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SUTAINABLE FORESTRY: INCORPORATING ECOLOGY AND ECONOMICS THROUGH INDEPENDENT CERTIFICATION

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Faculty Comments

This paper does a good job of developing the theory of sustainable development in a practical setting. It examines the links between the notion of "sustainability" and the [redacted] practical challenge of becoming "certified." Thetis Bay is a good example of a company that could benefit from certification, but organizational culture and existing management practices may inhibit this proce

Signature of Faculty Supervisor

Sutainable Forestry: Incorporating Ecology And Economics Through Independent Certification

Title

INTRODUCTION

This research provides an overview of the concepts of sustainability as they apply to the forest management. The first section provides an initial anlaysis of sustainable development theory. The second section examines how stakeholders are beginning to hold the forestry industry responsible for managing their holdings according to sustainability criteria through (i) governance interventions and (ii) forest certification programs. Finally, several case studies are examined which provide information on forestry companies who have been certified and then a focused case on one company in Michigan's Upper Peninsula which is managing its lands with processes in place that are very similar to those companies who have chosen to be certified. This analysis shows how many forest industry players are managing lands with increased complexity and to maximize multiple management goals.

EXPLORING SUSTAINABLE DEVELOPMENT CONCEPTS

Sustainable development emerged as a western response to the neglect of social and environmental impacts of economic development. To understand how sustainable development emerged as a new paradigm, it is important to look at the dominant perception of economic development, social systems, and science. This section provides a brief overview of where we have been, what has emerged out of the discussion about sustainable development, and other issues that are emerging from the dialogue on the sustainability of our human and non-human systems.

Traditional economic development theory proposes that nation-states undergo an industrial and agricultural transformation to increase efficiency of production and distribution, thereby increasing human welfare. In this scenario, technological knowledge and science combine to replace physical labor with technological capital. In order to promote this industrial transformation, democracy and the establishment of free markets is essential so that goods and services can be freely exchanged and information can flow freely, increasing the well-being of the world's people. This development paradigm is captured in the idea of progress.[1] The appeal of this linear, upwardly advancing human condition was not challenged for decades, until it became evident that markets do not function perfectly, that the benefits accrued by some are borne as costs elsewhere, and that human cultures, prejudices and power do not change with progress, over time. As Richard Norgaard points out in his critique of traditional economic development practices:

> Modernity promised control over nature through science, material abundance through superior technology, and effective government through social organization. Modernity also promised peace and justice through a

[1] Richard Norgaard, Development Betrayed, the end of progress and a coevolutionary revisioning of the future. Routledge Publishing, 1994.

> higher individual morality and superior collective culture to which all, free of material want, would ascend.[2]

Even the technologies we develop are double-edged swords. In the latter part of the twentieth century the environmental costs associated with our progress are becoming much more apparent: climate change, biodiversity loss, ozone depletion, significant coral reef and estuary declines, global deforestation of unprecedented rates, the bioaccumulation of toxic and hormone-mimicking chemicals, to name a few.

Just as traditional views of economic development were limited by creating a belief system around the idea of progress and technological development, similar myths have been created about science. Science is expected to provide "truth", and to provide interpretations of impacts. Yet understanding of biological and ecological functions remains limited. The questions asked, the time-frames for study and decision-making, and the limitations of understanding which influence the design of science, mean accepting science as imperfect. Environmental sciences are evolving. Feedback mechanisms must be built in to allow learning to take place, and re-examination, and expansion of the boundaries of science must occur.[3]

Human social systems also have been increasingly challenged by the rapid changes in economics and environment. In order for human development to be sustainable it requires social systems that are functioning. Today's social systems face challenges of multiculturalism and the extinguishing of human cultures at unprecedented rates, Clay writes that "Brazil has 'lost' one Indian nation (unique ethnic/cultural group) per year since the turn of the century... Nations are disappearing at a faster rate than the often fragile resource bases that they have used."[4] Ethnic hostilities are increasing due to diminished resource control in developing countries, traditional community structures and collective decision-making mechanisms are breaking down due to the rapid influx of external forces, rapid urbanization is changing local demographics and power, national government land colonization and resettlement efforts are creating new stresses on human systems, and development is causing social stratification based on access to power and wealth as well as increased consumerism and waste. Norgaard points out that we

> are having ever greater difficulty publicly comprehending the complexity of new social and environmental problems, understanding our collective interest in resolving them, and breaking the bureaucratic deadlock created by the extremes of competing political interests and inadequacies of scientific reasoning.[3]

[2] Norgaard, 1994, p. 1.

[3] Kai Lee, Compass and Gyroscope. GET REST OF REFERENCE

[4] Jason Clay, *Resource Wars: Nature and State Conflicts*, in Barbara Rose Johnston ed., Who Pays the Price? The Sociocultural Context of Environmental Crisis. Society for Applied Anthropology, Committee on Human Rights and the Environment, Island Press, 1994, pp. 20-21.

[5] Norgaard, 1994.

This difficulty is largely because the pace of change in our societies is disproportionate to our ability to adapt to change, and because of fear of risk and uncertainty. Our social systems are in transition: we are increasingly members of communities based on our cultural affiliations which are no longer based on geographical proximity. This means that corporations, institutions, interests, and ethnicity are transcending traditional social systems. To manage these new social systems in a sustainable development scenario, new communication channels are needed.

Even an economic system is a human social construction. As such, it operates efficiently if information and feed-back mechanisms are explicit and allow individuals, groups and other decision-makers to act. How they act is a reflection of social values about today and the future, how to manage uncertainty, who should benefit and why. The processes that will help us create sustainability, therefore, require accepting that science, economics, and human cultures are all based on subjective analysis and choices. Analysis must be holistic and integrative:

> Any adequate description of human systems must...take into account their social, symbolic, and conceptual elements as well as their demographic and economic characteristics. Indeed, economic systems are aspects of social systems and inasmuch as they are conventionally established and not "naturally" constituted, they are...social and symbolic in nature. An "economy" is...a set of conventions-institutions, rules, understandings, and practices—organizing the extraction, production, distribution, and consumption of goods, and the value of money is purely conventional.[6]

Much of the tension between traditional economic development and development decisions focused on creating economically, socially and environmentally sustainable systems is grounded in problems of time, scale, power and information processing.

