Chapter 12
Values in Natural Resource Management and Policy

David Mattson, Herman Karl, and Susan Clark

Abstract Values are considered by many people to be central to human interactions, yet the meaning of "values" is rarely clear in most applications. We offer our thoughts on how values might be usefully construed in a policy context, with relevance to design and appraisal of social and decision-making processes. We differentiate values from preferences, attitudes, worldviews, and interests because of the extent to which this surrounding field of concepts has been contested by sociologists and psychologists, and to highlight the comparative utility of focusing on values. We find it useful to apply the term "values" to the fundamental and abiding non-linguistic ways that people orient to the world, arising from antecedent attraction. Shalom Schwartz and Harold Lasswell developed values schema which, when used together, constitute a powerful frame for generating insights about human behaviors and decision-making in specific contexts. Schwartz posited the values of universalism, benevolence, self-direction, stimulation, hedonism, achievement, power, security, conformity, and tradition. Lasswell posited the related values of rectitude, respect, affection, enlightenment, skill, power, wealth, and well-being. We illustrate the utility of a values frame through an appraisal of social and decision-making processes in the Glen Canyon Dam Adaptive Management Program.

D. Mattson (✉)
U.S. Geological Survey (USGS) Southwest Biological Science Center,
Northern Arizona University, P.O. Box 5614, Flagstaff, AZ 86011, USA
e-mail: David_Mattson@usgs.gov

H. Karl
Department of Natural Resources and Environment, University of New Hampshire,
Durham, NH, USA
e-mail: hkarl@comcast.net

S. Clark
Institution for Social & Policy Studies, Yale University – Kroon Hall, 195 Prospect Street,
New Haven, CT 06511, USA
e-mail: susan.g.clark@yale.edu

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1 Background and Approach

Most scholars of natural resource management and policy claim that values are central to human interactions. Yet in many writings the exact or even general meaning of "values" is rarely clear, other than related in some way to human motivation outside the realm of rationality. Given the apparent centrality of this concept, we see merit in striving for a more or less shared and stable notion of values to undergird inquiry and communication. But we also see merit in drawing on multiple frameworks to capitalize on the best each has to offer, to cover relevant human experience more comprehensively, to capture superior nuances of emphasis, and to provide adequate conceptual scope.

We offer here our thoughts on how values might be usefully construed in a policy context, emphasizing schemes developed by Harold Lasswell (1948) and Shalom Schwartz (Schwartz and Bilsky 1987), with reference to Abraham Maslow's notion of a hierarchy of needs (Maslow 1954). We feature Lasswell's scheme, but do not intend to subsume any scholar's work within another's. We see strengths and weaknesses in all the featured concepts and seek to highlight the strengths, identify the weaknesses or gaps, and clarify similarities. We do not imply equivalence where we identify similarity, but rather we cross-map the schemes to clarify gaps in coverage of each, to identify categories that stand up to the idiosyncrasies of authorship (for example, "power"), and to create a basis for relating the considerable psychological research behind Schwartz's values to the more policy-relevant values constructed by Lasswell.

In defining values we do not assume that this psychological construct is real, in the sense of existing independent of human subjectivity and awaiting discovery by some enterprising researcher. Psychological theoreticians continue to produce schemes and related metrics to slice and dice the continuum of affective and cognitive human experience, with the hope that it will constitute progress toward greater efficiency of communication and efficacy in application. Most psychological schemes reflect human experience, yet some do so more consistently in certain contexts and offer better prospects for a more or less stable language. We do not conclude from this that such schemes are "true," only more efficient, concise, or perhaps politically privileged within academia. Given our relativist's perspective on the human psyche, we also recognize that notions of values are partly defined by the surrounding field of concepts, all of which seem to be in continuous flux as academicians seek to expand or restrict scope in pursuit of purity or even professional advantage. Conceptions of values overlap with conceptions of traits, attitudes, preferences and worldviews, which require that we offer at least some semblance of definition for all.

2 A Definition of Values

"Values," as a term, has been used to refer to everything from storylines to objects. We find it most useful to apply the term to the fundamental non-linguistic ways that people orient to the world. According to this notion, values are physical and psychological indulgences that people desire or seek. For most people, desire is accompanied by an ethical or moral justification or simply a self-adequate explanation for why the desiring is desirable, with predictable self-reinforcing tendencies. Most existing definitions of values emphasize an ethical element (Hitlin and Piliavin 2004), but the policy-relevant notions discussed here are, in application, clearly rooted in the preceding desire or attraction.

For purposes of understanding human behavior in policy systems, values are also best conceived of as enduring general tendencies as opposed to transitory and context specific. Knowing, for example, that someone has a persistent attraction to power, as a value, offers greater opportunity for insight into policy-related behavior compared to knowing that someone has an evening's attraction to snowmobiling. References are frequently made to people valuing things, such as timber, grazing, or roads. We find it more useful to construe values as comparatively few abiding foundational orientations. In other words, valuation can be understood at three resolutions: (1) specific to singular things or experiences, such as a wilderness outing at a particular time and place; (2) specific to cultures, societies, or technologies, such as wilderness or off-road vehicular recreation; and (3) broadly applicable to the human condition, regardless of time, place, or culture, which is the conception we offer here.

