II. BACKGROUND

Analyzing Change in Forestry Organizations: Some Conceptual Dimensions to Consider

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Introduction

Natural resource professionals, and especially foresters, are comfortable analyzing and discussing changes in resource conditions. Extensive debate about topics such as trends in global climate change, impacts of the exclusion of fire on forest health, and the effects of recreational use on wilderness are common within our discipline. In this study, our charge is in some ways very similar to our discussions about changing resource conditions and in some ways very different.

Our charge is similar in that we will be examining complex systems where change can be manifested in many ways. The notions of temporal and spatial dimensions, which are central to our discussions about changing resource conditions, are applicable here too as we realize that change in organizations occurs over time and at various levels. Our charge is somewhat different in that the complex systems we will be examining are social systems comprised of human beings. Our indicators of change in this arena become variables such as strategic direction, organizational culture, and human behavior.

Three Useful Dimensions for Considering Organizational Change

To help guide our thinking and discussion of change in forestry organizations three different dimensions are presented. These dimensions are provided in an effort to give us a common framework for analyzing and evaluating the many examples of change (or lack of change) in forestry organizations. The three dimensions are *scale of change*, *source of change*, and *type of change*.

Scale of Change

One helpful dimension for considering organizational cultural change is that of scale. Because human organizations are social constructs existing within society, the exact boundaries of organizations are often fuzzy, leaving one to wonder whether a particular "organizational characteristic" is in fact a unique organizational characteristic or perhaps merely a reflection of the larger society within which it exists. Accordingly, we offer four levels for change that can be useful in refining our description and analysis of change within forestry organizations.

Societal. Some changes or characteristics

noted within organizations are done so without fully considering their connections to changes taking place within society. For example the preparation of environmental compliance documents within public forestry agencies is often cited as a significant development, as I believe it should be. However this was directly related to the societal change in the United States that began in the late 1960s and early 1970s with a heightened awareness around environmental concerns.

Likewise, downsizing and re-engineering of business processes are often cited in many business organizations today as examples of major organizational change. Often, however, they are being driven by change factors at a higher level such as the movement to a "global economy" and the extraordinary advances of technology.

Part of our challenge in analyzing the changes in forestry organizations is to, in part, recognize the societal changes that are influencing these changes as well. Are there larger societal forces influencing forestry organizations' movement toward a more sustainable approach? What are they and what have the influences been?

Macro-Organizational. Other characteristics or changes are more associated with a particular organization and do not seem to be directly linked to a larger societal or higher order change. For example the description of the National Forest System portion of the U.S. Forest Service in the early 1960s was one of a unique organization with an unusually uniform culture. Apple Computer's culture and products were similarly seen as unique in the early 1980s. And today, organizations of the same type often have very different organizational cultures. For example, the two beverage giants Pepsi and Coca Cola are known for having very different organizational cultures.

When our attention turns to changes within forestry organizations, we must consider the role of the macro organizational culture. If indeed the National Forest System portion of the U.S. Forest Service had an unusually uniform organizational culture in the 1960s, what role did that play as the agency moved through the 1970s, 1980s and 1990s? How does a particular organization's culture help or hinder in the acceptance and management of change?

Micro-Organizational. Within organizations, certain policies, systems, or standard operating procedures can be the vehicles for significant change. Public administration scholars are quick to look at budget, personnel and procurement systems as key opportunities for influencing public organizations. For example whether certain positions within a government organization are designated as being for career professionals or political appointees on the surface may seem like bureaucratic trivia. Similarly, the formula for determining amounts and distribution of research and development funding may appear to be boring and unimportant. In reality, such seemingly mundane items such as these can lead to the appointment of very different kinds of people and can often determine the financial winners and losers in the competition for scarce dollars and organizational resources.

The micro-organizational level policies, processes, and procedures are often key levers in the change process of organizations. The astute practitioner and analyst alike are attentive to these inner workings of the larger organization. Are there examples of micro-organizational elements contributing to or detracting from the evolution of forestry based organizations? Are there some micro-level elements which seem particularly important to a particular segment of the forestry organizations?

Individual. Change is often associated with individual persons. Terms like "change agent" and "transformational leader" are common in society today and help remind us of the role individuals can and do play in bringing about change. Psychologists are helpful in reminding us

that an organization is a collection of individual people and that behavioral change happens one person at a time.