The Emergence of the Sustainable Development Model

Questions regarding the sustainability of western systems emerged originally in the 1970's with the environmental movement focused on limits to growth and the population time bomb.[7] In the 1980's, global population growth (and neo-malthusian discussions on the carrying capacity of the earth), converged with high levels of material good consumption and the sudden realization of global environmental change (ozone depletion and climate change), and potential irreparable ecosystem damage.[8] In the

[6] Roy Rappaport, *The Human Environment, Appendix B, Assessment of the US Outer Continental Shelf Environmental Studies Program, Part III, Social and Economic Studies*, abstracted in, Barbara Rose Johnston, ed., Who Pays the Price? The Sociocultural Context of Environmental Crisis. Society for Applied Anthropology, Committee on Human Rights and the Environment, Island Press, 1994, p. 159.

[7] Noorgaard, 1994, p. 2.

[8] W.M. Adams, Green Development: Environment and Sustainability in the Third World. Routledge, 1990, pp. 27-30.

1980's, the concept of sustainable development emerged in the developed economies with a focus primarily on the developing countries where the greatest global environmental threats were occurring: rapid population growth, tropical deforestation, species loss, rising energy needs. One of the problems with the sustainable development model is that it has consistently focused on resource extraction rather than resource consumption simply because it is a movement that was generated in the highly consuming developed societies.

The Bruntland Commission's Report in 1987 provided the seminal definition for sustainable development, "Sustainable development is development that meets the needs of the present without compromising the ability of future generations to meet their own needs."[9] Adams interprets this definition as requiring complete societal restructuring and uses a table from the Bruntland report to demonstrate the magnitude of these required changes: [10]

Table 1: Requirements of a strategy for sustainable development

1.	A political system that secures effective citizen articipation in decision making
2.	An economic system that is able to regenerate surpluses and technical knowledge on a self-reliant and self sustaining basis
3.	A social system that provides for solutions for the tensions arising from disharmonious development
4.	A production system that respects the obligation to preserve the ecological basis for development
5.	A technological system that can search continuously for new solutions
6.	An international system that fosters sustainable patterns of trade and finance
7.	An administrative system that is flexible and has the capacity for self-correction

Norgaard, in *Development Betrayed,* comments that others have found this definition is insufficient because "as a criterion, it does not define needs, does not require that needs be efficiently met, and leaves open the possibility that the present generation could live beyond its needs so long as future generations needs are met".[11] These early definitions also do not explicitly shape the discussions to include social, economic, and ecological considerations. Norgaard cites a definition by Barbier which asserts that sustainable development should be a system which is designed:

[9] *World Commission on Environment and Development,* 1987, p. 43.

[10] Adams, p.61.

" Norgaard, p. 17.

> To maximize simultaneously the biological system goals (genetic diversity, resilience, biological productivity), economic system goals (satisfaction of basic needs, enhancement of equity, increasing useful goods and services), and social system goals (cultural diversity, institutional sustainability, social justice, participation).[12]

Engel and Engel define sustainable development in its broadest sense as:

> 'sustainable', by definition, means not only indefinitely prolonged but nourishing, as the Earth is nourishing to life and as a healthy natural environment is nourishing for the self-actualizing of persons and communities. The word 'development' need not be restricted to economic activity, much less to the kind of economic activity that now dominates the world, but can mean the evolution unfolding, growth and fulfillment of any and all aspects of life.[13]

Many westerners are dismayed by the rapid changes occurring in many developing countries because of the global consequences, value differences and unequal distribution of costs and benefits. Yet the planners and many of the developing country peoples who are seeking a higher standard of living are willing to pursue economic development through any means available. Paradoxically, that means the development model they select essentially assumes "the adoption of Western forms of knowing, technological intervention, and social organization (reducing) both cultural and biological diversity"[14] because this path is the most readily available. The adoption of technology and economic growth is largely based on what is immediately available: multinational corporate partnerships and multilateral development agency programs which offer traditional development options because that is their competency. Dependency theory points out how the economic development of this type promotes the continuation of existing power differences.[15]

The sustainability of these traditional development strategies is successful to varying degrees because of the very different socio-historical, ecological and economic contexts. Arne Naess writes that:

> Traditional societies before the great cultural shock of the modern industrial era were always in transition, but very slowly. The tremendous speed of change due to the influence of dominating industrial states has

[12] Barbier, 1987, quoted in Noorgard, p. 18.

[13] J.R. Engel and J.G.Engel, Ethics of Environment and Development. Global Challenges-Institutional Response. Belhaven/University of Arizona Press, 1990, p. 10.

[14] Norgaard, p. 103.

[15] Stan Burkey, People First: a Guide to Self-Reliant. Participatory Rural Development. Zed Books, 1993, p.28.

> severely damaged cultural identity, self-reliance, and even self-respect in many cultures.[16]

Rapid urbanization and globalization of the market economies has essentially splintered the social/cultural integrity by creating two separate economies: those who participate in the market, and those who act outside of the market.[17] As Dr. Stuart Hart points out:

> Owing in part to the rapid expansion of the market economy, existence in the survival economy is becoming increasingly precarious. Extractive industries and infrastructure development have, in many cases, degraded the ecosystems upon which the survival economy depends. Rural populations are driven further into poverty as they compete for scarce natural resources[18]

There is, therefore, an increasingly important split within developing countries. The developing country economic and political elite argue that they (on behalf of their constituents) should have the right to pursue economic development without restrictions based on developed-country environmental concerns, unless compensation is provided by the developed countries for restricting the development options. Traditional development choices place significant emphasis on the short term benefits, and do not weigh the disproportionate costs being borne by the non-market economies, cultures and environmental services. This breakdown between nation states in the developed north and the developing south, and between those in the global market and those in the subsistence economy, continues to resonate today in the development decisions in Lao PDR and elsewhere.

