



The role of social and policy learning in changing forest governance: An examination of community-based forestry initiatives in the U.S.

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ABSTRACT

The role of learning in changing forest governance by community-based forestry (CBF) initiatives in the USA is examined through two conceptual lenses – social learning and policy learning – and across operational, collective-choice, and constitutional-choice levels of forest governance. Data used for this examination were derived from two qualitative, case study-based inquiries: the Ford Foundation's Community-Based Forestry Demonstration Program and a status report on CBF developed for the U.S. Endowment for Forests and Communities. Additional information on CBF learning and governance change was gleaned from the research literature and the authors' ongoing observations and participation with CBF groups. We found that CBF groups and coalitions are engaged in a wide variety of learning strategies simultaneously, frequently blending social and policy learning in order to determine if proposed strategies worked or require changes, and if their core beliefs are being attained. Most learning tends to involve single-loop learning, where the effect and effectiveness of strategies are measured against expected outcomes; in a small number of cases, we found evidence of double-loop learning, where the assumptions about causal relationships were questioned and adapted. Triple-loop learning of CBF governing values and structures, as well as the values and structures governing U.S. forest policy as a whole, is largely absent. CBF learning primarily focuses on operational-level governance, where management plans and strategies are altered to incorporate the linked goals of sustaining healthy forests and healthy communities. A small number of CBF advocacy coalitions are engaged in policy learning and change at the collective- and constitutional-choice levels; policy changes are generally at the collective-choice level, changing rules and structures that affect operational-level governance. Given the high cost of changing collective- and constitutional-choice governance and the generally long time to achieve policy change, CBF groups and coalitions must find ways to sustain the resources and energy necessary to stay engaged to affect long-term forest governance change.

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1. Introduction

From the seminal work on policy-oriented learning by Sabatier and others (Bennett and Howlett, 1992; Sabatier, 1988; Sabatier and Jenkins-Smith, 1993) to the growing number of inquiries into the role of social learning in sustainable environmental and natural resource management (Bouwen and Taillieu, 2004; Keen et al., 2005a,b; Pahl-Wostl and Hare, 2004), learning is widely regarded as a critical element in creating more adaptive, sustainable natural resource governance (Berkes, 2009; Folke et al., 2005a,b). Resource governance is defined here as a system of formal and informal rules that steer how humans interact with natural resources at all levels of social organization (Biermann et al., 2009).

Forest governance changes globally has followed a trend involving decentralization and devolution from central state authority to local governments and communities (Charnley and Poe, 2007; Edmunds and Wollenberg, 2004; White and Martin, 2002). Although widespread decentralization and devolution has not occurred in the USA, the past 20 years has seen the emergence of community-based forestry (CBF) in many regions of the country. CBF refers to the management of forested landscapes by community residents for environmental, community, and societal benefits (Christoffersen et al., 2008); it seeks to vest, to some degree, authority and responsibility for forest management in the community (Charnley and Poe, 2007).

CBF initiatives have blossomed in the United States over the past 20 years in response to the inability of conventional forest governance systems to simultaneously maintain ecological integrity, sustain economic opportunities, and provide access and benefits to local communities (Baker and Kusel, 2003). In some instances, CBF attempts to provide forest-reliant community residents and landowners methods

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for retaining ownership over their forests by diversifying economic opportunities for timber and non-timber forest products, forming cooperative strategies to produce ecosystem services (i.e., recreation, wildlife habitat) while generating financial returns to residents, or retaining and expanding land ownership options in the face of residential and commercial land development through land conservancies (i.e., land trusts, conservation easements) or community-owned forests (Communities Committee of the Seventh American Forest Congress, 2008; Wyckoff-Baird, 2005). In other cases, CBF has been in response to the loss of access of forest-reliant communities to their local forest ecosystems, especially in the Western U.S., which is dominated by publicly owned and managed forest lands (i.e., National Forests managed by the U.S. Forest Service (USFS)). CBF initiatives arose in response to the seemingly intractable political and legal battles over logging on public forest lands (Baker and Kusel, 2003). Many public forest-reliant communities seek workable alternatives to maintain residents' livelihoods while restoring forest ecosystem goods and services (Charnley and Poe, 2007; Gray et al., 2001).

In this paper, we examine the role of learning employed by, and across, CBF initiatives to change forest governance to simultaneously benefit forest ecosystem health and community members' livelihoods. We draw on two conceptualizations of learning – social learning and policy learning – and analyze CBF learning activities across three governance levels: operational, collective-choice, and constitutional-choice (Kiser and Ostrom, 1982; Ostrom, 1990). We also examine the extent to which CBF activities are characterized by single-loop, double-loop, and triple-loop learning (Maarleveld and Dabgbegnon, 1999; Pahl-Wostl, 2009) as a way to assess learning effects across the three governance levels. By linking learning by, and across, CBF initiatives to these governance levels, we are able to identify opportunities and limitations of learning on changing forest governance. The paper concludes with reflections on the role of social and policy learning in affecting change in forest governance, with linkages to the broader scholarship on social and policy learning in natural resource governance.

2. Conceptual foundations of learning in changing forest governance

A broad field of inquiry has emerged around the role of learning in governance, especially in environmental and natural resources, where the dual trends of sustaining the triple-bottom line – environmental, economic, and social benefit – and public participation has increased the complexities and uncertainties associated with natural resource management (Tabara and Pahl-Wostl, 2007). Two conceptual lenses of learning apply to CBF initiatives. The first is social learning—a very diverse, deep field that cuts across many fields of inquiry and phenomena. We will restrict our treatment of social learning to settings involving multiple stakeholders working collectively to manage natural resources for social, economic and ecological goals, most currently termed “adaptive co-management” (Armitage et al., 2008; Berkes, 2009; Folke et al., 2005a,b), as CBF fits well under this rubric. Learning was central in early conceptions of the adaptive management cycle: problem definition, hypothesis generation, experimentation, monitoring, evaluation, and adaptation (Holling, 1978; Walters, 1986). As the study of learning in natural resource management and governance has matured, several types of social learning have been classified (Armitage et al., 2008):

- *Transformative reflection* that enables individual perceptions and understandings to change as a result of social interaction. Transformation can result from (a) instrumental problem solving—framing and reframing a problem and identifying alternative methods to addressing the problem and (b) communicative interpretation of meanings, intentions, and values with others.
- *Mutual sharing of knowledge, information, experiences, and environments* by participants through interaction and participation. Many

observers cite Wenger's (1998) community of practice and learning-as-participation concepts as seminal to understanding mutual co-production of knowledge (Berkes, 2009; Bouwen and Taillieu, 2004; Keen et al., 2005a,b; Pahl-Wostl and Hare, 2004).