Change at the individual level can happen two primary ways in complex organizations. First, the organization can begin to give influence to new and different people by hiring them or following their guidance. When forestry based organizations began hiring and listening to wildlife biologists, landscape architects and other professionals, they experienced change at the individual level. Second, individuals currently influencing the organization can begin to change their perspectives through their own individual growth and development. Often training and education can contribute to individual development.

What have been some significant changes at the individual level for forestry organizations? Have there been significant change agents and transformational leaders? Have foresters in general grown, developed and evolved more in the direction of proponents for sustainable forestry?

Source of Change

In addition to being attentive to the scale of change, it is also wise to be attentive to the source of change. In other words, how was the change introduced and brought about? Below are three different means of bringing about change. They are Rational / empirical, Normative / re-educative, and Power / coercive.

Rational / empirical. This approach to change has its roots in the views of the enlightenment and classic liberalism. The thought here is that man continues to discover new information and rationally adjusts behaviors in light of the knowledge discovered. Scientific management, research and development, and operations research are three examples of attempts to gather information in order to affect appropriate change.

Forestry organizations have a rich history of rational / empirical efforts ranging from the heavy emphasis on research and "science-based decisions" to the FORPLAN model (an operations research model) designed to guide national forest planning in the 1980s. Currently, large scale eco-regional assessments are being conducted in an effort to secure important information that will help decide land management policy.

To what extent have rational / empirical endeavors and their associated findings been key drivers in bringing about changes in forestry based organizations? To what extent are they being looked to in the future to provide information on the path forward? Has the forestry profession relied too much, too little, or just enough on the rational / empirical approach?

Normative / re-educative. This approach draws more from the work of trainers, organization development specialists and therapists. The predominant view here is that there are competing and differing views of reality and that the struggle is to overcome and integrate differences. Training, team development and collaborative learning are techniques that often embody the normative / re-educative approach to change.

As conflicts about forest resource management have intensified and become more public over the last twenty years, calls for more emphasis on normative / re-educative approaches to change have become more pronounced. Leadership is being recast from being the resource manager with all the technical answers to the convener and facilitator who can bring people with differences together to solve problems collaboratively.

Have attempts at change management from a normative / re-educative stance contributed to the evolution in forestry toward a sustainable approach thus far? What are the relationships of normative / re-educative approaches to those of the rational / empirical style? Will normative / re-educative approaches become more or less important to

bringing about change in forestry based organizations in the future?

Power / coercive. This approach involves the use of power through institutional processes such as legislation, administrative rulings, court decisions and the like. This approach argues that power makes things happen, and that change agents should focus efforts on influencing the power structure. Lawyers, lobbyists and political activists are often seen as key players in this arena.

Forestry organizations are no strangers to this source of change either. Legislation, court decisions and administrative decisions have influenced significant areas of resource management such as environmental compliance, public participation, endangered species, private property rights, and best management practices. In fact, forestry serves as an excellent example of an area that evolved from a classic public policy iron triangle (industry - public agencies - congressional committees) to a complex policy subsystem with a plethora of players representing a wide range of perspectives.

Which power / coercive changes have been most influential in forestry-based organizations' evolution to sustainability? How has the social / political / legislative / administrative landscape changed, and what effect does this have on future power / coercive-based change efforts? How does this source of change interface with the other two: rational / empirical and normative / re-educative?

Type of Change

The third dimension that is useful to consider when analyzing change is the type of change that has occurred or is needed. Two different types of change to consider are adaptive changes and innovative changes. Both are briefly discussed below.

Adaptive Changes. These are incremental changes that represent small steps along the way. With adaptive changes, the link between the current situation and the proposed change is usually quite clear. Often existing knowledge is applied in a new way or increased efficiencies are found within an existing process. The Total Quality Management (TQM) movement with its emphasis on continuous process improvement has at its core, adaptive change.

Organizations known for operational excellence are often very good at developing and managing many adaptive changes, to continually improve their performance. American Airlines is often cited as an organization with particularly smooth operations and a consistently high level of service.

Innovative Changes. These kinds of changes typically represent major breakthroughs and involve new directions in thinking. With innovative thinking, the link between the current situation and the innovative change often is not obvious. The re-engineering movement, where the objective is to make major improvements quickly, is aimed at bringing about innovative change.