In addition, sustainable development theory varies along the political spectrum. There are those groups (often called the radicals or ecocentrists) who believe that our current economic development systems are fundamentally flawed, and those groups (reformists or technocentrists) who seek change from within the system.[19] Generally, sustainable development discourse falls within reformist thinking. Definitions of sustainable development therefore, depend significantly on the assumptions of the groups regarding the source of current social inequities, environmental degradation, and economic stratification, and the perceived ecological and social limits that bound this discussion.

[16] Narne Naess, *Sustainable Development and Deep Ecology*, in J.R Engel and J.G.Engel eds, Ethics of Environment and Development, Global Challenge, International Response, University of Arizona Press, 1990, p. 94.

[17] Multiple sources, Stuart Hart, *Beyond Greening: Strategies for a Sustainable World*, Harvard Business Review, January-February 1997. And Norman Meyers, pers. comm. October 1996.

[18] Stuart Hart, *Beyond Greening: Strategies for a Sustainable World*, Harvard Business Review, January-February 1997, p. 69.

[19] W.M. Adams, 1990, pp. 66-86.

[20] Dr. Lisa Curran, University of Michigan, pers. comm.

Creating a Multi-dimensional Sustainable Development Model

Efforts to create sustainable systems cannot stop at examinations of the three separate spheres of cultures, economics and ecology. The examination of these three critical components occurs at a particular snapshot in time and does not inherently include mechanisms to consider dynamic interactions and consequences over time and geographic space. The analysis must include these dimensions because in human and non-human systems there are unanticipated impacts caused by synergies and non-linear responses to particular decisions. To pursue sustainability, decision-making must incorporate feedback mechanisms to measure and accommodate change over time, over smaller and larger geographic scales, and the dynamic interactions that exist at the intersection of economic, social and ecological systems.

The dimensions of (i) time, (ii) space and (iii) systems interactions are currently not well-managed. Systems interactions are those webs of interdependence which mean that tweaking one variable results in changes in other parts of the system that may not have been intended. Professors Terry Root and Stephen Schneider have termed these non-linear interactions in biological systems as "environmental surprises," synergies and discontinuities in response to a particular stimuli or change in the system.[21]

The need to be cognizant of potential impacts on economic, social and ecological systems over time is consistent with the 1987 Bruntland Commission's definition of sustainable development of "providing for the needs of present generations without compromising the ability of future generations to meet their needs."[22] Unfortunately, impacts that would be experienced today are managed differently than possible future impacts: they have greater value in our analysis and decision-making. Managing for the future requires a re-examination of how uncertainty affects decision-making processes: the aim is to provide maximum natural, social and financial capital to the next generation. This goal is fundamentally different than our assumption that accumulating financial wealth today means that the next generation will be better off. Sustainable development theories posit that accumulation of financial wealth is occurring so rapidly precisely because of the depletion of natural and social systems. These non-financial costs will be borne by future generations in diminished overall quality of life and decreased options. Many technology optimists, however, argue that our knowledge over time will continue to expand and that we are therefore capable of fulfilling the needs of future generations through technological change.[23]

[21] This concept has been used in reference to "environmental surprises" resulting from Global Climate Change. Dynamic human/economic/ecological system interactions produce non-linear responses. For additional information on the ecological use of these terms see: Schneider and Root, *Ecological Implications of Climate Change will Include Surprises*, and N. Meyers, *Two Key Challenges for Biodiversity: Discontinuities and Synergisms,* in Biodiversity and Conservation 5. Chapman and Hall, 1996 (in press).

[22] *World Commission on Environment and Development*, 1987.

[23] Multiple sources: Jesse Ausubel, *Can Technology Spare the Earth?*, American Scientist. Vol. 84, March-April 1996, pp. 166-178. Julian Simon, *Post-Debate Statement*, Scarcity or Abundance, WW. Norton & Co., 1994, pp. 196-210. John Tierney, *The Optimists are Right, so*

Anticipating and measuring the impacts of decision-making over spatial scales can be challenging. For example, decisions made in Latin America regarding agricultural conversion of forest habitat have an impact in the reproduction of seed dispersing bird populations which may be important in the ecological health in the US because of migratory patterns. Acting locally while thinking regionally or globally, as the bumper sticker advises us to do, is far from simple, particularly when individuals and organizations in other regions of the globe are not acting in concert. And ultimately, accountability is very difficult to manage as the scale of analysis expands and the number of variables and potential causes of change increase.

Multi-Stakeholder Processes: Ooerationalizina the Model

Rene Castro, Natural Resource Minister of Costa Rica, uses a definition of sustainable development that comes closest to capturing the imperative to manage decisions in fundamentally new ways in order to ensure that the knowledge and needs of different groups are incorporated. Sustainable development, from his perspective is "the combination of efficiency, environmental responsibility, and equality through a process of consultation with the public."[24] The strength of this definition is that it defines desired outcomes (sustainability) as a part of a process (consultation), rather than looking for desired outcomes independently from decision-making. What is inherent in his definition is that long-term, sustainable economic development is an outcome of socially and environmentally responsible processes. To create sustainable systems, collaborative/participatory processes are necessary because different stakeholder groups possess very different knowledge and understanding of potential interactions, costs and benefits.