2.1 Schwartz's Schematic

Of the numerous schemes to classify values or related notions functionally, Shalom Schwartz's categories (Schwartz and Bilsky 1987, 1990) are perhaps the most widely accepted in circles of psychological research. The classification consists of ten parts: power, achievement, security, tradition, conformity, benevolence, universalism, self-direction, stimulation, and hedonism. Schwartz and others hold that this classification efficiently, comprehensively, and functionally captures what people value in life, transcending specific situations (Schwartz 1992, 1994; Spini 2003).

Because of its roots in psychodynamics, this classification lends itself to consolidation under the superordinate categories of self-enhancement (the first two), conservation or conservatism (the second three), self-transcendence (the next two), and openness to change (the next to last two). Hedonism straddles self-enhancement and openness to change. In other words, people who strongly orient toward power and achievement tend to behave in self-enhancing ways, those who orient toward benevolence and universalism behave in self-transcending ways, those who orient toward self-direction and stimulation behave in ways open to novel or challenging

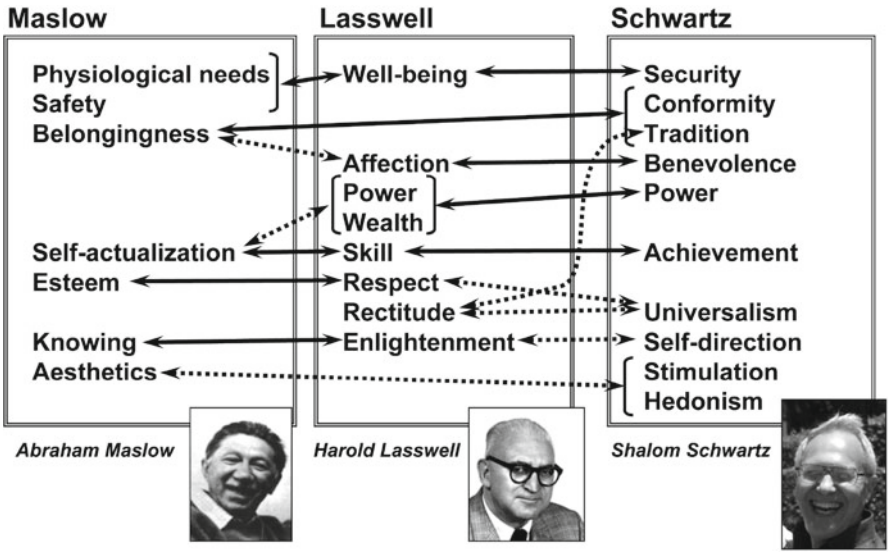

Fig. 12.1 Relations (*arrows*) among Lasswell's, Schwartz's, and Maslow's classifications of values or "needs." *Dashed arrows* denote conceptually weaker relations

experiences, and those who orient toward security, tradition, and conformity behave in ways that preserve the status quo – all with obvious implications to how human interactions might unfold.

2.2 Lasswell's Schematic

Harold Lasswell introduced a value classification in 1948 explicitly designed to link individual orientations with societal institutions (Lasswell 1948; Lasswell and Holmberg 1992). This eight-part scheme consists of power, wealth, skill, well-being, rectitude, respect, affection, and enlightenment. Lasswell's scheme clearly relates to Schwartz's, although Schwartz explicitly subsumes wealth under power, as a form of control, and includes the values of hedonism and stimulation, which are only obscurely suggested by Lasswell's classification (Fig. 12.1). One of the most important contributions of Lasswell's scheme is the linkage between values and institutions (Clark 2002; Lasswell 1971). For example, wealth pertains to institutions of finance, power to institutions of politics, and enlightenment to institutions of education.

This linkage to institutions is fundamental to Lasswell's classic formulation of the policy process: people seeking values through institutions using resources (Lasswell and Kaplan 1950). Lasswell and his collaborator Myers McDougal did not claim that each value was unique to each institution (Lasswell and McDougal

1992a); they merely claimed that one value tended to be featured, with all other values at play in some measure for the involved people. In this context Lasswell made a key distinction between scope or terminal values (values that were ultimately being sought) and base or instrumental values (values being used to obtain scope values). All values could be either scope or base, depending on the situation and individuals. For example, wealth (as a base value) is often used within educational institutions to obtain opportunities for enlightenment (a scope value). Conversely, enlightenment (as a base value) is often used in financial institutions to obtain more wealth (a scope value).

2.3 Maslow's Hierarchy

Maslow introduced an influential theory in 1943 positing that humans experience a hierarchy of "needs," from maintaining adequate physiological function and obtaining security, affection, and esteem to acquiring knowledge and experiencing beauty to self-actualization and transcendence (Maslow 1943, 1954). These needs correlate with the values of Lasswell and Schwartz (Fig. 12.1), consistent with both needs and values motivating people to seek something from the world. The merits of Maslow's theory have been vigorously debated, though usually without calling into question the notion of some kind of hierarchy. Disagreement has often centered on refining the hierarchy, the nature of "need," and whether "need" is defined by the immediate subjective perceptions of individuals or by more stable trans-subjective considerations related to survival, individual development, and attainment of human dignity (e.g., Wabba and Bridwell 1976; Sirgy 1986; Zinam 1989; Heylighen 1992; Diener and Diener 1995; Frame 1996; Pyszczynski et al. 1997; Hagerty 1999; Sheldon et al. 2001; Harper et al. 2003; Oleson 2004).

