, which examined the role of local agricultural lands in mitigating greenhouse gas emissions. The Creek Carbon Restoration project used a research study of on-farm carbon sequestration — which provided evidence that riparian restoration along streams in farmland could enhance carbon sequestration — to inform dialogue around state and local policy on climate change and to bring together agricultural groups, elected officials and government agencies. As the project's PI noted:

The fact that this [project] came from and continues to support a local partnership has been helpful. It is keeping us focused on [applying research] and not getting lost in research that is not as directly relevant on the ground. As a partnership, we could divide tasks and prioritize something in one year, like research, and then shift to some policy engagement the next year, moving resources to capitalize on each other's time and expertise.

A key take-away from all four projects using the community-government partnership approach is the complementarity of Extension's content and process roles. Deploying solid research in combination with convening and facilitating partnerships and policy dialogue is a common theme in these research-to-policy success stories.

Real-world experiments

Three projects set out to understand the empirical basis for proposed or recently adopted policies. In these proof-of-concept projects, researchers worked with field-based partners to set up real-world experiments. For example, researchers involved in the Groundwater Banking project worked with alfalfa farmers to develop field trials in which farmers could see for themselves the impact of experimental flooding. These trials provided evidence that groundwater banking shows good potential as an implementation mechanism for the Sustainable Groundwater Management Act.

In another example, researchers involved in the Creek Carbon Restoration project worked with farmers to evaluate the carbon

sequestration benefits of existing on-farm stream restoration practices — and to show how those practices could fit into efforts to mitigate greenhouse gas emissions, as mandated under AB 32, California's legislation to reduce such emissions. Data from this project has informed county climate action plans in Marin County.

The Shaping Healthy Choices project, building on a loosely worded school wellness policy mandated by the California Department of Education, developed a multicomponent program that improved schoolchildren's diets and reduced obesity as measured by body mass index. Researchers, partly by spending extensive time developing school wellness committees, developed a program that teachers and principals would "buy into" and that could be implemented effectively. Strategic relationship building ultimately led to widespread recognition of the program's success. The U.S. Department of Agriculture (USDA) and the California Department of Education subsequently expressed interest in replicating the program.

The time spent building relationships was a critical component of all three projects, as described by one researcher:

The first six months before the grant even started, we already started working with growers — trying to reach out and engage them and make them interested in the project. That phase of building trust with people is really essential, and it needs time. You can't force that process.

This approach is time intensive. But it is often effective at influencing policy because, with the help of community partners, it uses real-world settings to show how a proposed policy could be implemented to produce desired outcomes.

Community empowerment

In five of the 11 cases, researchers partnered with community groups to provide policy-relevant data, but then stepped back as the groups used this data in policy advocacy. Interviewees noted that this process required a certain degree of "letting go" and a willingness to approach partners with an open mind about what data they might find useful. For example, in the Putting Youth on the Map project, the goal was to equip end users — primarily youth-serving organizations — with existing data, presented in a digestible format, that could inform policy agendas. As a project team member explained:

What we were really interested in doing was providing tools to people who are well positioned to be developing and driving policy agendas. Our work was really around [creating] this framing and scaffolding to support those kinds of discussions and activities.

The Urban Agriculture project pursued concerns about information availability that had been raised in a community needs assessment:

[People] didn't know where to go find out about the policies, or what the details were, or how they could access it. . . . [The information is] not transparent, it's not easy to find, it's not easy to understand. . . . If there are rules and regulations. . ., how do you find out about [them]?

The researchers responded by providing a synthesis of rules, regulations and literature articulating the benefits of urban agriculture.

Using this information, urban agriculture stakeholders were able to make legible their on-the-ground practices and to better advocate at the state legislature for policies friendly to urban agriculture.

The Soil Survey Decision Support project developed the SoilWeb app tool, which brings together information that land managers can use to influence decision-making about land use. The tool has been used by the USDA National Resources Conservation Service and the U.S. Forest Service to influence agenda setting and policy implementation in environmental resource management arenas (e.g., determination of land values and taxes, placement of conservation assistance programs and selection of reforestation techniques). The app also supports implementation of the Williamson Act, a California law that provides tax breaks to landowners who keep farmland in production if the land's soils meet certain productivity class ratings.

The Comanagement of Food Safety and Ecosystem Services project addressed a key problem for farmers who implement environmental conservation techniques: that they are sometimes penalized later by third-party auditors for violating federal food safety codes. Relying on existing data, the team created materials that growers could show auditors, including a policy brief, short video presentations and individual conservation resource sheets. The information provided justification for farming practices such as planting cover crops and hedgerows or maintaining wetlands. In the words of the project's PI, the information helps auditors:

. . . recognize that what they are seeing in the field is an accepted, appropriate conservation practice in the agriculture environment — why it's there, what it's doing, what [the] food safety concerns are and what strategies can be used for risk reduction associated with that practice. . . . [T]here continues to be this need to go back [and] look at the research to actually balance food safety and sustainability in the field. The research is happening. The process of developing implementation strategies is not there. As a land-grant institution, we should be doing that.