Collaborative development processes are extremely difficult to operationalize because of the very real differences in power, access, culture, and values in human social groups. For example, by focusing on maximizing gains to the individual in western cultures, economic structures challenge and dismantle some of the mechanisms for social and natural resource management that have occurred in other cultures. All nation-states now use property rights schemes at the level of the individual or organizational unit, fundamentally disrupting other resource management schemes and favoring the distribution of individual rights to those people who have certain levels of power and access to the nation-state decision-makers.[25]

There is a fundamental conflict that has not been resolved even in western thought: private owners act in their self-interest, yet the preservation of ecological and social systems means that there are other stakeholders who have an interest in how that

why do so many people think things are going to hell? New York Times Magazine, September 29,1996, pp. 91-95.

[24] cited by Riley and Sebenius in *Stakeholder Negotiations over Third World Natural Resource Projects,* Cultural Survival Quarterly. Culture. Resources and Conflict. Challenging Assumptions, vol. 19, Issue 3, Fall 1995.

[25] Lisa Curran and Owen Lynch, pers. coram.

resource is managed. As a response to the conflict between private owners and external stakeholders, participatory processes are being increasingly used in western countries to settle the disputes that arise over natural resources such as land use, public lands use, water resources, energy, air quality and toxics.

As Dr. Julia Wondolleck points out, in traditional decision-making the parties affected by decisions are seldom privy to the process which examined their concerns and created some valuation of decision tradeoffs. Dr. Wondolleck reframes decision-making by challenging that model:

> the first question should be *a process* question *(how* to go about making a decision) and not an *outcome* question *(what* should we decide?). A process focus immediately raises questions such as what information do we need? What are the likely problems we will encounter and how might we overcome them? A process focus encourages consensus-building and collaborative problem-solving among affected interests when the decisions to be made are complex and value laden and when there are limits to technical expertise in reaching solutions.[27]

Many of the same insights about the failure of traditional decision-making models to understand and anticipate the external impacts of decisions are leading conservation groups and development organizations to seek bottom-up approaches. Given the social and ecological complexities and uncertainties, "participation" has become a critical component in development: community-based conservation and community development initiatives have emerged independent of the larger dialogue on sustainable development. Participatory or multistakeholder processes can help navigate through the social, economic and ecological impacts because stakeholders possess different information and have conducted their knowledge based on different experiences with time, space, and unexpected occurrences in their ecological, social and economic realms.

Arriving at decisions that will promote long term sustainability requires that a mechanism exists that allows the different options to be discussed, evaluated and selected based on fundamentally different criteria than solely short-term financial gain. Decision-makers need new strategic-visioning tools to sort through costs and benefits not only measured on financial information known today. Uncertainty, time horizons, and the relative impacts on stakeholders must be made explicit. Enk and Hart write that,

> 'strategic' decision situations... are usually shrouded with uncertainties because of their long-term orientation and potential for effects on multiple interests and perspectives both within and outside the organization. Such situations are complex, inherently ill-defined and often conflict-ridden

[26] Gail Bingham, Resolving Environmental Disputes: A Decade of Experience. Conservation Foundation, 1986, p.31.

[27] Julia Wondolleck, *The Importance of Process in Resolving Environmental Disputes,* Environmental Impact Assessment Review. 1985, p. 342.

because they entail the need to act before anything approaching full understanding can be achieved.[28]

To increase sustainability, processes must examine the relationships and legitimacy of stakeholders, decision-makers, and decision-making tools. The process dynamics are influenced by the relative level of trust, risk, control, power, and access to power and to information. In addition, there are larger questions about stakeholder perceptions of what is at stake, what are the avenues available for incorporation of their perspective, and what is valued. Other challenges include understanding who is the decision-maker, what are the incentives of the decision-maker and of other stakeholders, and what is the decision-making process being used. Dr. Lawrence Susskind's nine steps toward dispute resolution can be used to frame other multistakeholder decision-making processes.[29] His nine steps are:

- Identifying the Parties That Have a Stake in The Outcome of a Dispute
- Ensuring that Groups of Interests that Have a Stake are Appropriately Represented
- Narrowing the Agenda and Confronting Fundamentally different Values and Assumptions
- Agreeing on the Boundaries and Time Horizon for Analysis
- Weighting, Scaling and Amalgamating Judgments about Costs and Benefits
- Determining Fair Compensation and Possible Compensatory Actions
- Implementing the Bargains that Are Made
- Holding the Parties to their Commitments

If this framework were modified so that these steps were undertaken in culturally appropriate ways, it could be used upfront as a tool for decision-making. This approach would provide the decision-maker with more information on the larger costs, benefits and conflicts of different options.

Ultimately, multistakeholder processes do not prevent outcomes that favor some interests over others. However, they may help minimize the extreme cases of winners and losers by providing information on the parties central interests and how negative impacts might be minimized. In addition, the acceptance of low level conflicts and open processes through which to explore trade-offs between decisions may create a more sustainable social model. As C.R. Mitchell points out

[28] Gordon Enk, Stuart Hart, *An Eight Step Approach to Strategic Problem Solving,* North-Holland Human Systems Management 5. 1985, p. 246.

[29] Lawrence Susskind, Alan Weinstein, *Towards a Theory of Environmental Dispute Resolution*, Environmental Affairs, vol. 9, 1980.

> most of the arguments for conflicts having beneficial system level functions revolve around the central theme that a society which permits or even encourages a multiplicity of cross-cutting conflicts to develop and work themselves out will ultimately prove more durable than one which attempts to prevent any occurring, because they might threaten the survival of the system[30]

Allowing dialogues among interests means that societies are able to self-adjust and adapt to emerging issues and circumstances: creating increased unity over time.

Sustainable development is not an endpoint, it is a process that adds a dimension of long-term thought and incorporation of social and environmental impacts into economic development processes. It focuses on trying to create a (non-physical) space to allow multiple world views and priorities to be credible because of an interest in long term healthy functioning systems. Development must maintain the functions of economic sustainability, ecological sustainability, and social sustainability. Sustainable development seeks to provide future generations with their cultural, ecological and financial heritage.