Organizations known for new product development often are associated with innovative change and many industries have been revolutionized by innovations. For example, the development of automatic teller machines, and now PC banking, is completely transforming the banking industry.

Since we have been characterizing the journey toward sustainability as an "evolution" does that imply that the changes have been exclusively adaptive? Or have forestry-based organizations experienced innovation along the way as well? As we look ahead to continuing and perhaps even accelerating the evolution, should forestry-based organizations be taking a TQM like approach, a re-engineering approach or some combination of both?

Conclusion

As a starting point, I have suggested a conceptual framework for thinking about organizational change. To clearly analyze the changes involved in forestry organizations as they move toward a more sustainable approach, we should be aware of the *scales of change*, the *sources of change*, and the *types of change* that we are addressing. This will be helpful in describing the past and present situations, and more importantly, in prescribing future change efforts.

Strategies for Institutionalizing Sustainable Forestry Practices

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The practice of sustainable forestry can only be achieved through concerted efforts to institutionalize the practice throughout the industry. While change in specific organizations will contribute to broader changes, localized organizational change cannot carry the water for the sustainable forestry effort. Fortunately, many of the reported efforts do target industry level change.

Sector and Organization Change

In order to fully appreciate the challenge of achieving sustainable forestry throughout the entire forest industry sector, an understanding of the differences between an industry and organizational level change is necessary. The kinds of strategy and the extent of control over changes varies for these two levels.

Much is known about organizational change. Terry Tipple's paper deals effectively with this subject. Briefly, organizational change involves some person or group within the organization using persuasion, power or participation to alter the way things are done. Some succeed while others fail. Most often, changes occur but do not match the intent of those leading the effort. Some examples of efforts to achieve sustainability forestry practices are, in fact, efforts to change organizations--though the intention is to change entire industry sectors and public agencies. This paper is an attempt to make sense of practices that might increase the probability of success.

Finding the Locus of Efforts to Institutionalize Sustainable Forestry Practices

The targets for this industry change are fuzzy. The sector's boundaries are porous. Groups overlap and involve parts of other sectors. Efforts to change will have to take account of the geographic character, the varied sub-sectors, and the overlapping memberships.

Geographic targets. Some programs in sustainable forestry practices are national in scope. A nationwide effort is required to change Forest Service or BLM practices. Others encompass a particular state or region. Many examples are site specific and involve numerous public and private organizations. For instance, a program that focuses on a river basin will necessarily include several states, counties, corporation, and interest groups.

Sub-sectors of an industry. Some efforts are not site-specific, but instead involve a particular sub-sector--a specific industry group, a kind of government agency, an occupational group or a specific university discipline.

Overlapping membership. In almost all instances, the target groups overlap. People are members of more than one professional network. Public agency people constantly interact with their corporate and interest group counterparts.

What Does it Mean to Institutionalize Sustainable Forestry Practices?

Sustainable forestry practices will be institutionalized when public and private groups use the assumptions and values of sustainable forestry to make decisions and to design process. It will become institutionalized when these assumptions and values are reflected in the behavior of those in the forestry sector--when sustainable forestry becomes the language and grammar incorporated into thought processes, policy development, administrative procedure, and production methods. Unfortunately, such institutionalized change will prove difficult. Sustainable forestry practices will not be implemented in a vacuum, but must overcome well-entrenched institutionalized forestry processes that run counter to sustainability. These existing practices have become firmly institutionalized over many decades. Altering them will be difficult, though important points of leverage do exist. However, before examining these options, some more general points about institutionalizing practices are in order.

Control of an industry-wide change is more indirect and strategies are different than those that seek to create organizational level changes. A centrally directed campaign of change, led by a top group with specific kinds of desired outcomes might make sense at the organizational level, but a different approach is required to institutionalize practices at the level of a sector such as forestry. No one point of leverage makes sense due to the multiple jurisdictions, organizations, corporations and individual business people involved. There must be multiple points of entry, many approaches and an openness concerning how the changes unfold. The bad news is that there are few opportunities for concerted top-down initiatives. The good news is that many points of entry exist elsewhere.

There is a lot of talk about metaphors for thinking about such a change. I suggest that we adopt the "cloud" metaphor used by one of my colleagues. Like a cloud, this change can be real, powerful and have a distinct structure, but at the same time can be amoebic, ever changing, and somewhat chaotic. Some are powerful and some fade away. Changing practices across a complex sector like forestry will have a similar character. Planned outcomes can rarely be assured. The many issues, actors, and organizations are constantly changing. The industry does not have a central point, central leadership or a consensus about its direction. We must be humble and realistic about certainty of any one approach or answer to achieving institutional change.