Discussion

As the narrative accounts summarized in this article reveal, aspects of the policy engagement generated by Extension projects are often hidden or poorly understood. The narrative accounts reveal a disjuncture between the language that Extension leaders and academics often use to describe and emphasize their policy roles and the complex, multifaceted activities evident in successful examples of Extension policy engagement. Our data thus points toward a necessary reconsideration of the story that the Extension system tells itself and the public about its policy role and work. Our research points toward a different story — one that

embraces both technical and relational work and that communicates the ways in which, in concrete settings, we weave those types of work together.

In terms of the literature reviewed earlier, the narratives we have analyzed suggest that Extension is particularly well situated to play a critical public role in the research-to-policy process. But this will only be possible if Extension exhibits a clearer understanding and stronger embrace of recent scholarship in science and technology studies — scholarship that emphasizes the social and political embeddedness of research. Extension will be most relevant in policy circles if, instead of embracing a narrower understanding of itself as a provider of evidence-based solutions, it embraces both its technical and democratic strengths — if it informs the content of policy options while also participating, with respect and a certain humility, in the social and relational processes by which policy is shaped.

Our case evidence provides tentative support for three generalizations about how we conceptualize and support research-to-policy activities at land-grant universities. First, we need to reconsider what counts as policy relevance. A typical current pattern is to focus on research with the potential to shape decisions on issues already on the policy agenda because of pending legislation, pending regulation or other factors. In contrast, our case narratives show (table 1) how Extension engagement can occur at multiple stages of the policy process, from agenda setting to formulation to legitimation to implementation to evaluation (Jones 1984). As one PI noted:

At an elementary school in Sacramento County, a child harvests produce grown as part of the Shaping Healthy Choices project. The project was an example of stakeholder-oriented experimental research.

Kelley Brian

> Aspects of the policy engagement conducted by Cooperative Extension projects are often hidden or poorly understood.

Policy work doesn't only involve passing [formal] laws. Policy work also is . . . the community organizing and the base building and the capacity building and the political education that can then help people engage in [the] policy realm. So I think there are a lot of things that are policy-relevant that are outside of, or lead into, the formal policy world.

As our case examples show, Extension can help reveal issues; bring them to the attention of policymakers; frame alternative solutions; and aid in implementing and evaluating policies once they are enacted. Regarded from this viewpoint, a broad range of Extension activity can be considered policy relevant. This reality should inform how we talk about Extension's public value.

Second, our evidence suggests that policy impact and public value are seldom a matter of short-term engagement with policymakers, conducted from a detached vantage point. Rather, policy impact and public value proceed from Extension personnel making it a point to embed themselves in policy networks over time. Network relationships, nurtured in countless small and large conversations and encounters, are critical to the ability of Extension personnel to inform and shape policy. One practical implication of this insight is that, if the goal is policy relevance, awarding grants through a short-term competitive process may be less useful than providing adequate funding and support for the "boots-on-the-ground" capacity of the Extension system. A further implication is that policy-related work — including the patient relationship building that is critical to the long-term success of such work — must be accounted for and valued in Extension's merit and promotion processes. Publications often receive emphasis because they are easy to count and evaluate, but published research without relational underpinnings is less likely to achieve public impact.

Third, our evidence indicates that the settings and spaces in which policy work occurs are more varied than is often depicted.

For most researchers, the word "policy" conveys an image of formal governmental decision-making venues. But as the literature and our cases demonstrate, policy work takes shape not only in legislatures and agencies but also in complex governance systems characterized by multiple individual and institutional players, shifting coalitions, diverse values and ongoing power relations. Providing sound, technical information to inform particular decision-makers will always be important, but so is the ability of Extension to develop, convene and nurture high-functioning knowledge-action networks in which knowledge coproduction is the norm.

By combining its technical expertise with its ability to foster deliberative dialogue within diverse communities and networks, Extension can make, and is making, a major contribution to society. The three models of effective policy-oriented relationship building that we describe in this paper — community-government partnership building, stakeholder-oriented experimental research, and community empowerment — demonstrate ways in which this synthesis is already present in Extension practices. Future research might helpfully explore how the three approaches we have found are relevant in other contexts, or ways in which they might overlap in the context of a particular policy intervention or a particular Extension agent's career. Research might also explore and discover additional approaches that did not appear in our relatively small sample. In the meantime, Extension leaders should rethink the narrative that they use to explain and justify their institution's public value. 🄲🄰

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