- *Experiential learning or learning-by-doing*, which entails the cycle of experience, reflective observation, abstract conceptualization of the situation, and active experimentation.

Social learning can be further categorized into two facets. The first encompasses the inclusion, integration, and application of diverse knowledge and ways of knowing into a more comprehensive, systemic understanding of the situation. Keen et al. (2005a,b) define four attributes of this facet of learning: systems thinking/systems orientation, integration and synthesis, negotiation and collaboration, and participation and engagement. These attributes are elaborated upon by many scholars across settings: systems thinking and collaborative negotiation (Daniels and Walker, 1996, 2001; Dyball et al., 2005), integration and synthesis of knowledge and ways of knowing (Berkes, 2009; Fazey et al., 2006; Schusler et al., 2003), negotiation and collaboration (Daniels and Walker, 2001; Keen et al., 2005a,b), and participation and engagement (Cheng and Fiero, 2005; Cheng and Mattor, 2006; Maarleveld and Dabgbegnon, 1999; Rist et al., 2007). This facet generally occurs during the first, front-end phases of collaborative management efforts as a way to include multiple stakeholders, manage conflicting views and values, build trust, develop common problem definitions and group goals, and identify alternative, innovative approaches to improving the situation (Bouwen and Taillieu, 2004; Daniels and Walker, 2001; Keen and Mahanty, 2006).

The second facet of social learning involves the intentional monitoring, evaluation, and reflection of the results of alternative approaches to adapt actions or, potentially, to alter underlying assumptions or governing values and structures. In theory, alternative interventions are treated as hypotheses to be tested, monitored, and evaluated. Information about the effect and effectiveness of interventions spur evaluation, reflection, and possible changes. A growing number of scholars distinguish learning into single-, double-, and triple-loop learning following Argyris (1976) as ways to articulate the scope of social learning. As described by Pahl-Wostl (2009), single-loop learning examines the relative effect of an intervention, such as a silvicultural technique. The single-loop learning question is: did the technique work? Double-loop learning goes further by challenging underlying assumptions and beliefs about the system as a whole and the causal relationships between interventions and system responses. The double-loop learning question is: are our assumptions about how the system works valid? Triple-loop learning challenges the structural context and factors that determine underlying assumptions and beliefs. The triple-loop learning question is: are structural contexts and factors limiting our ability to attain desired changes? Alternatively, what changes in governing values and institutions are needed to attain our goals (Blackmore et al., 2007)?

The policy learning concept constitutes the second learning lens in this examination (Bennett and Howlett, 1992; Sabatier, 1988; Sabatier and Jenkins-Smith, 1993). This lens is particularly useful because it focuses specifically on efforts of advocacy coalitions operating within a “policy subsystem” to advance policy goals and attain desired policy change. Policy learning refers to “relatively enduring alterations of thought or behavioral intentions which result from experience and which are concerned with the attainment (or revision) of policy objectives” (Sabatier, 1988, p. 133). Policy learning occurs through a set of feedback loops through which members of an advocacy coalition: gauge policy outputs according to their own core beliefs, resources, and strategies; revise their understanding of the external dynamics affecting the policy problem; and increase their knowledge of the components of, and factors affecting, the policy problem. According to Sabatier (1988), “The integration of this knowledge with

the basic values and causal assumptions comprising core beliefs of the advocacy coalition is the focus of policy learning” (p. 133). In addition to Sabatier’s advocacy coalition framework, [Bennett and Howlett \(1992\)](#) explore different mechanisms and processes for policy learning, concluding four distinct processes: a deliberate attempt to adjust goals or techniques in light of consequences of past experience; an unconscious, accidental process of reacting to changes in the external environment—as the environment changes, impetus for change occurs; government learning whereby governments increase their intelligence (i.e., data gathering) to enhance effectiveness of their efforts; and lesson drawing by which policy makers and actors emulate experiences of other actors or from other sectors or countries.

In this view, CBF initiatives entail a type of advocacy coalition comprised of diverse actors unified a core set of beliefs working to alter a long-standing policy subsystem and set of corresponding policies. While several studies have been conducted on national-level forest policy subsystems ([Burnett and Davis, 2002](#); [Davis and Davis, 1988](#); [Elliott and Schaeffer, 2002](#)), this examination focuses on subnational and local forest governance change through CBF initiatives.

These two lenses on learning in CBF are situated within three levels of governance: operational, collective-choice, and constitutional-choice ([Kiser and Ostrom, 1982](#); [Ostrom, 1990](#)). *Operational* governance involves decisions about how to appropriate and manage resources, provide information, monitor actions, and enforce rules. *Collective-choice* governance pertains to rules that shape how participants make decisions about operational-level governance. *Constitutional-choice* governance refers to the assignment of rights and duties of decision participants, and designation of rules affecting the interaction among those participants. Hence, constitutional-choice decisions affect and constrain collective-choice; in turn, collective-choice rules affect and constrain operational governance. Social and policy learning in the context of CBF are directed at all three levels of governance.

