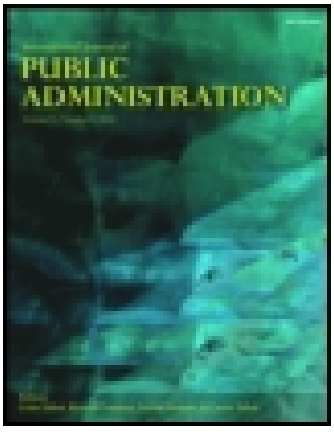

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Greening organizations 2000

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GREENING ORGANIZATIONS - 2000

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ABSTRACT

Environmentalism will be one of the most potent forces of economic, social, and political change in this decade. By the year 2000, organizations and organizational theory will need to transform themselves dramatically to accommodate environmental concerns. Despite the rise of environmentalism over the last two decades, organizations and organizational theories have failed to adequately address environmental concerns. This paper examines this failure and proposes new concepts and a framework for greening organizations.

INTRODUCTION

The 1990's is the decade of the environment. A dramatic rise in environmental regulation and environmentalism is impacting organizations. This has forced organizations to fundamentally rethink their attitudes toward the natural environment, its preservation and enhancement. By the year 2000, organizations and hopefully organization theory will be far more environmentally conscious than they are today. For this to happen we need to critique past failures and examine future possibilities in creating environmentally responsible organizations. Environmentalism in its simplest form refers to a concern for, a belief in, and the value of, preservation and enhancement of our natural environment. While this concern is as old as neolithic hunting-gathering societies [(1)] it is only in the last century that it has found coherent articulation. And only in the past three decades has it emerged as a social, political, and economic force. For organizations, environmentalism has come to represent a broad and ever expanding set of issues dealing with environmental pollution, public protection from technological and health hazards, worker and consumer safety, and most recently, ecological sustainability.

This paper begins with a brief description of the rise of environmental concerns in modern society. The next section examines the failure of organizations (and organizational theories) to deal with these environmental concerns due to their historical lack of environmental responsibility, a fragmented regulatory system, and inadequate concept of organizational environment. To address these concerns we need new organizational concepts and practices. The paper proposes the concepts of environments as "economic biosphere", "total environmental management" and "green organizational design". It concludes with challenges that organizational scholars and practitioners face in dealing with environmentalism.

THE RISE OF ENVIRONMENTALISM

The roots of today's environmental movement in the U.S. can be traced back to the closing of the western frontier in the United States at the turn of the century. At that time, the Progressive Conservation Movement emerged, sparked by Gifford Pinchot and Teddy Roosevelt. This movement derived from the fear of running out of resources and losing the competitive edge in international politics.[2,3] In this sense, the Progressive movement was instrumentalist and scientific in character and geared toward the efficient use of resources to sustain economic well-being; it was not particularly concerned with environmental quality or the quality of life per se.

In the last three decades, however, environmentalism was transformed into a potent social and political, as well as economic force. The 1960s, saw a new and much different impulse concerning the environment and humans' relationship with it. The new driving impulse transcended concern for efficient resource utilization. People came to realize that the human species was vulnerable. More precisely, the began to see humans as part of a larger community of life, dependent for their survival on the integrity of ecosystems and on the health of the total environment. In short, people rediscovered themselves as being part of nature[4] Environmentalism has since evolved from a "fringe" movement in the 1960s and 1970s to become a middle class movement in the 1990s with a wide base of support. In fact, recent public opinion polls show environmental preservation as the most important issue on the minds of the public in the U.S., Europe, and the Soviet Union.[5,6]

As it evolved, environmentalism was transformed and differentiated into many forms, including Naturalism, Reform Environmentalism, and Radical Environmentalism, and Radical Environmentalism. "Naturalism" had its roots in the great

nineteenth century writings of Emerson, Thoreau, and Muir. These humanist-naturalists attempted to expand the narrow anthropocentric conception of the human community to include the natural world. The scientific codification of this naturalist concern was provided by Darwin's[7] theories of evolution and later, by the science of "ecology".[8] Naturalism gave centrality to the ideas of wholism and interdependence as defining features of nature, and of human relationships to nature.

With the advent of large-scale industrialization, and the consequent environmental destruction, a new mood-- one that confronted industrialism-- emerged within the environmentalism. "Reform" Environmentalism accepted the basic fact that an environmental price must be paid for modern industrial and economic progress. But it sought to modify economic strategies to prevent rapacious and unnecessary destruction of the environment. It sought to regulate and control industrial development through a network of laws, rules, standards, administrative policies, and international treaties. This control
function was seen as the responsibility of the state. In response to public pressures, most developed countries created departments or agencies devoted to environmental protection. Governments created agencies to monitor compliance with laws and corporations were expected to create internal processes and mechanisms to comply with environmental protection laws.[9,10]

The extremely slow progress in protecting the environment through regulatory mechanisms, and the continuing degradation of natural resources in the 1960s and 1970s, gave rise to "Radical" environmentalism. This movement assumed that human needs should not be the primary concern in determining human-environment relations: Nature has a right to exist independent of its use for human well-being.[11,12] Radical environmentalists reject moderate and incremental reforms, and seek radical transformational of industrial systems and individual life styles.