While existing institutionalized practices in the forestry sector are often resistant to change, their very existence provides a place to begin change. The relationships and interaction that already exists within the forestry sector provides a place to work for the change. The change is difficult because the forestry sector has already developed stable beliefs and practices through the decades-long interactions among public agencies, corporations, universities, and interest groups. However, these relationships and practices also provide a place to begin and continue work for creating sustainable forestry practices. Most importantly, the existing organized groups and practices in the industry provide a locus for thinking and acting in similar ways. They provide institutionalized processes and frameworks that make concerted action possible across many kinds of organizations.

Approaches and Strategies

Institutionalizing change at a sector or industry level demands a set of approaches that touch many organizations and people. It involves changing ways that people make sense of situations, define appropriate ways of acting, provide basis for decision making, and formulate the logic for creating work processes. Change approaches, therefore, need to take the long term view and involve many different strategies.

Institutionalizing practices requires creating widely shared ways of thinking and acting and, therefore, it is as important to "Talk the Walk" as it is to "Walk the Talk." Institutionalized practices come about as people and organizations in the forestry sector see things the same way and then act on common norms and processes. This comes about, to a large extent, by talking about what people are doing. For this reason, events such as conferences and other ways of talking together about new practices can serve as very powerful institutional building devices.

Participants in the change effort must be able to change and learn from the effort. Proposed institutionalized practices must fit into the industry's current operations. They must make sense to the people who will implement the change. This requires understanding and acceptance. The Achilles' heel of most change efforts is that often the self-appointed "change agents" try too forcefully to sell their approaches and answers. As these answers meet the real world, the change often falters because the change initiators fail to listen, learn what will work, and adjust accordingly. Doing, learning, and adjusting must be the gospel of change leaders. The very proposals themselves often change the situation, in turn, requiring adjustments to the proposed changes. Some ways to bring such openness to the change process can include:

Seek face-to-face relationships. Create processes and forums where people can talk, deal with real differences, and come up with win-win strategies.

Promote dialogue. Create processes that allow those involved in issues to have open communication.

Involve multiple perspectives. Open the effort to as many different perspectives as are necessary. Involve stockholders, and thereby ensure that the change effort will remain open to a variety of novel approaches.

The forestry industry leads many other industries in using the principles listed above. The organized negotiation processes through which interest groups in a particular national forest or river basin agree on sustainable forestry practices are noteworthy examples.

Institutionalizing changes in practice requires staying power, including stable relationships, widely accepted procedures, and accepted authority. Universities, foundations, policy groups, professional organizations and interest groups all provide important staying power for institutionalizing change. They bring groups together to form stable working relationships, establish agendas for change, and keep track of progress and failures.

University programs play two particularly important roles in stabilizing change. First, they provide the education necessary to enter professional practice. During this process, they provide the vocabulary used to think and act in the particular profession. Universities socialize professionals into the new institutionalized practices. In turn, these new professionals "seed" the industry sector with changed perspectives and values. Second, universities spread the word about new research and provide credibility for programs seeking to institutionalize the new practices.

Industry self-regulation efforts often come into being during the maturation period of the institutionalization effort. Self-regulation groups provide several important contributions to the change. The effort to certify acceptable practices is an educational activity. Attempting to get industry groups to accept a certain standard of practice involves education of its members. Certifying certain practices creates pressure to imitate organizations that are adopting the appropriate methods and standards. Censuring members that do not meet standards sends a signal that there are limits on acceptable behavior.

Examples of Change Efforts

There were many specific examples of institution building activities:

- The regional alliances and consensus building programs at the state level.
- The industry self-regulation and accreditation of sustainable forestry practices.
- University accreditation activities.
- University cooperative research efforts.
- Self-audits by specific sub-groups of the industry.
- The various regional, state and site specific experiments in creating viable sustainable forestry practices (e.g. Oregon and Maine, specific US Forest Service regions).
- Foundations that organize and fund conferences, demonstration projects, and dissemination programs.
- Joint data collection efforts that allow people to look at problems in different ways (e.g. the virtual data base).
- Publication and use of best practices by high status industries and universities spreads understanding of "desired behavior" throughout the industry.