We find a trans-subjective conception useful for application to policy given the self-evident importance of death or chronic illness if physiological functions cease or are compromised and the profound psychological impairment that occurs when people are deprived of physical contact and affection (e.g., Woolverton et al. 1989; Goldfarb 1945; Hollenbeck et al. 1980; Kagan and Moss 1983; Haney 2003; Maercker and Schützwhal 1997; Van der Kolk 1987). This perspective is also consistent with the widespread correlation between wealth and well-being. People's subjective assessments of their well-being are strongly linked to income and its associated baseline physical provisions, but only up to a point, after which well-being is uncoupled from wealth (Diener and Oishi 2000; Veenhoven 2000). All of this research is consistent with some sort of hierarchy in factors affecting the human condition.

Viewed this way, Maslow's hierarchy of needs complements the values of Lasswell and Schwartz by implying a policy-relevant ranking of needs related to physical survival, self-enhancement, and self-transcendence. Individual histories, codified in personality, combine with circumstance to determine whether people are captive to survival values or free to seek transcendence, with effects on how they treat each other in matters related to natural resources. Similarly, if human dignity is the guide

(see below), then physical survival logically trumps rectitude when such fundamentally different stakes are at odds in a decision that is part of a policy process.

We are not saying that self-transcendent values cannot be powerful motivators for certain people at certain times – to the point, for example, of driving some to risk or even seek death in a righteous cause. Rather, we are suggesting that the notion of hierarchy can be useful to understanding differences between classes of natural resource policy cases, for example, involving air and water pollution (more relevant to physiological function and health) versus endangered species (more relevant to rectitude or self-transcendent appeals), rooted in psychological dynamics intrinsic to the very construction of consciousness.

3 Values Versus Preferences, Attitudes, and Traits

Values, as we construct them here, differ from preferences, attitudes, and personality traits. Although clearly influenced by values, preferences are defined with explicit reference to external conditions in a specific context – technically the rank order of choices that a person would make given equal access to a fixed set of options, whether durable or experiential (Samuelson 1948; Sen 1973). Would a person preferentially choose a wilderness hike or a day at the movies, given no difference in cost? Rank order and limited explicit options are central to the notion of preference, but not to values.

Attitudes also embody values, but as with preferences they are directed toward specific objects, experiences, or alternatives, with an assessment of good, bad or indifferent (Chaiken and Stangor 1987; Kraus 1995; Petty et al. 1997; Vaske and Donnelly 1999; Hitlin and Piliavin 2004; Dietz et al. 2005). By their nature, attitudes are well-suited to measurement on a scale ranging from like to ambivalent to dislike. Unlike functional values, attitudes are as numerous as the objects and experiences that people or analysts choose to differentiate, and they are distinguished by a judgmental stance regarding the outside world rather than by an inward-originating desire.

In contrast to preferences and attitudes, which integrate and embody values, personality traits are more deeply psychologically rooted, impulsive ways of being. The best-known contemporary scheme for describing traits is commonly known as the Big Five: extroversion, conscientiousness, agreeableness, openness to experience, and neuroticism (Digman 1990; Goldberg 1990; McCrae and John 1992; McCrae and Costa 1996; O'Conner 2002). Each of these traits is expressed to varying degrees largely configured by genetics and early developmental experiences (McCrae et al. 2001; Lang et al. 2002). As such, traits more plausibly affect value orientations rather than the reverse, and, in fact, researchers have found positive associations between Big Five traits and Schwartz's values: of extroversion with power and stimulation, conscientiousness with achievement and conformity, agreeableness with benevolence, tradition, and conformity, and openness with universalism and self-direction (Bilsky and Schwartz 1994; Dollinger et al. 1996; McCrae 1996; Roccas et al. 2002; Olver and Mooradian 2003; Aluja and García 2004;

Van Hiel and Mervielde 2004; Cohrs et al. 2005). Neuroticism has no strong association with values and can be thought of as an expression of unsuccessful strategies for coping with existential concerns.

4 Values Versus Worldviews

Values, as we have defined them, are also conceptually different from worldviews or, more specifically, views of nature. Worldviews are perhaps best understood as symbolically resonant narratives that embody values and encompass and articulate beliefs about how the world is and should be (Damasio 1994, 1999; McAdams 1996; Deacon 1997; Tomasello 1999; Donald 2001; Fauconnier and Turner 2002; Koltko-Rivera 2004).