3. Study context and methods

The examination draws upon two primary sources of research: the Ford Foundation’s Community-Based Forestry Demonstration Program (CBFDP) research component ([Cheng and Fernandez-Gimenez, 2006](#)) and a national assessment of CBF initiatives conducted for the U.S. Endowment for Forestry and Communities ([Christoffersen et al., 2008](#)). The Ford CBFDP was a 5-year project wherein the Ford Foundation provided financial and technical assistance to thirteen CBF initiatives in the U.S. The program included a participatory research component that investigated questions of mutual interest to the CBF initiatives and research team, including organizational and institutional structures and strategies. Data were collected via semi-structured interviews, focus groups, participant-observation, and content analysis of documents, and analyzed using inductive coding and thematic analysis ([Strauss and Corbin, 1990](#)). The U.S. Endowment for Forestry and Communities project included a snowball-sample survey of over 200 CBF-related initiatives in the U.S. and a set of case studies and case profiles of nineteen initiatives. Our analyses were supplemented by a synthesis of literature on CBF in the U.S. ([Charnley and Poe, 2007](#); [Gibson and Koontz, 1998](#); [Gray et al., 2001](#); [Kusel and Adler, 2003](#); [Thompson et al., 2005](#); [Wilson, 2006](#)) and observations gleaned from ongoing involvement with, and investigations of, CBF initiatives.

Due to the qualitative nature of the methods and data, this examination used an iterative, inductive approach to identify and characterize learning patterns and approaches across the three governance levels. The unit of analysis is any set of activities taken by a CBF group or organization that results in changes in individual or group strategies and practices towards attainment of desired ecological, economic and/or social goals. It is beyond the scope of the methods and data to make statistically reliable causal relationships. Provisional

findings on the role of CBF as advocacy coalitions engaged in policy learning were ground-truthed by CBF participants in the Ford CBFDP. Based on their input and feedback, we have high degree of confidence in the accuracy of our final findings. Several Ford CBFDP participants belong to a regional advocacy coalition that has engaged in active lobbying activities. Congressional testimonies, records of lobbying visits, and subsequent laws and policy changes were examined to draw relationships between social learning, policy learning, and governance change.

4. Operational-level learning in community-based forestry

Since CBF arises in response to a pressing need to connect or strengthen community linkages with their surrounding forests, there is a large amount of variability across contexts. As such, there is not a model or template; all CBF initiatives undergo a process of learning-by-doing. Three topic areas characterize social learning at the operational level of governance. The first is generating social learning-by-doing through demonstration or pilot projects which, by their very nature, attempt to *try something new* to provide community residents different options for stewarding forest resources while deriving some kind of livelihood. For example, the Federation of Southern Cooperative’s CBF program in Epes, Alabama initiated silvo-pastoral projects with local landowners to generate income through goat meat production. Similarly, Rural Action in southeastern Ohio helped catalyze community residents’ and landowners’ efforts to sustainably grow and harvest wild ginseng on small private forest land tracts. These examples illustrate the creative ways in which CBF initiatives experiment with activities to sustain forest ecosystems while supporting community members’ livelihoods. The willingness to take risks to try new things and learn-by-doing to improve livelihoods is a hallmark of CBF and link strongly to conceptualizations of social entrepreneurship ([Mort et al., 2003](#); [Weerawardena and Mort, 2006](#)). It appears that opportunities exist to further examine the link between social learning and social entrepreneurship to affect behavioral and governance change in the forest sector through CBF, drawing from emerging studies of social entrepreneurship and social change ([Bornstein, 2007](#)).

Second, in the process of collectively defining forest management and community livelihood goals and objectives, CBF participants devote substantial energy to learn about the *connections between ecological, economic, and community dimensions*, which is consistent with the systems thinking/systems orientation concept in the literature ([Daniels and Walker, 2001](#); [Dyball et al., 2005](#); [Maarleveld and Dabgbegnon, 1999](#); [Wilson and Morren, 1990](#)) and the concept of sense making ([Folke et al., 2005a,b](#)). One powerful strategy is to conduct collaborative assessments of the community and the forest ecosystem. Generally coordinated and facilitated by a local or regional intermediary organization, such as a community non-profit organization or educational institution, collaborative assessments seek to characterize current ecological and socio-economic conditions and trends, desired conditions, and priority strategies to achieve desired conditions. Wallowa Resources in northeast Oregon coordinated one of the first comprehensive watershed assessments in the region, generating priority projects that restored watershed health while employing local community residents. The Public Lands Partnership in Western Colorado played a similar role for the landscape assessment of the Uncompahgre Plateau. Not only do priority projects emerge from such assessments, they provide a common information basis from which diverse actors create a shared understanding of the inter-related social-ecological system.

The third topic relates to *how to achieve and sustain outcomes over time* through a continuous process of monitoring, evaluation, and improvement, in the vein of adaptive management ([Holling, 1978](#); [Walters, 1986](#)) and organizational learning ([Argyris, 1976](#); [Argyris and Schon, 1978](#)). In many cases, CBF initiatives undertake a multi-

party, or participatory, monitoring strategy in which participants collectively identify and measure a variety of ecological, economic, and social indicators to gauge progress (Fernandez-Gimenez et al., 2008). For instance, the Jobs and Biodiversity Coalition worked with university and professional scientists to monitor the ecological outcomes of jointly developed projects on national forest lands near Silver City, New Mexico. Indicators included habitat conditions for the imperiled Mexican spotted owl and soil compaction from timber harvesting.

Monitoring not only provides information to determine if desired results are achieved, per single-loop learning, it serves as a foundation for trust-building among participants (Fernandez-Gimenez et al., 2008). CBF activities are subject to criticism and opposition, even those practices designed to restore forest conditions degraded from historic logging. Multi-party monitoring allows participants to collectively question and evaluate assumptions underlying cause-and-effect relationships between forestry activities and improved ecological outcomes. Socio-economic monitoring also allows participants to explore and test assumptions underlying the relationships between forestry activities and the social-economic conditions of forest-reliant community. As an example, as part of a multi-party monitoring effort to examine the effects of post-fire salvage logging on the Uncompahgre Plateau, the Public Lands Partnership – with assistance from a university researcher – conducted an analysis of economic impacts from the project and found a substantial economic boost to the rural, forest-reliant communities adjacent to the Plateau. Such forthcoming efforts in single- and double-loop learning have allowed many CBF efforts to gain credibility and legitimacy.