THE EMERGENCE OF STAKEHOLDER INTERESTS IN SUSTAINABLE FORESTRY

Corporate land owners are social organizations: they exist within societies to provide valuable goods and services to individuals within those societies. Their management practices are dictated by complex and competing philosophies and culturally determined valuations. Human paradigms define the roles of government, non-governmental, and private sector enterprises.[31] As such, the relative roles of these organizations change as human systems evolve. Human innovation and changes in our markets for labor, natural resources, and capital continue to force adaptation of our social organizations to increase our individual well-being.[32]

The strong land ethic in the United States is reflected in public outrage about certain types of land uses. Clearly, the emergence of the stakeholder view of the firm is a reaction to the assumption that the private use of natural resources soley for accumulation of financial capital is an acceptable. The conflict emerges within individual decision-making: we (Americans) want the highest returns as owners of capital wealth, yet we also expect maximized welfare and options from things we do not own (clean water, air, individual freedom, consumer choice, biodiversity, tropical rainforests, etc.). This means that we have expectations simultaneously that it is the role of our organizations to

[30] C.R Mitchell, *Evaluating Conflict*, Journal of Peace Research No. 1, Vol. XVII, 1980, p.63.

[31] Mark Roe, *Some Differences in Corporate Structure in Germany, Japan and the United States*, the Yale Law Journal, vol. 102:1927-1993, and Mark Roe, *Corporate Ownership in Germany and Japan*, Strong Managers Weak Owners: the Political Roots of American Corporate Finance. 1994.

[32] Catherine Casey, *The transformation of Work*, Work. Self, and Society after Industrialism. Routledge, 1995.

maximize our individual welfare on multiple levels simultaneously: as investors and as actors whose well-being depends on these other functions.

Private property models and the emphasis on the rights of the individual emerged from one particular societal vision. This vision, most economist and businesspeople would admit, does have imperfections: externalities, barriers to information and technology transfer, uncertainties, and the assumption that human capital, technological capital and natural capital are interchangable. Development of the shareholder-value maximization structure of corporate governance and decision-making over the last 40 years evolved not because it was an objectively superior model, but because it was a culturally acceptable paradigm, and we knew how we could measure progress. Challenging the shareholder wealth paradigm is an appropriate and necessary societal activity because it creates a constructive dialogue and the further development of our societal structures.

Many argue that in the stakeholder view organizations are not being run for the financial benefit of their owners and that this disrupts concepts of ownership, accountability, decency, and good governance. Issues of managerial accountability emerge as the dominant concern with stakeholder theories. If managers are free to insert their values into decision-making no one wins: not the owners, not the rest of society. Yet, as we have seen from the emergence of the sustainable development paradigm, focusing on the wealth of today's owners may create disincentives to weigh the future.

The unwritten contract that corporations, especially in land and natural resource management, have with stakeholders is central issue: what constitutes a contract? When a firm enters a community, what obligations does it then assume in terms of acting as a good citizen of that community? Because of significant power differences, barriers in access to information, and lack of non-legal mechanisms to engage corporations, many legitimate stakeholders have not been able to challenge corporations to honor unwritten, informal contracts. The stakeholder theory argues it is unacceptable to assume that the ' corporation is exempt from unwritten societal or community codes of conduct. Many forest companies such as Weyerhauser and others are incorporating stakeholder interests because it is in the interests of shareholders and corporate governance structures to ensure that there mechanisms in place that maintain long-term, high value stakeholder relationships.[33] Because corporations are social as well as economic entities they are obligated to consider their impacts on others, society has the right to intervene. It is in their interest to avoid intervention.

Envisioning Governance

No firm can be, should be, or ever will be responsible for undertaking all of societies challenges. But to assume that the firm operates with functional exclusion from societal structures is also unacceptable, as most businesses today acknowledge. Corporations such as Dow Plastics, Weyerhauser, Proctor and Gamble and many others have been using stakeholder feedback as a mechanism for improved market positioning, increasing public standing and legitimacy, and for *creating additional legitimacy for their*

[33] Pers. Comm., John Begley, Weyerhauser.

businesses. They do not seek to maximize stakeholder benefit to the detriment of shareholder value. In fact, as the rise of risk management has demonstrated, understanding and managing stakeholder relationships is an essential tool for increasing shareholder value. Consider several of the major corporate crises over the past few decades: Exxon Valdez, the Tylenol scare, Bhopal. What differentiates shareholder value over the short and long term is the ability to know the customers and stakeholders and ensure that business strategy is able to meet their needs. Where corporations lose value, it is generally because of mismanagement of stakeholder relationships.

Challenges

The fundamental challenge is the uncertainty of where any given firm draws the boundaries of its scope, its responsibilities, and its analysis. The simplest boundary is that drawn by simply focusing on shareholder benefit. Yet in the long-term this will not meet many of the challenges that are created by a globalized marketplace: customers in Europe, for example are demanding mechanisms through which to judge the forest product firms they purchase their paper, furniture, and other forest products from. This, in term provides opportunities for "best practices" forestry to become industry standards through private or public certification of forest lands.

SUSTAINABLE FOREST CERTIFICATION

There are several reasons many companies are considering certifying under one of the many emerging programs that certify forest practices. These include: (i) the need for harmonized business standards/practices accross holdings, (ii) transparency in marketplace so that consumers have increased trust in the company, (iii) Provides a clear process for participation/input, decreases conflicts, and provides shareholders with an independent affirmation that their holdings are being managed for the long-term, and (iv) dissemination of "good practices" through certifier relationships with multiple companies.