Conclusion

There are many ways of working to institutionalize sustainable forest practices. They cannot, however, be controlled as they can be under a process of organizational change. At the industry sector level, though many points of leverage exist, the outcome is always somewhat uncertain and very rarely can be controlled by any one group. A sharper appreciation of the many institutionalizing strategies available to the industry can improve the outlook for its eventual success.

Thinking Strategically about Sustainable Forestry

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Beneath the lively debates about the theory and practice of sustainability, fundamental points of consensus have emerged. Despite unresolved issues revealed in this study, a substantial consensus now exists, serving as an urgent call to action. It forces the pragmatic question: how can we realize sustainability on the ground? In this paper, as a non-forester, I will try to report accurately the consensus of professionals at the Pinchot Institute's conference as I understood it. Then, as an activist and a consultant on strategy, I will draw on some proven principles of effective action.

When foresters discuss sustainability, the conversation eventually focuses on institutional obstacles they have encountered. The problem is how to do the right thing when others would rather not. This kind of problem calls for strategy: a pattern of behavior by which a living system achieves its goals within a given environment. In this case, the living system is the community of people intent on conserving forest resources. Their goals are described below. The environment in which they act (political, economic, social, and technological) is turbulent and complex. For sustainability, the environment is replete with both opportunities and threats. Anyone facing a problem of strategy would do well to begin with four fundamental questions. What are our goals? What are the obstacles to achieving those goals? What resources are available for overcoming the obstacles? What is the best way to use the resources to overcome the obstacles to achieve the goal? Those four questions can guide us toward sustainable forestry, and they provide the structure for this paper.

The Goals of Sustainable Forestry

The overarching mission is to conserve forest systems in a reasonably undiminished state over a reasonably long period. Since foresters cannot achieve this mission without help from other sectors of society, they will not have complete control over their future. They need strategies for influencing other institutions as well as perfecting their own profession. Although differing in emphasis, participants at the Pinchot Institute conference agreed on a common set of values. There seem to be as many ways to describe the core values of sustainable forestry as there are foresters, but there also is a high level of consistency among them. The following is not the only way to describe the values; it merely summarizes those most commonly espoused:

The wholeness of forest systems. Sustainable forestry attempts to integrate biological diversity, aquatic functions, soil conservation, nutrient cycling, and the production of forest products.

The mutual support of connected systems. Sustainable forestry contributes to the connectivity of critical habitats. It does not attain sustainability in one system by exporting wastes to another system, or by importing energy and materials in a way that renders another system unsustainable.

The long-term vitality of systems. Sustainable forestry is a compact with the next generation, a pledge that forest systems will endure essentially undiminished for the foreseeable future.

Supportive social, political and economic institutions. Sustainable forestry requires a sustainable economy (and vice versa). It also requires effective, meaningful and equitable participation by diverse stakeholders in forest management, widely accessible, reliable information, and a citizenry that cares about sustainability and can understand the relevant issues. These values imply large-scale societal changes that are beyond the reach of foresters or any other single group. They do, however, determine the boundaries of permissible action, and they suggest more specific goals for forestry. Conference participants enunciated two goals that apply both to the forestry profession and to the larger society. One applies to individual forest systems; the other to connections among systems. The first goal is to establish management regimes for forest systems that recognize a hierarchy of scales--from stands to landscapes to large political units--and that apply the core values appropriately for each scale. The second goal is to change institutions, or create new ones, to connect and organize systems at all levels so that individually and collectively they support common principles.

Obstacles to Achieving the Goals

Daunting obstacles stand between us and the strategic goal: demographic changes; population growth and affluence that increase demand for forest products; growth in formerly rural areas that fragments forests and increases demand for unsustainable management practices like roading and fire suppression; graying of the population and increasing racial and ethnic diversity that change the social and political context in ways hard to anticipate.

Competing authorities and conflicting mandates. Regulators and other public agencies are whipsawed by inconsistent social goals. The needs of local communities differ from those of larger units. Local jurisdictions make laws and rules inconsistent with state laws, and states conflict with federal agencies. Within a single watershed, communities disagree with each other, and different federal agencies have conflicting mandates. Indeed, as a society we are ambivalent about the goals for forests. For example, society demands that forest-product companies yield the maximum return to investors while preserving forest ecosystems. People who use forests for recreation may have different priorities from those of forest products companies and environmentalists. To heighten the problem, years or decades of conflict have taught different publics to distrust each other, and that distrust will be hard to unlearn. Because sustainability requires social accord and stability, such conflicts drain the promise.