On the other hand, we found that due in part to the costs and complexity of multi-party monitoring, and partially due to the lack of incentives for doing so, many CBF efforts did not invest in systematic monitoring, relying more on more informal observations to determine if CBF interventions produced the desired effects. More research is needed to more thoroughly uncover the barriers to monitoring in CBF. Furthermore, lacking were monitoring and enforcement efforts amongst participants, a key point for successful governance of common pool resources per Ostrom and others (Ostrom, 1990; Ostrom et al., 1994). This has been an issue particularly for CBF efforts associated with public forest lands in the western U.S. Proposals that have been jointly developed and agreed-upon by a diverse set of stakeholders through collaborative processes convened by CBF groups often do not receive implementation attention from the government agencies charged with managing national forest lands, namely, the USFS. This has been the case even if USFS personnel participate in collaborative planning efforts. There are a variety of reasons for this, such as the lack of program funds for such proposals, the lack of fit between the proposal and existing programs and projects, and, on occasion, resistance from the USFS decision-maker authorized to implement the proposal. The CBF effort has very little sanctioning and enforcement authority over the USFS; these functions are mostly reserved for the U.S. Congress.

As a result, the operational outcomes CBF initiatives have achieved have been modest; their impacts tend to be mostly highly localized. The changes in operational-level governance is primarily a product of social learning, not policy learning, although there is a growing awareness and support for the approach in regional and national policy arenas activities (Cheng and Fernandez-Gimenez, 2006; Wyckoff-Baird, 2005), as discussed below. The testament of the ability of CBF initiatives to learn and adapt is found in the fact that many initiatives still persist as enduring “communities of practice” per Wenger (1998) and others (Berkes, 2009; Bouwen and Taillieu, 2004; Keen et al., 2005a,b; Pahl-Wostl and Hare, 2004). In many parts of the U.S., CBF is now a way of doing business, especially in the operational-level governance of public forests.

5. Collective-choice learning in community-based forestry

Changing operational-level approaches to benefit forest ecosystems and community livelihoods invariably require changes in collective-

choice governance. One of the primary collective-choice learning tasks for CBF efforts is *how to function as a collective endeavor*. CBF often involves individuals and organizations across public and private sectors that are not used to interacting. CBF initiatives create and sustain the space for collaborative dialogue and action, which constitutes a vital component of social learning (Daniels and Walker, 2001; Keen et al., 2005a,b; Rist et al., 2007; Steyaert and Jiggins, 2007). In such venues, participants learn from one another about: who should be involved by drawing on one another's social networks; what process works for those involved and those intended to benefit by tapping into the collective experiences of participants; and what organizational form the CBF initiative should assume, from a loose federation of participants to a more formalized partnerships through Memoranda of Understanding or Agreements to incorporating a stand-alone not-for-profit organization. These social learning elements form the enabling conditions articulated by Pahl-Wostl and Hare (2004) which serve to cultivate awareness among participants about one another's goals, understanding about participants' interdependence, and learning to work together through formal and informal relationships. By doing so, CBF attempts to reconstitute forest governance at the collective-choice level—defining forest management and community livelihood goals and objectives, designing and implementing management strategies to simultaneously benefit forest ecosystems and community residents, and monitoring, evaluating, and adapting management strategies.

A key finding is that collective-choice social and policy learning tends to be instigated by regional-level support organizations or regional networks of CBF groups functioning as both social and policy learning intermediaries. This relates to the theoretical construct of bridging organizations needed to facilitate learning and change across different levels of organization and governance (Berkes, 2009; Tabara and Pahl-Wostl, 2007). Several examples illustrate the diversity and functioning of these collective-choice learning strategies. Sustainable Northwest, a not-for-profit organization located in Portland, Oregon, serves as a regional catalyst and bridging organization for many community-based natural resource initiatives in the Northwest U.S. and serves to network and coordinate several dozen initiatives whose efforts are linked to public forests, much in the same way policy learning in regional networks has been theorized (Benz and Furst, 2002). Sustainable Northwest's Healthy Forests/Health Communities (HFHC) program seeks to provide access for forest products produced by CBF initiatives to niche urban markets through technical assistance, marketing, and labeling. The HFHC program works with producers to continually monitor, evaluate, and adapt strategies to develop and grow market access, product sales, and financial returns to CBF initiatives. In this way, HFHC performs as a social learning intermediary among network members.

Sustainable Northwest also hosts an advocacy coalition called the Rural Voices for Conservation Coalition (RVCC) and convenes an Annual Policy Meeting of the RVCC to work on policy initiatives that are agreed-upon by participating members. The RVCC utilizes a system of working groups that develop working papers and policy briefs that articulate common needs across CBF and other community-based resource management initiatives. Additionally, RVCC organizes advocacy campaigns to state legislatures and Washington, DC, to influence policy and rule changes to affect operational-level activities. Continual dialogue among working group participants and subsequent Annual Policy Meetings provide mechanisms for policy learning and adaptation. RVCC is clearly a coalition engaged in policy learning within the national forest policy subsystem as defined by Sabatier's (1988) Advocacy Coalition Framework.

In the Southwestern U.S., the Collaborative Forest Restoration Program in New Mexico is a federal program administered by the USFS which, in collaboration with a multi-stakeholder managing committee, allocates grants to CBF initiatives to restore healthy forest conditions and spur local forest-based economic activity. Since its inception, CFRP has created a social learning environment within

which set of collective-choice rules affecting operational-level activities are developed and continually adapted. The CFRP conducts an annual grantees meeting to share approaches and outcomes, and requires multi-party monitoring of projects. Through these meetings, the stakeholder committee is able to adjust granting guidelines, provide necessary assistance to grantees and prospective grantees, and more selectively target areas of need.

In the eastern U.S., there are several regional organizations acting as social learning bridges. Of note are the New England Forest Foundation, which serves sustainable forestry initiatives in the Northeast, Rural Action, which serves Appalachian communities, and the Federation of Southern Cooperatives, which serves African-American landowners in the Gulf States and Southeast. These organizations have many program areas, of which CBF is one. In each case, efforts have been made to form cooperatives for forest-reliant landowners and community residents to share experiences and work together to create and take advantage of opportunities that allow them to retain land tenure or access forest resources. These opportunities include creating or accessing niche markets for non-timber forest products, such as ginseng, goat meat, and indigo. They also convene trainings, workshops, and demonstrations to assist landowners and communities with sustainable forest management and realizing diverse economic opportunities for forests, especially those with limited access to resources and assistance from traditional government programs.