The forest certification industry has emerged rapidly over the past 10 years as a response to market demand for products from tropical forests harvested in more responsible ways. Several of the big certifiers are: Forest Stewardship Council (FSC), Rainforest Alliance (Smartwood), SCS, Canadian Standards Association, and the American Forestry Products Association. Certification can be done for forest management only, or for processing and the entire chain of custody from planting/harvest to consumer.

There are two components of certification: demonstration of an Environmental Management System (EMS) and prescriptive standards which include conservation/ecology requirements.

The Environmental Management System component includes the following requirements for certification of forest practices:[34]

- Codes of Practice
- Documented Environmental Policy
- Clear Definition of all Organizational Responsibilities
- Procedures to Ensure Contractor Awareness
- Procedures for Receiving and Responding to Stakeholder Views
- Procedures to Specify Environmental Objectives and Relative Targets
- Establishment of Matrixes of Program Plans with Objectives and Targets
- Documented Systems including Environmental Assessment Manual
- Procedures to Assure High Impact Activities undertaken in Controlled Conditions
- Procedures for Verification of Compliance with Specified Requirements
- Records which Demonstrate Performance of EMS

The prescriptive standards are generally similar to State performance-based "best management practices" which many forestry companies already adhere to so as to receive certain benefits from state government. These include meeting ecological requirements for silviculture techniques, prescribed types of cuts, and maintenance of biodiversity. Management for biodiversity includes:

- Temperate Forests at least 2-4 den and snag trees/acre
- rare species (fewer than 1 every 25 acres) that provide habitat for wildlife s/b excluded
- . Leaving preferred species and genetically superior trees
- Conservation zones designated

The second area which is required for certification of product is the "Chain of Custody" of the wood through logging contract relationships, wood suppliers and downstream processing and packaging. From forest to mill this is challenging because there are issues regarding where the timber is sourced, how much and how volumes of timber felled, stored, targeted and delivered to mill. This must be traceable back to the site. For companies who use "gatewood" purchasing (Weyerhauser and others) where some of their timber comes from outside land owners this represents a major obstacle.

V. Viana, J. Ervin, R. Donovan, C. Elliott, H. Gholz eds, Certification of Forest Products: Issues and Perspectives. Island Press, 1996.

Herman Miller and Colonial Craft currently both certify their products and have therefore required both the forest management EMS systems in place and have changed their entire operations to only handle this wood. Seven Islands floor boards have imprinted their certification on the bottom of floor boards to as a customer differentiation technique.

Costs Associated with Certification

Many companies who have been certified report that the dominant costs associated with receiving certification were the costs of the application and initial site surveys. The management practices that were being used on site were often close to meeting the cerifiers requirements. This is probably due to the early adaptors syndrome whereby those companies who were already managing in a sustainable manner were the first to chose to distinguish themselves through public mechanism.

There are information costs associated with maintaining certification which include:

. Forest Inventory and surveys (timber, biodiversity, soil, water)

- Socioeconomic survey of dependent communities
- Costs of planning
- Records keeping costs
- Internal inspections

Summary of Cases on Certified Companies

It is clear from the attached tables that the costs were balanced against other criteria and land stewardship values. Tables 2 and 3 provide information on multiple forest companies who have been certified.

Table 2. Summary of findings on sustainable timber operations located in the northeastern United States.										
	Ownership Characteristics			**Certification Costs**			**Certification Motives & Benefits (High = H - Medium = M - Low = L)**			
Certified Timber Operation	Type	Acres[35]	Term	Initial	Audit	Other	Easy	P R	Shareholder Relations	Price Premiums
Seven Islands Land Company	Private	1 million	>100 yrs	✓ (low 6 figures)	Annual	Record Keeping	✓	H	H	L (long-term goal)
Kane Hardwoods	Private	122,000	>100 yrs	✓	Annual	Record Keeping	✓	H	H	L (long-term goal)
Keweenaw Land Company	Public	155,00[36]	>100 yrs	✓	Annual	Record Keeping	✓		H (self audit)	L (long-term goal)

Based on W. Burnidge interviews, February/March 1997

[35] All numbers are approximate.
[36] From 1995 Annual Report.

Table 3. Operational characteristics of sustainabel timber operations located in the northeastern United States.				
Certified Timber Operation	**% Annual Growth Harvested**	**Species Mix**	**Product Mix**	**Integration/Inventory**
Seven Islands Land Company	100%	Spruce and fir primarily plus northern white cedar, white pine, eastern hemlock, hard and soft maple, yellow birch, beech, and ash in order of descending importance	66% lumber 34% pulp	• Planning and contract administration • GIS inventory system[37]
Kane Hardwoods	33% of sawtimber	Black cherry (40 - 50%), red maple, red oak, hard maple, white ash, some eastern hemlock and white pine	Most timber goes into flooring and furniture; pine for window frames	• Planning, contract administration, milling • GIS inventory system
Keweenaw Land Company	87%	70% hardwoods (60 - 70% of hardwoods are hard maple) 30% softwoods (aspen)	31% sawtimber: • 20% veneer, 34% sawlog, 46% sawbolts (17,331 cds) 69% pulpwood: • 61% N. hardwood, 30% aspen, 9% softwood (38,337cds)	• Planning, contract administration, log sorting • GIS inventory system

Based on W. Burnidge interviews, February/March 1997.

[37] All findings on GIS systems are preliminary at this writing.

Case Study in the Upper Peninsula: Shelter Bay Forests****

Shelter Bay Forests (SBF) is headquartered in Shelter Bay, MI, about twenty miles west of Munising. The company was formed within the last three years, and is a management company for lands owned by the Kamehameha Schools Bishop Estate (KSBE) KSBE is a charitable trust "established for the purpose of educating children of Hawaiian ancestry." KSBE is over a century old and has diversified "holdings throughout the world;" although their exact value is unclear they have enormous assets. To our knowledge their land in the Upper Peninsula comprise all their timber holdings.