Scholars have offered numerous ways to classify views of nature, typically arrayed along a gradient from the anthropocentric to eco- or biocentric, at one extreme averring the centrality of humans and instrumental "valuation" to, at the other extreme, asserting the intrinsic worth of nature (Gagnon Thompson and Barton 1994; Stern and Dietz 1994; Fulton et al. 1996; Karp 1996; Vaske and Donnelly 1999; Deruiter and Donnelly 2002; Dietz et al. 2005). Stephen Kellert developed perhaps the most nuanced scheme for describing the ways people understand and give voice to relations between people and nature, which he has at times termed "attitudes" (Kellert 1985, 1989, 1996; Kellert and Smith 2000). At the most anthropocentric, nature is feared or viewed as something to dominate and convert into wealth (i.e., the negativistic, dominionistic, and utilitarian views). At the most biocentric, animals have standing as virtual people, humans carry a burden of stewardship, and nature is prized primarily for its beauty and healing presence (i.e., humanistic, moralistic, aesthetic, and naturalistic views).

Values and nature views are not synonymous. People can hold a range of both. For example, two people could prioritize power, yet one voice a dominionistic perspective and the other one a moralistic perspective – both seeking power, but to advance different animal- or nature-related outcomes. Yet values and nature views are not entirely independent. Those who prioritize self-enhancement and conservatism do tend to hold anthropocentric nature views; those who prioritize self-transcendence and openness to change tend to hold biocentric nature views (Stern and Dietz 1994; Kaltenborn et al. 1998; Vittersø et al. 1998; Bjerke and Kaltenborn 1999; Schultz and Zelezny 1999; Clump et al. 2002; Kaltenborn and Bjerke 2002; Schultz et al. 2005).

5 Values and Behavior

Values are also clearly not divorced from how people tend to treat each other and whether their interactions cumulatively erode or enhance collective dignity. Universalism and, less so, self-direction positively correlate with both human-centered and nature-centered altruism as well as with the capacity for empathy and the taking of others' perspectives (Schultz 2000, 2001). It is thus not surprising that universalism

positively correlates with both an interest in and capacity to engage with others who have different interests and identities. By contrast, conservative values are positively correlated with maintenance of rigid group boundaries, a disinterest in constructively engaging with unlike others, and a tolerance or even desire for authoritative structure; an emphasis on power positively correlates with egoistic motivations and a willingness to perpetuate inequality among people and groups (e.g., Bilsky and Schwartz 1994; Sagiv and Schwartz 1995; Sullivan and Transue 1999; Whitley 1999; Heaven and Bucci 2001; Heaven and Connors 2001; Roccas et al. 2002; Jost et al. 2003; Aluja and García 2004; Ekehammar et al. 2004; Van Hiel and Mervielde 2004; Cohrs et al. 2005; McFarland and Mathews 2005a, b; Duckitt 2006). The bottom line is that a greater capacity for self-transcendence and self-direction increases the odds that conflicted participants in natural resource cases will be able to engage civilly to find common ground, in contrast to situations where circumstances and personalities lead participants to focus on self-enhancement and conservatism.

6 Values and Human Dignity

Building on such relations, Harold Lasswell and Myers McDougal crafted operational definitions of human dignity and democratic character expressed in terms of functional values (Lasswell 1948; McDougal et al. 1980; Lasswell and McDougal 1992b). Dignity is a condition that arises when humans have sufficient access to all values (Fig. 12.2). In application, sufficiency is inexact; as a notion, however, this definition of dignity is a powerful heuristic tool. We may not know exactly when human dignity has been achieved, but, at the same time, it is not too difficult to recognize when individuals have been so deprived of access to power, or wealth, or well-being (e.g., health), or respect, or enlightenment (e.g., education), that their dignity has indeed been impaired. Likewise, "democratic character" does not lend itself to definitional closure. Yet, people who orient strongly toward respect, universalism, enlightenment, or self-direction more dependably exhibit democratic character compared to those who have no concern for others and are consumed by the pursuit of wealth, power, or personal achievement. Liberal democracies depend for their survival on values such as universalism or enlightenment that are manifest in informed, civic-minded citizens who respect the rights and interests of others (Madison 1961; Schattschneider 1975; Dahl 1982, 2006; Shils 1997). Such values socialize citizens to limit conflict and bear the losses that are an inevitable outcome of democracy in action.

7 Values Versus Interests

Most observers of political behavior describe human motivations in terms of interests (e.g., Susskind and Cruikshank 1987). People self-evidently pursue their interests through societal institutions, using whatever strategies and resources they