In recent years, efforts have been made to create mechanisms for communities to have an ownership stake in forest lands in order to conserve forests from land development (i.e., housing subdivisions). Community-owned forests can be viewed as both a collective-choice and a constitutional-choice governance approach in that they specify a set of rules for operational-level forest management and designate a set of rights and duties for participants that might not otherwise be engaged in forest land ownership and management. Land trusts and local and regional non-profit forest conservation organizations have been experimenting on their own and through a loose learning network convened by the Communities Committee of the Seventh American Forest Congress as the bridging organization to expand community-owned forests. One tangible result of these combined social and policy learning efforts is the enactment by the U.S. Congress of a new “Community Forest and Open Space Conservation Program” in the 2008 Farm Bill. The program provides grant funding to communities to acquire private forest parcels for local community ownership and management.

6. Constitutional-choice learning in community-based forestry

At local, state, and national levels, CBF groups have initiated several social and policy learning mechanisms to influence constitutional-choice governance changes. The desired changes include greater access to forest products-based markets for forest-reliant community members and businesses, increased community participation in public forest management decisions and subsequent access to public forest resources to benefit forest ecosystem health and community livelihoods, and community ownership and conservation of forest lands.

A critical component of the Ford CBFDP was the development of a social and policy learning network among CBF initiatives from across the U.S. reflecting different environmental, socio-economic, and political contexts. CBFDP participants convened every year – sometimes twice a year – to share experiences and lessons learned, and learn about strategies and methods from broader community development or natural resource management contexts. At the final CBFDP workshop in September 2005 in Washington, DC, high-level government officials and administrators were invited to listen, learn, and dialogue about the lessons stemming from the program. The CBFDP is not an advocacy coalition in the purest sense, but the program's resulting activities did result in participating CBF groups'

understanding of the larger socio-political environment affecting CBF policy efforts which, in turn, enabled CBF groups to function more effectively as an advocacy coalition. Both social and policy learning were intentionally integrated into the Ford CBFDP.

A more enduring social and policy learning network has been established by the Communities Committee of the Seventh American Forest Congress. The Forest Congress is an intermittent gathering of forestry leaders and stakeholders to deliberate U.S. forest policy issues. The Forest Congress first met in 1882; the seventh and most recent gathering occurred in February 1996, from which was born the Communities Committee. The Communities Committee began as, and remains, an open membership group of individuals brought together by a common belief system in enabling and sustaining community participation in, and benefits from, forest stewardship. In its first 5 years, the Communities Committee joined forces with American Forests and the Pinchot Institute for Conservation, two non-governmental forest interest organizations based in Washington, DC, to affect federal policy changes. Drawing on the collective experience of CBF practitioners and forest policy practitioners in Washington, DC, the Communities Committee produced and disseminated quick guides to CBF practitioners regarding the federal budget and appropriations process, media strategies for CBF practitioners, wildfire management, county payments systems, and federal resources for urban forestry. As such, the Communities Committee enhanced policy learning about the state variables affecting forest-community linkages, causal relationships between healthy forests and healthy communities, and responding to challenges of CBF core belief systems per [Sabatier \(1988\)](#).

Additionally, the committee organized field tours for members of the U.S. Congress and their staff. It also sponsored and published a survey of perceptions and participation of CBF that provided a basis of learning on the part of policy makers about the CBF “movement” and for adapting strategies for being effective. As previously mentioned, one of the Communities Committee's current main thrusts is community-owned forests—for the U.S., a novel forest governance approach. In June 2005, the committee convened a learning conference to educate CBF practitioners about community-owned forest opportunities and continues to produce materials to advance understanding and learning around community-owned forests. The Communities Committee has emerged as a player trying to change constitutional-choice level forest governance.

The National Network of Forest Practitioners is a second national-level effort to provide CBF practitioners, advocates, and observers opportunities to advance core beliefs, learn from one another, and take collective actions to realize network members' core beliefs. Over the course of its 17-year history, it has emphasized social learning over policy learning. NNFP uses social learning strategies and techniques to build the capacity of its members to affect desired change in their own local social-ecological systems. In essence, the network tries to prepare and empower its members to assert themselves as active players in re-constituting operational and collective-choice levels of forest governance. NNFP emphasizes peer-learning trainings and technical assistance through webinars, regional gatherings and an annual meeting of network members. Topics range from highly practical techniques for accessing markets for non-timber forest products to highly philosophical discussions about the definition and role of gender and racial equity in CBF.

Regarding the issue of forest workers' rights and working conditions, a loose coalition of groups in the Pacific Northwest spearheaded by the Alliance for Forest Workers and Harvesters have raised awareness and visibility for the issue. In collaboration with the Ecosystem Workforce Program at the University of Oregon and the RVCC, forest workers have gathered data and testified before Congress regarding poor working conditions and abuse of forest workers by contractors. This effort in particular has an impact on constitutional-choice governance because it seeks to establish rights and duties for a

population critical to sustainable forest stewardship, but is politically marginalized.

The outcomes achieved by constitutional-choice learning efforts have contributed directly to, or influenced in part, the passage of several federal laws and policies benefiting CBF efforts, including

- Collaborative Forest Restoration Program of 2000
- Secure Rural Schools and Community Self-Determination Act of 2000
- Stewardship Contracting permanent authorities
- National Fire Plan Title IV authorities
- Implementation Plan for National Fire Plan 10-Year Comprehensive Strategy
- Healthy Forest Restoration Act of 2003 provisions
- Conservation Title programs in 2002 and 2007 Farm Bills
- Forest Landscape Restoration Act of 2009

All of these policies explicitly articulate a central role for forest-reliant community stakeholders in decision making, implementation, and monitoring of forest stewardship activities.