Introduction to Shelter Bay Forests

SBF manages 390,000 acres of land spread across the northern part of the Upper Peninsula, comprising all the land owned by KSBE in the area. Although we do not know the size and location of all SBF 's land, it is clear that the land is not in one contiguous area, but is in many smaller parcels. In the Munising area, for example, SBF manages land in a roughly 14,000 acre plot contiguous with Pictured Rocks National Lakeshore. In the Two-Hearted River watershed, SBF land is scattered in many smaller plots, interspersed with MIDNR land and other private land.

Much of the land now owned by Bishop Estate and managed by SBF (and all of the land in the Two-Hearted River area) was previously owned, for roughly 85 years, by Cleveland Cliffs (CCI). According to officials at the MIDNR, CCI split its logging operations apart from the rest of the company around the mid-1970s, and at this time the company began cutting the land hard, overharvesting and highgrading much of the land. In 1990 Benson Forests, in a partnership with KSBE, bought the land from CCI and continued to cut at a high rate, fulfilling contracts with mills to provide timber at rates that necessitated a high cut level. In 1994 KSBE took over full ownership of the land and the Shelter Bay Forests Company was established to manage the land.

SBF Organization

Shelter Bay Forests is different than other timber companies with local operations such as Mead and Champion because they are solely a managing company. SBF is made up of a total of less than 15 employees, including CEO Martin Wilke, CFO Gary Anderson, several administrative assistants, and a team of foresters led by led by Chief Forester Russ Weisenger. SBF does not do any of the actual harvesting or transport of logs, but instead concentrates on managing the land intensively. According to Wilke Bishop Estate's charge to SBF is to "manage for production of high-quality saw logs and veneer on a sustainable basis."

SBF Operations

Shelter Bay Forests manages the land for Bishop Estate, with the majority of emnlovees being foresters who spend most of their time on the land determining which

trees will be cut, hand marking these trees, and evaluating recent logging operations Determination of trees to be cut is made by the foresters based on a forest management plan which exists for all of Shelter Bay's 390,000 acres. The goal of the management plan is to maximize the long-term production of high-quality, high-value veneer and saw logs. Quality is determined by a combination of the age and composition of a stand.

The four products SBF currently produces, in order of value, are veneer saw logs saw bolts, and pulp. The actual cutting is done by independent contractors, who use different types of logging techniques based on the area. Contractors are paid by the product, and are paid more for higher value products, creating an incentive for contractors to produce the highest value product from a given tree or stand. Often different contractors use different techniques, so SBF effectively selects the logging technique when selecting the contractor. Types of logging are:

- Piece cutter: each sawyer uses a chain saw and makes the decision at the tree as to how the tree will be cut and whether it will be cut for pulp, saw logs, etc. The piece cutter is paid with an incentive to produce higher value products.

- Slasher: The tree is cut and moved to a central slasher, which cuts the tree into sections and thus decides on the products that will come from that tree.

- Mechanical process: Machinery is used to go to each tree and individually cut it down, delimb it, and cut it into sections.

Each area to be cut is selected by SBF foresters and then contracted out to an independent logging company. SBF uses roughly thirty to thirty-five small-scale loggers throughout the UP, according to Wilke most of these contractors work primarily with SBF. Areas to be cut often range from approximately 100 to 500 acres, although there is some variation from this. Typically transportation of logs from the forest to the mill is done by an independent transporter, so three different operations occur before the product even gets to the mill. According to figures provided by a nearby DNR office in Newbury transportation is a large relative cost in the entire operation. Because most of SBF's land has been logged previously, logging roads exist over much of the terrain. New roads are rarely cut, and when roads need to be reopened this may be done by the logging contractor or by a road contractor, depending on the difficulty of the operation.

Shelter Bay Management Philosophy

According to Wilke the management plan for SBF is solely based on managing the land for long-term high value products. Wilke states that the goal of the management plan is to manage for species composition, harvesting trees only as the harvest fits into long-term forest management plans. Chief Forester Russ Weisenger states "The management plan directs us to work with what we have and not try to convert a site " Financial information that would substantiate this claim, for instance showing that higher and lower harvest rates are independent of rising and falling prices, are not available Wilke states the company knows the value of each product per cord or ton but that "management is non-opportunistic, because opportunistic management is not

sustainable," and "with a view towards perpetuity." In keeping with this management regime all land is selectively cut, and all land regenerates naturally. No herbicides are used—composition goals are met entirely by cutting, not by planting.

The SBF company brochure highlights the company's interest in "recognition of wildlife and ecological values," "progressive ecosystem management,"water quality protection," and "use b the public." Marty Wilke echoes these views, saymg We are mindful of the resource from a non-commercial and commercial perspective Although the objective of forest management at SBF is to optimize high value material, at the same time "we are mindful of other values forest have" and we "do not compromise other values" such as spiritual, esthestic, recreation, wildlife, and air and water quality.

Examples of managing for these elements cited by Wilke and Weisenger include leaving snags and leaving fir in maple stands. When questioned as to how the company determines the actual or opportunity costs of such practices, Wilke replies that SBF simply does not look at costs in this way, because they are short term costs Weisenger agrees with this view, saying that such considerations are part of the overall management plan.

In explaining SBF's long-term strategy, Marty Wilke points out that there has been a substantial decline in production from the National Forest lands, which he puts at 35% locally and 50%. This reduction in public-lands output places more pressure on private landowners to fill this demand, and solidifies SBF's long term position because of the expected rise in prices as supply is diminished.