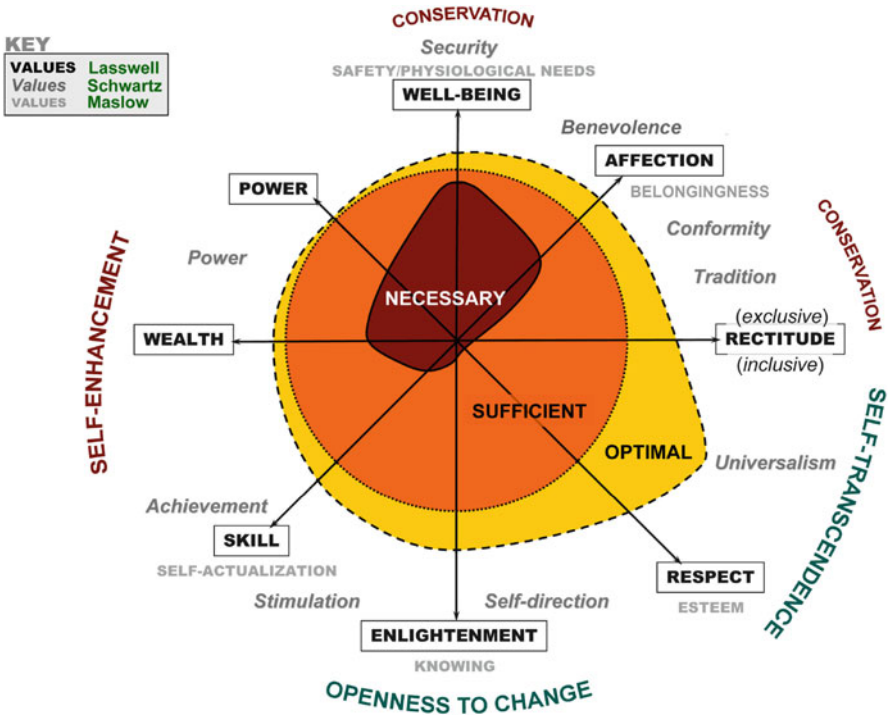

Fig. 12.2 A diagrammatic heuristic showing relations between Lasswell's, Schwartz's, and Maslow's classifications of values or "needs," distributed as necessary to sustain autonomous life function over nominal periods of time ("***NECESSARY***"), sufficient to achieve minimum human dignity ("***SUFFICIENT***"), and optimally expressed in democratic character ("***OPTIMAL***"). Values can be notionally plotted on this diagram to express both the aspirations of individuals and the outcomes or effects of situations

have at their disposal or are inclined to use. Strategies for advancing interests range from the more ameliorative, in the form of negotiation, to the more punitive, in the form of forceful imposition. Interests are an understandable focus of attention for those who observe the superficial dynamics of socio-political processes, because people typically express their demands that way. Interests are explicitly attached to desired time- and place-specific outcomes, which are articulated in the form of narratives that people construct for themselves and others. Put more esoterically, McDougal et al. (1980) defined interests as "a pattern of demands for values plus the supporting expectations about the conditions under which these demands can be fulfilled."

Notice that McDougal and others explicitly relate interests to values as well as to context. Viewed this way, interests can be understood as context-specific expressions of value orientations or value demands. People's demands are typically in the form of some concrete thing or experience, but in virtually all cases functional values can be divined just below the surface. In some cases the link is

overt, as when people expressly seek power or money or skill or love or loyalty, but more often the value – in the sense of Schwartz or Lasswell – is implicit rather than explicit.

An exclusive focus on interests can handicap those who are engaged in analyzing human dynamics or in designing and implementing decision-making processes, especially if the goal is to change the dynamics to achieve different outcomes and effects. The rhetoric of expressed interests is often politicized, in that it is framed to gain advantage and enmeshed in the drama of most policy processes. Interests are also often focused on the content and outcomes of decision making rather than the nature and quality of the processes themselves. A focus on content is problematic because process is at the heart of societal institutions, and it is through the processes we design and perpetuate that we either achieve a commonwealth of human dignity or spiral into a quagmire of despotism. A focus on value demands, value creation, and value exchanges opens a window on dynamics that we contend are the most meaningful when it comes to diagnosis and design.

8 Values in Researching and Understanding Policy Processes

As conceptualized here, values are central to human social interactions and decision making. At the most basic level, human interactions can be understood as the creation and exchange of values. Likewise, decision making can be thought of as the allocation or appropriation of values, and policy making as the process of how and under what circumstances society will make values available to whom. Lasswell's analytic framework, featuring standpoint clarification, problem orientation, and social- and decision-process mapping (Lasswell 1971; Lasswell and McDougal 1992a; Clark 2002), is especially well-suited to this conceptualization of values as central to human affairs. According to Lasswell, assessment of participants' value priorities, value demands, value deployments, and value gains or losses is central to researching and understanding policy processes, framed as social interactions organized around decision making. What values are at stake, for whom, with what salience, in what decisions, and with what immediate and longer-term value outcomes?

Scale is critical to analyzing value dynamics in policy or decision-making processes. Values are at stake for people at three plausible scales (Fig. 12.3): in the decision-making process itself, as a direct outcome of the process, and as longer-term effects of ingrained patterns. Power and respect are often paramount values at stake for individuals in the design and execution of authoritative decision making; affection and enlightenment can also be major values at play. In other words, who has a seat at the table (power) with what kind of authority and accountability (power), and are those involved inclined to accommodate the interests of others (respect) and treat them civilly (respect) as a basis for reaching durable outcomes? Are those involved capable of empathy for others (affection/benevolence), do they have loyalty to the group and its process (also affection), and do they seek information