Although we found ample evidence of social and policy learning regarding desired changes in constitutional-level forest governance, progress towards more significant reforms in constitutional-choice governance remains slow due to the lack of national-level visibility, awareness, and priorities of CBF goals (Cheng and Fernandez-Gimenez, 2006). More transformative changes are evident at the attitudinal level, as demonstrated in the Communities Committee's survey results (Burns et al., 2006). Changes in constitutional-level forest governance to be more congruent with CBF goals are likely to be incremental and transpire over a decade or more, consistent with the characterization of policy change in the Advocacy Coalition Framework (Sabatier, 1988).

7. Discussion

The empirical cases used in this examination were either intentionally selected due to their participation in the Ford CBFDP or based on non-random, snowball sampling approach for the survey and case studies for the U.S. Endowment for Forestry and Communities project. As such, they do not constitute a reliable representative sample of the universe of CBF initiatives in the U.S. and the ability to infer across all CBF governance change efforts is extremely limited. Nonetheless, the cases reflect a broad diversity of CBF experiences and important observations can still be made about the role of learning in affecting change in forest governance, policy, and management in the U.S.

Tiering off categories of learning found in the literature, we found that CBF groups simultaneously engage in social and policy learning (Armitage et al., 2008; Keen et al., 2005a,b; Maarleveld and Dabgbegnon, 1999; Sabatier, 1988). Social learning occurs across all three governance levels. At the operational level, social learning entails trying new things and learning-by-doing to advance social-ecological goals at the community level, which mirrors the core characteristics of social entrepreneurship. CBF groups also employ social learning activities to foster systems thinking and collective sense making through the integration of different types of knowledge of the natural and socio-economic system (Daniels and Walker, 2001; Dyball et al., 2005; Folke et al., 2005a,b; Keen et al., 2005a,b; Maarleveld and Dabgbegnon, 1999; Wilson and Morren, 1990). Social learning in the context of adaptive management and governance was found in a smaller number of cases (Fernandez-Gimenez et al., 2008), highlighting the challenges of developing and sustaining monitoring, evaluation, and learning loops that question methods, assumptions, and underlying governing values and structures.

At the collective-choice level, social learning activities were used by individual CBF groups as well as regional and national CBF networks or umbrella organizations to build the knowledge and capacity of individuals and groups involved in CBF efforts to

participate effectively in decision-making processes and in market opportunities. Activities include collaborative dialogue among participants about how to function as a collective endeavor, fostering networks of forest landowners and producers to access niche markets, and catalyzing community residents and small forest landowners to form cooperatives to learn from another and leverage one another's resources and expertise. Similarly, at the constitutional-choice level, social learning emphasizes building the skills and capacity of forest-reliant community members and CBF groups to be effective, active participants in forest policy and governance. Learning activities emphasize increasing understanding about forest-community linkages and how community members and CBF activists can assert themselves as constitutive players in forest governance.

Policy learning by CBF groups, networks, and coalitions closely resembles the Advocacy Coalition Framework (Sabatier, 1988; Sabatier and Jenkins-Smith, 1993) and occurs primarily in the collective- and constitutional-choice levels of forest governance. CBF coalitions and networks such as the RVCC, Communities Committee, and NNFP are comprised of members who share core beliefs and enact strategies to alter policies to benefit forest-reliant communities while achieving broad forest ecosystem sustainability goals. They acquire and disseminate to coalition members knowledge about the external environment, the effectiveness of change strategies, and adapt approaches to best attain their core beliefs. Changes at the collective-choice forest governance level spurred by CBF coalitions were most evident, consistent with Sabatier's (1988) theorizing that advocacy coalitions seek "major institutional revisions at the collective-choice level [or] minor revisions at the operational level" (p. 133). In select cases, such as the Healthy Forests/Healthy Community program of Sustainable Northwest, CBF groups do go outside the policy subsystem to seek changes, but in developing niche markets for forest products from CBF activities rather than affecting the "dominant electoral coalition at the systemic level" (Ibid.).

Coalitions and networks such as RVCC, Communities Committee, and NNFP, as well as regional organizations dedicated to CBF core beliefs constitute necessary bridging organizations for effective policy learning (Berkes, 2009; Tabara and Pahl-Wostl, 2007). However, CBF so far lacks the "polycentricity" of diverse, redundant organizations, coalitions, and networks that scholars observe in systems with highly flexible, adaptive governance (Berkes, 2009; Folke et al., 2005a,b; McGinnis, 2000; Ostrom, 1998). There are too few CBF groups and networks with limited capacity to affect flexible governance to achieve their core beliefs.

Ostrom and colleagues (Kiser and Ostrom, 1982; Ostrom et al., 1994) note that there are higher barriers to changing collective-choice and constitutional-choice governance than at the operational level. Our analysis suggests mixed results in this regard. While there is ample evidence of changes in operational-level governance towards more inclusive, collaborative approaches involving forest-reliant community residents and groups, desired outcomes are not being attained, especially on national forest lands managed by the USFS and in accessing forest product markets. Interestingly, CBF policy advocacy efforts have resulted in substantive changes in national forest policy that provide a seat at decision-making tables to CBF practitioners and activists, especially in regards to national forests managed by the USFS, accessing niche markets for forest products, and the acquisition of community-owned forests. It is arguable, however, that these policy changes have in fact resulted in changes in governance; although policies emphasize CBF principles, existing governance approaches – the actual mechanisms in which forest management decisions are made – are still heavily influenced by historic power relations that have characterized the U.S. forest policy subsystem for at least three decades.

The U.S. forest policy subsystem has long been dominated by long-standing laws and policies, court rulings, powerful government agencies, and interest group coalitions with vested interest in

retaining the existing system of laws, budget allocations, and bureaucratic structure (Moe, 1989). Changing forest land ownership and the global forest products market – external factors in Sabatier's (1988) framework – further complicates CBF efforts to attain their core beliefs. It is an empirical question whether CBF groups and coalitions muster sufficient resources to continue to engage in effective policy learning and adaptation, and compete effectively with powerful, entrenched interest group coalitions. Currently, CBF groups and coalitions are still learning about the changing external environment, especially with regard to the increased interest in using forest biomass for renewable energy and using carbon markets to generate financial benefits and investments in CBF. CBF groups and coalitions are still trying to frame their role and effectively position themselves to participate in these rapidly evolving policy subsystems.