Weak scientific underpinnings. What is going on in our forests, and what are the trends? We lack basic information about complex forest systems and other related natural and human systems. Often the information we do have exists in a format that is incompatible with other information about the system. Nor do we always know what to do with the information. Managing these complex systems is new enough and complex enough that foresters often do not have the theoretical basis for predicting the consequences of decisions. The question arises whether we ever can predict them. Increasingly the problem seems to be that uncertainty is an inseparable characteristic of these systems, and so we never will know enough. As a response to uncertainty, we have created adaptive management, but the most optimistic view of adaptive management is that it is in its infancy.

Institutional resistance to change. Inappropriate or outmoded laws and customs reinforce all the other obstacles. They inhibit cooperation among parties, encourage over-harvesting and destructive patterns of land use, and allocate resources inappropriately. Meanwhile, people enjoying status and power will, without unusual prodding, try to hold onto that status and power. Such fossilized, self-interested behavior is not restricted to any sector. It shows up in government agencies, businesses, and nonprofit groups.

Inadequate budgets. Money is lacking for research and often for sustainable forest stewardship. The money needed is not likely to come in adequate amounts from government or philanthropy. We will not realize sustainability until it is shown to be profitable to landowners and forest products companies.

Available Resources

Although the obstacles are formidable, people serious about sustainability also have formidable resources. Many of those resources are intangible. They include a body of scientific theory that although imperfect, is still powerful, a broad and growing consensus about conservation ethics, sophisticated techniques for participatory decision making, and new techniques for managing uncertainty. Neither public agencies nor private organizations have respected or used them as thoroughly as they should, but they are still powerful resources. Each of those resources is uniquely useful:

Science. Max Planck observed that scientific truth does not succeed by converting its opponents but rather by waiting for them to die. Still, we have constructed massive machinery from policy that demands good science. Genuinely good science has substantial advantages. Scientific findings about unsustainable forestry often have had enough momentum to push through institutional obstacles.

Conservation ethics. Ethically, the public is ahead of retrogressive policy makers and is a source of support for progressive ones. Survey after survey shows that although they might not understand all the concepts, most people would rather their forests be managed sustainably.

Participatory decision making. This has been both the bane and the support for sustainability. NEPA and other mandates for participation have opened the door for some ignorant and self-interested action, but by broadening the scope of decision making, they also have increased the odds for sustainability. Sustainability requires broad consent, and its complex issues benefit from diverse views.

Managing uncertainty. The most perplexing obstacle may be our uncertainty - about appropriate goals, about how forest systems actually work, and about the consequences of our decisions. Still, we also have seen advancements in the art of managing uncertainty. Adaptive management might not have reached the status of high art, but we are getting better at it.

As useful as these resources are, none will work without the final one: active people. We need people who understand how their systems work, care about sustainability, show up at meetings, teach their children, and generally do the work of citizenship. We need those people at all levels--local, regional and national--and in all sectors. Many are there now, and more could be there with training and support. Acting alone, the community of forestry professionals cannot begin to provide that training and support. Our challenge is to create or encourage the institutional framework that can.

Strategic Principles

Successful strategies will use the resources to overcome or circumvent the obstacles and so attain the goals. If they are successful, their evolution will be a complex process, too complex for prescriptions. Still, setting resources against obstacles, we can describe the principles that will guide successful strategies for sustainable forestry.

A successful strategy for sustainability will strive for a shared vision and common values. A shared vision will be possible if we adhere to five rules:

- Base practices on the best available science, and protect the science from self-interested manipulation. To allow truly

adaptive management in the face of uncertainty, insulate research and analysis from corporate and governmental second-guessing.

- Use procedures that stakeholders perceive to be equitable and that promote collaboration across sectors--business people, regulators, environmental advocates, and community leaders.

- Invest in education and training. Sustainability requires highly skilled professionals, knowledgeable leaders at all levels, and an educated citizenry.

- Make sustainability profitable. Some forest products companies already see a competitive advantage in sustainability. To the extent that public policy influences market behavior, as it certainly does on public land, policy should reinforce that advantage.