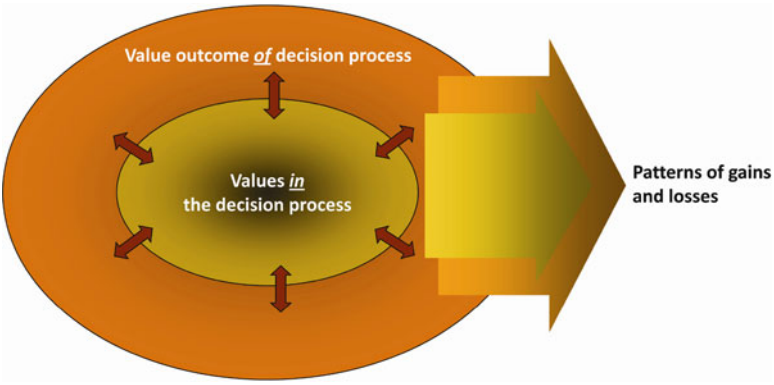

Fig. 12.3 A conceptual representation of relations among value dynamics at three scales: *in* the decision process; as an immediate outcome *of* the decision process; and as longer-term broader-scale effects of value gains and losses

as a way of building shared understandings of how the world works (enlightenment), as a basis for solving collective problems? All values can be at stake in outcomes of authoritative decision-making, but in most societies wealth, well-being, and rectitude (morally correct outcomes) are often priorities. In the longer term, value dynamics that indulge the few at the expense of the many can erode the very bases for civil society and human dignity.

We have found that clarifying scale-specific value dynamics provides powerful insights, especially when coupled not only with worldviews but also with notions of existential psychology. Existential psychologists contend that people are beset with certain core concerns that arise from the very nature of human consciousness: concerns about isolation, about meaning, about responsibility, and about death, the granddaddy of them all (Yalom 1980). Existentialists would argue that much of what people do pertains to the resolution of these concerns, and that anxiety and even terror attend any degree of irresolution. From another perspective, people can be viewed as seeking values to address existential concerns or needs. Achieving desired values helps to calm the existential waters, so to speak, whereas deprivation of desired values inflames existential concerns. Psychological researchers have found that anger, frustration, and other expressions of discontent are rooted in underlying fears and anxieties (Ortony et al. 1988; Berkowitz 1999; Strasser 1999), which are rooted, in turn, in existential psychodynamics (Yalom 1980). Building on these concepts, we view anger and frustration as key diagnostics of inflamed existential concerns arising from value deprivations, which are often meted out by poorly designed or implemented decision-making processes. Discontent is the diagnostic, values are the medium, but social and political processes are the ultimate focus.

9 A sample Application: The Glen Canyon Dam Adaptive Management Program

In this penultimate section we apply a value perspective to the analysis of a particularly interesting natural resource management case: the Glen Canyon Dam Adaptive Management Program (AMP). Given the context and space, we are necessarily cursory. Our intent is to provide just enough detail to illustrate the application and potential of a value-based analysis. With that purpose in mind, we explicitly build on several recent substantive appraisals of this program by Camacho (2008) and Susskind et al. (2010). Much of what we present is merely a recasting of these prior analyses in terms of values, but we also build on this previous work to illustrate additional key dynamics thrown into relief by a value-based perspective.

The Glen Canyon Dam was constructed across the Colorado River near the U.S. Arizona-Utah border to control water and provide hydroelectric power. Closure of the dam in 1963 resulted in downstream effects on an ecologically, culturally, and aesthetically important region. These effects precipitated private and public reactions, including application of the U.S. Endangered Species Act to conserve several fish species threatened by dam-related changes in hydrology.

The U.S. Department of the Interior convened a stakeholder group with an adaptive management mandate (the Adaptive Management Working Group, or AMWG) to investigate alternatives for dam management that fulfilled existing legal mandates (for water allocations and energy production) while mitigating negative impacts on downstream resources. The AMWG was constituted as an advisory group chaired by a designee of the U.S. Secretary of Interior, advised by a Technical Working Group, and informed by a science arm called the Grand Canyon Monitoring and Research Center. The AMWG consists of 25 stakeholders representing different interests (Fig. 12.4), but chosen through an opaque process (Susskind et al. 2010). Six stakeholders represent Native American tribes with histories and cultural perspectives quite different from those of others on the AMWG. The Glen Canyon Dam AMP (AMP hereafter) has been represented both as a great success and as a significant failure, although almost all who have been involved privately express considerable discontent.

9.1 Existing Critiques

Camacho (2008) and Susskind et al. (2010) concluded that the AMP suffered from numerous critical failings when compared against ideals of the public trust and collaborative adaptive management. These failings can be identified in both the initial design and subsequent implementation of the AMP. Most pertain to design (i.e., “constitutive” elements), including the poor up-front analysis of interests, an unbalanced representation of interests, the compounding effects of decision-making protocols (e.g., allowance for resolution by vote versus by consensus), the failure to