8. Conclusion

By examining the role of social and policy learning in CBF to affect change across operational, collective-choices, and constitutional-choice governance levels, we hope to shed light on the prospects of community, collaborative approaches to forest governance for achieving their goals. Merging social and policy learning frameworks can be useful to understand the different types of learning, and interaction between social and policy learning, in changing resource governance. While normative theories of learning in creating more resilient, adaptive governance systems for sustaining forests and other natural resources form a solid analytical foundation, it is necessary to continually put these theories to the test and observe if and how learning empirically results in changing governance. The learning perspective holds value in informing scholarship and practice, as well as the interplay between research and practice.

References

- Argyris, C., 1976. Single-loop and double-loop models in research on decision-making. *Administrative Science Quarterly* 21 (3), 363–375.
- Argyris, C., Schon, D.A., 1978. *Organizational learning: A theory of action perspective*. Addison Wesley, Reading, MA.
- Armitage, D., Marschke, M., Plummer, R., 2008. Adaptive co-management and the paradox of learning. *Global Environmental Change–Human and Policy Dimensions* 18 (1), 86–98.
- Baker, M., Kusel, J., 2003. *Community forestry in the United States: Learning from the past, crafting the future*. Island Press, Washington, DC.
- Bennett, C.J., Howlett, M., 1992. The lessons of learning: Reconciling theories of policy learning and policy change. *Policy Sciences* 25 (3), 275–294.
- Benz, A., Furst, D., 2002. Policy learning in regional networks. *European Urban and Regional Studies* 9 (1), 21–35.
- Berkes, F., 2009. Evolution of co-management: Role of knowledge generation, bridging organizations and social learning. *Journal of Environmental Management* 90 (5), 1692–1702.
- Biermann, F., Betsill, M.M., Gupta, J., Kanie, N., Lebel, L., Liverman, D., Schroeder, H., Siebenhuner, B., 2009. *Earth system governance—People, places, and the planet*. Bonn: The Earth Systems Governance Project, International Human Dimensions Program.
- Blackmore, C., Ison, R., Jiggins, J., 2007. Social learning: An alternative policy instrument for managing in the context of Europe's water. *Environmental Science & Policy* 10 (6), 493–498.
- Bornstein, D., 2007. *How to change the world: Social entrepreneurs and the power of new ideas*. Oxford University Press, Oxford, England.
- Bouwen, R., Taillieu, T., 2004. Multi-party collaboration as social learning for interdependence: Developing relational knowing for sustainable natural resource management. *Journal of Community and Applied Social Psychology* 14 (3), 137–153.
- Burnett, M., Davis, C., 2002. Getting the cut out: Politics and national forest timber harvests, 1960–1995. *Administration & Society* 34 (2), 202–228.
- Burns, S., G. Gray, M. McDermott, and L. Schweitzer. 2006. Perceptions and participation in US community-based forestry. Washington, DC: American Forests (prepared for the Communities Committee of the Seventh American Forest Congress).
- Charnley, S., Poe, M.R., 2007. Community forestry theory and practice: Where are we now? *Annual Review of Anthropology* 36, 301–336.
- Cheng, A.S., Fernandez-Gimenez, M., 2006. *Ford Foundation Community-Based Forestry Demonstration Program research component: Final report*. Department of Forest, Rangeland, and Watershed Stewardship, Colorado State University, Fort Collins, CO.
- Cheng, A.S., Fiero, J.D., 2005. Collaborative learning and the public's stewardship of its forests. In: Gastil, J., Levine, P. (Eds.), *The deliberative democracy handbook: Strategies for effective civic engagement in the twenty-first century*. Jossey-Bass, San Francisco.
- Cheng, A.S., Mattor, K.M., 2006. Why won't they come? Stakeholder perspectives on collaborative national forest planning by participation level. *Environmental Management* 38, 545–561.
- Christoffersen, N., Harker, D., Lyman, M.W., Wyckoff, B., 2008. The status of community-based forestry in the United States: A report to the US Endowment for Forestry and Communities. US Endowment for Forestry and Communities, Greenville, S.C.
- Communities Committee of the Seventh American Forest Congress, 2008. *Acquiring and managing community-owned forests: A manual for communities*. Communities Committee of the Seventh American Forest Congress, Baltimore, MD.
- Daniels, S.E., Walker, G.B., 1996. Collaborative learning: Improving public deliberation in ecosystem-based management. *Environmental Impact Assessment Review* 16, 71–102.
- Daniels, S.E., Walker, G.B., 2001. *Working through environmental conflict: The collaborative learning approach*. Praeger, Westport, CT.
- Davis, C., Davis, S., 1988. Analyzing change in public lands policymaking: From subsystems to advocacy coalitions. *Policy Studies Journal* 17 (1), 3–24.
- Dyball, R., Beavis, S., Kaufman, S., 2005. Complex adaptive systems: Constructing mental models. In: Keen, M., Brown, V.A., Dyball, R. (Eds.), *Social learning in environmental management: Towards a sustainable future*. Earthscan, London.
- Edmunds, D., Wollenberg, E. (Eds.), 2004. *Local forest management: The impact of devolution policies*. Earthscan, London.
- Elliott, C., Schaeffer, R., 2002. The advocacy coalition framework: Application to the policy process for the development of forest certification in Sweden. *Journal of European Public Policy* 8 (4), 642–661.
- Fazey, I., Fazey, J.A., Salisbury, J.G., Lindenmayer, D.B., Dovers, S., 2006. The nature and role of experiential knowledge for environmental conservation. *Environmental Conservation* 33 (1), 1–10.
- Fernandez-Gimenez, M.E., Ballard, H.L., Sturtevant, V.E., 2008. Adaptive management and social learning in collaborative and community-based monitoring: A study of five community-based forestry organizations in the western USA. *Ecology and Society* 13 (2), 4 [online].
- Folke, C., Hahn, T., Olsson, P., Norberg, J., 2005a. Adaptive governance of social-ecological systems. *Annual Review of Environment and Resources* 30, 441–473.
- Folke, C., Hahn, T., Olsson, P., Norberg, J., 2005b. Adaptive governance of socio-ecological systems. *Annual Review of Environment and Resources* 30, 441–473.
- Gibson, C.C., Koontz, T., 1998. When “community” is not enough: Institutions and values in community-based forest management in southern Indiana. *Human Ecology* 26, 621–647.
- Gray, Gerald J., Enzer, Maia J., Kusel, Jonathon (Eds.), 2001. *Understanding community-based forest ecosystem management*. Food Products Press, Binghamton, N.Y.
- Holling, C.S. (Ed.), 1978. *Adaptive environmental assessment and management*. John Wiley and Sons, New York.
- Keen, M., Mahanty, S., 2006. Learning in sustainable natural resource management: Challenges and opportunities in the Pacific. *Society & Natural Resources* 19 (6), 497–513.
- Keen, M., Brown, V.A., Dyball, R., 2005a. Social learning: A new approach to environmental management. In: Keen, M., Brown, V.A., Dyball, R. (Eds.), *Social learning in environmental management: Towards a sustainable future*. Earthscan, London.
- Keen, M., Brown, V.A., Dyball, R. (Eds.), 2005b. *Social learning in environmental management: Towards a sustainable future*. Earthscan, London.
- Kiser, L.L., Ostrom, E., 1982. The three worlds of action: A metatheoretical synthesis of institutional approaches. In: Ostrom, E. (Ed.), *Strategies of political inquiry*. Sage Publications, Beverly Hills, CA.
- Kusel, J., Adler, E. (Eds.), 2003. *Forest communities, community forests: Struggles and successes in rebuilding communities and forests*. Rowman and Littlefield, Landham, MD.
- Maarleveld, M., Dabgbegnon, C., 1999. Managing natural resources: A social learning perspective. *Agriculture and Human Values* 16 (3), 267–280.
- McGinnis, M.D. (Ed.), 2000. *Polycentric games and institutions*. The University of Michigan Press, Ann Arbor.
- Moe, T.M., 1989. The politics of bureaucratic structure. In: Chubb, J.E., Peterson, P.E. (Eds.), *Can the government govern? The Brookings Institution*, Washington, D.C.
- Mort, G.S., Weerawardena, J., Carnegie, K., 2003. Social entrepreneurship: Towards conceptualisation. *International Journal of Nonprofit and Voluntary Sector Marketing* 8 (1), 76–88.
- Ostrom, E., 1990. *Governing the commons: The evolution of institutions for collective action*. Cambridge University Press, Cambridge, England.
- Ostrom, E., 1998. Scales, polycentricity, and incentives: Designing complexity to govern complexity. In: Guruswamy, L.D., McNeely, J.A. (Eds.), *Protection of global biodiversity: Converging strategies*. Duke University Press, Durham, NC.
- Ostrom, E., Gardner, R., Walker, J., 1994. *Rules, games, and common-pool resources*. The University of Michigan Press, Ann Arbor, MI.
- Pahl-Wostl, C., 2009. A conceptual framework for analysing adaptive capacity and multi-level learning processes in resource governance regimes. *Global Environmental Change* 19, 354–365.
- Pahl-Wostl, C., Hare, M., 2004. Processes of social learning in integrated resources management. *Journal of Community and Applied Social Psychology* 14 (3), 193–206.
- Rist, S., Chidambaranathan, M., Escobar, C., Wiesmann, U., Zimmermann, A., 2007. Moving from sustainable management to sustainable governance of natural resources: The role of social learning processes in rural India, Bolivia and Mali. *Journal of Rural Studies* 23 (1), 23–37.
- Sabatier, P.A., 1988. An advocacy coalition framework of policy change and the role of policy-oriented learning therein. *Policy Sciences* 21 (2/3), 129–168.