Shelter Bay Forest's stated approach is very similar to the MIDNR's goals for nearby land with similar forest composition. According to UP DNR officials, the land in the Two-Hearted River watershed is managed for mixed composition and uneven aged stands This may be an easier goal for the state to maintain in a market that is recognized as cyclical and constantly changing. Additionally, MIDNR officials agree with SBF's self-assessment of their cutting practices. One official feels that SBF is cutting primarily to improve the health of the forest, and that they are cutting more pulp than other area companies as part of the thinning process. When questioned, this official believes that SBF is not profitable at this time given their level of cutting.

Public and government relations

SBF appears to be quite concerned about relations with the local public, government agencies, and other interested organizations such as conservation groups. Weisinger has stated that "Our goal is to be the best forest management company and when questioned as to how "the best" would be measured his answer is Measured by public opinion, including the Park Service, Forest Service, DNR, and general public.

This concern with public relations is reflected in several ways. The company brochure stresses non-timber values of the SBF-managed forest, and in a tour of these lands Weisenger takes pride in showing areas that have been recently logged but show little or no effects to an untrained observer. SBF is also involved in the Eastern Upper Peninsula Ecosvstem Management project, which is made up of agencies, private

landowners, and conservation organizations. Additionally, SBF appears to be making a concerted effort to maintain good relations with these groups. Wilke stresses that he sees a group like The Nature Conservancy as one of many stakeholders in SBF businesses, a group of stakeholders that he says includes the contractors that SBF employs, the customers, landowners adjacent to SBF land, and the public who use the land.

Because SBF **operates in an area where much land is publicly owned, relations with government land management agencies are important to the company for reasons beyond simple public relations. For example,** SBF land near Munising borders Pictures Rocks National Lakeshore, and maintaining a good relationship with the Park Service facilitates SBF's operations in which loggers must use Park roads to access areas to be logged. SBF uses these roads under special use permits issued by the Park Service. Additionally, many public access roads cross SBF land, and in most cases SBF pays for the upkeep of these roads despite the heavy public use. The Park Service has just started paying for the maintenance of one heavily used road.

Benson Forests, SBF's predecessor, had a poor local reputation both with state agency officials and with the local public. Local officials felt that the company was cutting at a rate that was unsustainable, although some feel that this was in keeping with the practices of CCI before CCI sold the land, and may have been at least in part due to the need to fulfill existing contracts. Local people not affiliated with state resource agencies do not draw such fine distinctions, and many viewed Benson very negatively, as an outsider who came in and was cutting land far too hard. According to some this feeling even existed among the loggers who were doing some of the cutting on Benson Forests land.

The attitudes of local people reflect a local tradition of using lands, including privately held timber land, for recreation including hunting, fishing, hiking, snowmobiling, and skiing. Because of this common usage people are aware of the happenings on area land, especially land located near towns such as Munising and Marquette. In some of these areas a substantial tourist economy has grown in recent years, creating a further local interest in land use practices.

SBF is clearly interested in local opinion and in maintaining positive public relations. Among the company's forestry guidelines are several governing logging practices near roads, taking into account the level of usage of the road, with the goal of minimizing esthetic impacts. These guidelines place roads into three classes. The first type are county roads that run through SBF property; management guidelines call for a 75 foot setback from these roads so that logging impacts are not easily visible. The second classification are roads that are on SBF property but receive high public use, such as those that provide access to popular areas in nearby National Park or National Forest land. Around these roads there is a fifty foot buffer, although in this case the buffer is not absolute-there may be some cutting in this area but it is "lense intense" according to Weisenger . The final classification is interior roads that are used for logging purposes only, with little or no public use. With these roads there is only a three foot setback, but also a goal of not having slash within direct view along the road at a corner or curve.

The Commercial Forestry Act (CFA)

The CFA may be a key piece of legislation in terms of potentially providing information on forest practices on private land. The Act's stated purpose is to "provide an incentive for private landowners to retain and manage forest land for timber production in the long term". The Act does this by reducing the taxes that are paid by a forest land owner. Instead of paying a property tax based on the value of the timber, the owner pays only $1.10 per acre annually. [The state pays additional tax money to the local government to help make up for lost tax revenue. This state money may not completely account for all lost taxes, and therefore some local governments are opposed to the CFA.]

In exchange for the lower taxes, the owner agrees to several provisions. These include 1) the land, which must be a minimum of 40 contiguous acres, must be devoted to commercial forest management; 2) the land must be open to the public for huting and fishing; 3) the land cannot be used for a variety of other purposes including grazing, development, and agriculture; and 4) if newly planted, trees must have survived two growing seasons.

The most important provisions from our perspective, however, are first that the landowner must have and follow a forest management plan written by a certified forester. This plan must "prescribe how the listed land will be managed" and include the"owners objectives and intentions for commercial forestry"; maps showing cover type, density, and water; and prescribed practices for harvesting and regeneration. The plan must cover between ten and twenty years. Also, the owner must inform the DNR in writing prior to any tree harvest, and submit a one page report that details the harvesting operation (how many trees to be cut, how large an area, type of operation). This report also names the contractor who will do the operation.

SBF land is enrolled under the CFA. According to Weisenger , all of SBF's lands are enrolled under one large management plan of roughly 100 pages. The plan is divided by stand and spells out how each type of stand will be managed. This plan existed before it was required by the CFA and met all the CFA requirements.

Assessing SBF possible interest in certification

Based on research into certification, it appears that SBF is doing most of the things that are required for certification (in place forest management plan, timber stand assessments, managing for long-term and not affected by current prices). This begs the question of whether SBF would be interested in product certification. There are at least a couple of reasons against. One is that SBF seems quite secretive with much of their information and they would likely be reluctant to open their practices to an outside audit. Even if they wanted to do so it is not clear whether BE would have to be involved at all, which would complicate matters. Furthermore, given SBF's mix pf products (veneer, saw logs, saw bolts, pulp) it is not clear that they are dealing in primarily the higher-value products that would command any price premium if they were certified. This is especially true given that they work with a large number of different contractors who might have to be involved in a certification, and also several different mills. The

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