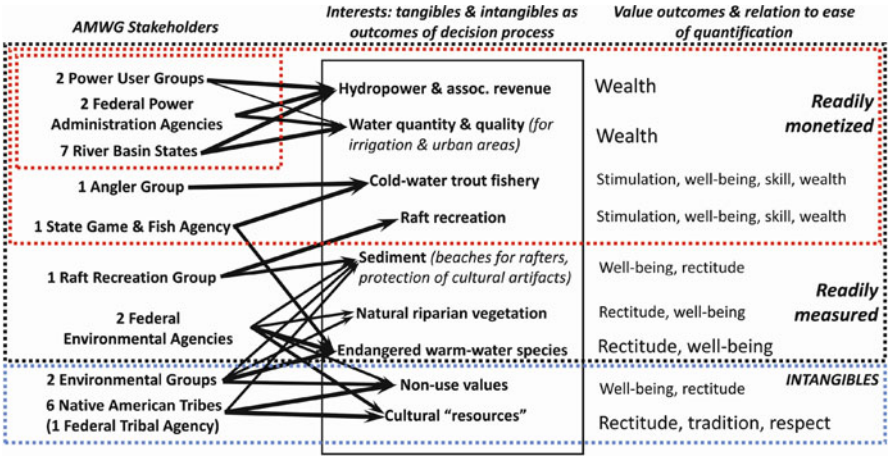

Fig. 12.4 Relations among stakeholder groups, interests, and value outcomes for the Glen Canyon Dam Adaptive Management Program, Adaptive Management Working Group (AMWG). Stakeholders are comprised of groups with a similar focus (e.g., "*Environmental Groups*"), and the number of each is given at the far left. Arrows show how stakeholder groups roughly identify with different interests. The *red dashed box* in the *upper left* identifies groups identified with hydropower and water provisioning who consistently vote as a unified block; all other groups are comparatively fragmented. Interests and values are differentiated by whether they are readily monetized and measured, readily measured but not monetized, and "*intangibles*" not amenable to either measuring or monetizing

involve stakeholders in the design of the process, the failure to clarify the roles and responsibilities at all scales, the failure to clarify the direction and goals of the program, the failure of Congress to fulfill its responsibilities to national-level interests and policies, and the failure to employ joint fact finding in information and science activities. Of relevance more to implementation, the shortcomings included the failure to use neutral facilitators with adequate skills, the failure to secure authoritative agreements with the stakeholders, the failure to build the capacity of the AMWG, the failure to monitor and adapt the decision-making process itself, and the lack of AMWG accountability.

9.2 An Interpretation Based on Values

The value dynamics evident in this case are intriguing. A close reading of Susskind et al. (2010) shows that these authors implicitly or explicitly referenced all of Lasswell's values with rank-order frequency as follows: power (24 instances); respect (20); enlightenment (11); wealth (11); well-being (10); skill (7); rectitude (6); and affection (understood as loyalty; 5). Of greater interest, power and respect were most frequently invoked (21 and 18 instances) in reference to values at stake

in the AMP decision process, followed by enlightenment and skill (11 and 7 instances). Wealth (11 references), well-being (also reckoned as stimulation; 10), and rectitude (especially relative to cultural values, which include biodiversity conservation; 6) were most frequently mentioned as important value outcomes *of* the AMP decision process. Notice the lack of overlap between priority values at stake *in* the decision process versus as an outcome *of* the process.

Power and respect emerge as seminal values in design and execution of the AMP decision process itself. Power, when broken into its constituent elements of authority, control, responsibility, and accountability, was a priority value pertaining to who participated, representing what interests, with what responsibility, and what accountability. Ambiguities regarding authority and accountability were clearly a major issue, along with imbalances of power in representation, amplified by decision-making protocols. But respect was also clearly a priority value *in* the process. Its relevance was tacit in the way that Susskind et al. (2010) invoked the importance of "collaboration," "constructive engagement," "trust," "having a say," and so on, all of which are rooted in the dynamics organized around respect or its opposite, disrespect (or respect deprivation). Skill was invoked primarily in reference to power and respect, specifically the skill of facilitators in redressing power imbalances and creating a respectful process. Interestingly, although enlightenment (e.g., "learning" and "understanding") was also invoked, this value was not central, which is at variance with tenets of scientific management.

Turning to the value outcomes served by the AMP decision process, it is necessary to relate values to interests to stakeholders to voting patterns (Fig. 12.4). Representatives of the electric power user groups, the river basin states, and the federal power administration agencies routinely voted as a unified block of 11, organized solidly around their interests in hydropower, water for irrigation and urban areas, and associated revenues (Camacho 2008; Susskind et al. 2010). The links between these interests and wealth outcomes were strong. By contrast, the stakeholders aligned with all other interests were fragmented, and the values attached to their interests were diverse and not often directly linked to the attainment of power or wealth. Priority outcomes for those not aligned with hydropower and water provisioning included well-being, stimulation, skill, rectitude, tradition, and respect. Bringing in an additional consideration, all of the interests except "non-use values" and "cultural resources" were easily *measured*, and hydropower, water provisioning, cold-water trout fishery, and raft recreation interests were also easily *monetized*.

9.3 Some Implications

Our very cursory diagnosis, building on Camacho (2008) and Susskind et al. (2010), makes clear that those who constituted the AMP did not deal adequately with the design of elements pertaining to power and respect, either *in* the process or as an outcome *of* the process. This conclusion holds whether we reference public interest, collaboration, or human dignity goals. The AMP appears to have been fraught with power imbalances and ambiguities related to who held authority and who was

accountable (Emerson 2010). Equally important was the neglect of respect in all aspects of design and execution, especially early on in the AMP's history. Power imbalance and respect deprivation tend to feed on each other in a way that is particularly insidious. Disrespect often fosters crass uses of power, and vice-versa.