- Sabatier, P.A., Jenkins-Smith, H.C. (Eds.), 1993. Policy change and learning: An advocacy coalition approach. Westview Press, Boulder, CO.
- Schusler, T.M., Decker, D.J., Pfeffer, M.J., 2003. Social learning for collaborative natural resource management. *Society and Natural Resources* 15, 309–326.
- Steyaert, P., Jiggins, J., 2007. Governance of complex environmental situations through social learning: A synthesis of SLIM's lessons for research, policy and practice. *Environmental Science & Policy* 10 (6), 575–586.
- Strauss, A., Corbin, J., 1990. Basics of qualitative research: Grounded theory procedures and techniques. Sage Publications, Newbury Park, CA.
- Tabara, J.D., Pahl-Wostl, C., 2007. Sustainability learning in natural resource use and management. *Ecology and Society* 12 (2), 15.
- Thompson, J.R., Elmendorf, W.F., McDonough, M.H., Burban, L.L., 2005. Participation and conflict: Lessons learned from community forestry. *Journal of Forestry* 103 (4), 174–177.
- Walters, C.J., 1986. Adaptive management of renewable resources. Macmillan, New York.
- Weerawardena, J., Mort, G.S., 2006. Investigating social entrepreneurship: A multidimensional model. *Journal of World Business* 41 (1), 21–35.
- Wenger, E., 1998. Communities of practice: learning, meaning, and identity. Cambridge University Press, Cambridge, UK. 318p.
- White, A., Martin, A., 2002. Who owns the world's forests? Forest tenure and public forests in transition. Forest Trends and Center for International Environmental Law, Washington, DC.
- Wilson, R.K., 2006. Collaboration in context: Rural change and community forestry in the Four Corners. *Society and Natural Resources* 19, 53–70.
- Wilson, K., Morren, G., 1990. Systems approaches for improvements in agriculture and resource management. Macmillan Publishing Co., New York.
- Wyckoff-Baird, B., 2005. Growth rings: Communities and trees. Aspen Institute, Washington, DC.