- Take ethics seriously. Treat the land and each other with humility and respect, and look for opportunities to inculcate a conservation ethic throughout society, especially educational institutions.

None of these rules is beyond our reach. They do not call for skills or resources we do not have in abundance. The key is leadership, to help us do what we already know is the right thing.

Crossing Boundaries to Achieve Sustainable Forestry

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Sometimes I think even a noble term like "sustainable forestry" gets wrapped up in a war of forestry euphemisms, such that efforts to define the term becomes the goal, rather than finding ways to make organizations work effectively. We must agree at some point that sustainability is defined within one's mission, which may be unique to that organization.

As Public Lands Commissioner for the State of Washington from 1981 to 1993, I instigated, and became involved in, a number of negotiations and mediations around forestry issues. The first was in 1982, with a citizen task force created to help conceive the Tiger Mountain State Forest near Seattle. The task force pursued five significant negotiations, all highly politicized and crossing ownership boundaries, with timber companies, Indian tribes, counties, state agencies, and environmental groups at the table. In the process of assembling a 33-member Commission on Old Growth Alternatives to examine our practices and future policies for 360,000 acres on the Olympic Peninsula, educators and even a grocer were appointed, under the assumption they had as large a stake in the future of forested communities as a timber or environmental group representative.

In all these cases, values interfered with discussions and sometimes intersected to allow coalitions of negotiators to find consensus. In one illustrative case, after an impassioned appeal by a tribal representative, one timber company representative stated that he would work to protect what the Native American wanted, if he could show the burial or village site to him. The tribal member listened and then responded with disdain, "You don't understand anything. I want to protect everywhere my grandfather walked!" After the exchange, silence reigned and the session broke up, not to reconvene until another day.

This example always stuns audiences, because it shows the pitfalls of the cultural clashes that arise. But the participants have to gain understanding of others' values to move forward, and often, this involves understanding the limits of one's adaptability to what someone else demands. In the case described, the participants were able to define the ground upon which they could negotiate by first identifying that which was off limits. The participants came to understand, as they negotiated, that each had certain territory they had to protect or else leave the table. In order to succeed, others had to avoid offending those territories. Participants had to promote general success rather than merely promote their own positions.

When I reflect on the leadership values that Hal Salwasser of the Forest Service describes later in this volume, I note that in our 1994 University of Washington study, these are the values USFS employees said were *not* rewarded by the organization. Additionally, 85 per cent of the randomly-selected employees of the study stated they could not achieve ecosystem management without looking beyond national forest boundaries. I have to observe that unless employees are rewarded for displaying the leadership attributes that accompany working across cultures and boundaries, the goals of the forests will not be reached. Only 38 percent of national forest system employees surveyed nationwide said their annual performance reviews held them responsible for the

resources under their charge. It seems that acceptable field standards are not those by which employees are judged or promoted, in contrast with what we have heard from industry.

The challenge, therefore, is addressing this need for cross-boundary, cross-disciplinary, cross-agency discussions. There must be new ways to engage public concerns and interests. Some cases can be extrapolated from region to region and state to state, to begin the breakthroughs that are needed to establish some models for success. I look at the industry models and I see:

- Clear values and missions;
- A normative, re-educative approach, rather than a rational, empirical one;
- Efforts to incorporate technical knowledge, including local knowledge, into decisions;
- More clarity about the political nature of decisions; and
- Willingness of management to commit capital to provide resources.

On the issue of committing capital, and applying our understanding of the past fifty years, in which it is clear that wealth is required to make environmental investment, the Forest Service in contrast to the forest industry is becoming a third world country. This is exacerbated by the disparity between the dollars spent on process versus those spent on results and on increasing the agency's ability to verify that it is accountable for its actions and achieving its goals.

We must look at integrating talent into mission in all organizations. Industry is integrating new talent into their corporate missions and retraining people to achieve new knowledge. All negotiations, to succeed, require willingness to accept information from sources that have been alien or antagonistic. I fear that the recruitment of "ologists" (as the employees call them) into the national land management agencies is creating a problem due to lack of assimilation into mission, or failure to define a mission that one can assimilate into. Foresters were accused of arrogance in the past; this could apply to the "ologists" in the future. The surest way to assimilate, whatever the mission, is to create an organization where learning can occur. That is when we begin establishing a new model for integrating management across intersecting lands. When that happens, we can decide if it is sustainable forestry.