The lack of dignity-informed attention to power and respect issues in the AMP can be plausibly traced back to shortcomings in the paradigm of scientific management. Despite efforts to include considerations of governance (Shindler and Cheek 1999; Olsson et al. 2004), adaptive management remains focused on the process and production of science (Brunner and Steelman 2005). People often assume that enlightenment is paramount in human affairs, especially enlightenment generated by science and especially in the implementation of policy. The AMP – just one case among many – makes it clear that other values such as power and respect are in fact paramount *in* the process of decision making and that enlightenment (as a base value or value resource) is often subordinated to the service of these and other values both *in* the process of decision making and as an outcome *of* decision making. We contend that the model of scientific management perpetuates inattention to critical matters regarding values in the design and execution of policy processes, which, ironically, leads to the heightened politicization of science itself, as described for the AMP by Susskind et al. (2010). Joint fact finding, which Susskind and others recommend, is, as it should be, less about enlightenment than it is about power and respect. Joint fact finding deals with these values in ways that increase the odds that enlightenment will lead to a shared understanding of the world as a basis, in turn, for the creative invention of alternatives and the civil negotiation of interests.

We suspect that interests organized around power and wealth values strongly influenced both the initial design and the subsequent outcomes of the AMP. Those who were oriented toward power and wealth outcomes linked to hydropower and water provisioning were disproportionately afforded power in the design of the AMWG, and they leveraged this power to their advantage by voting and otherwise working as a disciplined block (Camacho 2008; Susskind et al. 2010). The stakeholders who were overtly linked to power and wealth outcomes had an additional *prima facie* advantage because their interests were not only easily measured, but also easily monetized, which conforms not only to the cultural and societal biases of the United States but also to the predispositions of biophysical science: if you can't measure it, it doesn't really matter. The AMP materials that document how the trade-offs were evaluated (http://www.usbr.gov/uc/envdocs/) show that monetary impacts on hydropower interests were often calculated with great exactness.

The advantaged position of the stakeholders with hydropower and water interests contrasts sharply with the position of those stakeholders whose interests were not amenable to either measurement or monetization, or not as easily linked to power and wealth outcomes. Virtually all of these disadvantaged stakeholders were tribal representatives who, in part, expressed interests related to wealth (e.g., economic development), but more often expressed interests related to rectitude and tradition (e.g., sacred or spiritual interests attached to the symbolic construction of places and practices), with little overt connection to science and monitoring activities that are

supposedly at the heart of adaptive management (Dongoske et al. 2010). Based solely on the observed dynamics of the AMWG (e.g., Emerson 2010), we speculate that tribal representatives experienced chronic respect deprivation in a process that marginalized their interests, as if by design. This speculation is consistent with the first author's observations of public statements by tribal representatives, which evinced feelings of disrespect and highlighted the alien nature of science-based management. By focusing on the authority of science and scientists and the related assumed primacy of enlightenment, the AMP, as a special case of adaptive management, seems to have chronically disregarded respect dynamics and perpetuated outcomes that were corrosive to civility and human dignity.

Observations by Camacho (2008) and Susskind et al. (2010) as well as our own observations establish that most people involved in the AMP are discontented. As we noted earlier, discontent is often a sign of chronic value deprivations. The most significant deprivations apparently have been of power and respect *in* the process, especially for those whose interests were not organized around hydropower and water provisioning. Virtually everyone who expresses themselves about the AMP tacitly or explicitly communicates feeling disrespected. Such violations of "self" typically lead people to hunker down around their special interests, a defensive closure rooted in fear and distrust. Under such circumstances, invocations of the greater good are treated with skepticism at best, which confounds any realization of common interests. Moreover, politicization of science is almost inevitable, and enlightenment becomes a base value deployed in service of partisan interests, which is the very antithesis of the presumed intent of collaborative adaptive management (Susskind et al. 2010).

10 Conclusion

We find that the functional notion of values described here offers considerable insight into people and their interactions in natural resource cases. As with all concepts, classifications of values are rubrics, with the associated risks of over simplification, but also with the virtue of offering a manageable language for analysis and communication. Individuals' value orientations are also not static. They vary with age and circumstance, which means that any value-based understanding of human behavior cannot be divorced from an understanding of context. People do seek "things," but we suggest that, more fundamentally, they seek to shape and share values with others through exchanges structured by the norms of societal institutions (Lasswell and Holmberg 1992).

In a commonwealth of human dignity, values are widely shared and enjoyed (Mattson and Clark 2011). Under despotism, the privileged few accumulate values by depriving the disadvantaged many. Tensions between despotic and democratic forces occur not only within states. They also occur within our institutions of natural resource management, often in ways made opaque to those involved by the normalizing effects of bureaucratic routine. Scholars of democracy have repeatedly suggested

that a principal duty of democratic citizens is to identify and to nullify those forces that produce despotic outcomes. The concept of values presented here potentially offers such agents of democracy a compass that is oriented to the concept of human dignity.

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