Environmentalism in all its forms has had important effects on national and international political processes. Political parties and political candidates with "green" agendas have made impressive electoral gains in Norway, Sweden, Germany, and France.[13] In the U.S., President Bush promised to be the "environmental" President. He has supported the elevation of the Environmental Protection Agency to the status of a full Department, and signed a new, stringent Clean Air Act in 1990. The growth of environmentalism has resulted in tremendous pressure on business and industry to improve environmental performance. Indeed, private sector expenditures on environmental protection now exceed $300 billion per year in the U.S. and the market for "environmentally friendly" products in this decade has grown to over $200 billion.[14,15]

Such trends presage a profound shift in the management of organizations over the next decade from an emphasis upon growth in material consumption to preoccupation with environmental "sustainability". At present, about a quarter of the world (1 billion people) living in industrially advanced countries enjoy unsustainably high consumption, but at the cost of enormous environmental destruction. Three-fourths of the world population now lives in desperate and permanently failing attempts to industrialize and modernize. Absent unparallel technological advances, it seems clear that these 3-4 billion people can achieve the high consumption levels of developed countries only at the cost of catastrophic environmental damage.[16]

The global consensus to eliminate chloroflorocarbons (CFCs) by the year 2000 has set the stage for other international organizations around the world. Foremost among these are the on-going negotiations aimed at showing carbon emissions in order to forestall global warming. As the 1992 United Nations Conference on Environment and Development in Brazil approaches, important elements of the world community appear to be coalescing around the goal of sustainable development.

Sustainable economics and sustainable organizations of the future are unlikely to be based on continuing growth in the consumption of non-renewable energy or raw materials, or the production of hazardous waste and polluting emissions. Environmental sustainability requires us to completely redesign organizations of the future. This redesign must begin with an understanding of organizational resistance to greening.

ORGANIZATIONAL RESISTANCE TO GREENING

The rise of environmentalism has far-reaching implications for organizational change. As we have seen, external pressures come from environmental regulations, pollution taxes, changing consumer preferences for environmentally friendly products and services, and a growing consensus that new corporate behaviors are necessary if human society is to survive and prosper. Internal pressures come from changing attitudes of organizational employees and technological advancements which enable cleaner products and processes.

Despite all these pressures, however, few organizations have engaged in significant transformation toward environmentally sustainable strategies. While some companies have responded with an array of ad hoc environmental, safety, and health programs, business organizations have typically resisted these pressures and then acquiesced to regulatory mandates. The simplistic view of organizational resistance to greening is that it is too costly for organizations to be environmentally responsive-- the marginal costs of environmental protection outweigh the benefits; markets do not place an economic value on environmental quality, hence the cost of protecting the environment is best externalized to governments.

While economic considerations are important, the root causes behind the lack of environmental responsiveness are more complex.

They include a fragmented approach to environmental regulation, an historical lack of environmental responsibility and, perhaps most importantly, an inadequate concept of organizational environment.

Fragmented Environmental Regulation

Regulation of environmental and technological hazards emanating from industrial activities has been slow and incremental, particularly in comparison to the rate of technological proliferation. It often takes a major crisis such as a Bhopal, the Exxon Valdez, or Chernobyl to coax governments to create safety legislation to deal with hazards. Furthermore, most past environmental regulation has been media- or pollutant-specific (e.g. air, water, toxic substances, etc.), and focused on "end of the pipe" control. This has produced little incentive for firms to approach environmental protection more systematically, as an issue of product design and process improvement.[17]

Moreover, there is a severe shortage of institutional capacity to implement even the meager regulations that do exist. Government agencies in charge of protecting the environment and public safety and health are notoriously under-staffed and under-funded. In the U.S., the Environmental Protection Agency, Occupational Safety and Health Administration, and Consumer Products Safety Commission have seen decimation of their budgets under the past three administrations, eroding their already faint capability to enforce regulations.[18]

"Command and control" style regulation which forces companies to approach environmental issues in a fragmented fashion has produced little progress. Corporate transformation cannot be driven by a fragmented, legalistic approach to environmental control which encourages organizations to approach the problem in a reactive manner.

Lack of Environmental Responsibility

The "end of the pipe" approach to controlling environmental performance of firms which emerged in the 1960s was necessitated because historically, organizations had never assumed legal or moral responsibility for environmental quality. For the first 150 years after the industrial revolution, the natural environment experienced relatively minor degradation compared to the level of destruction in the past 50 years. Until the 1960s there were few legal requirements on corporations to deal with environmental, safety, and health consequences of their activities.

The moral responsibility of organizations to protect nature was undercut by two beliefs. First, was the idea that nature was there to be conquered and subdued for human welfare. This anthropocentrism has been central to western religious and "humanist" cultural thought.[19] Second, organizations were regarded traditionally as simple legal and economic entities that were not expected to have any ethical responsibility in the environmental realm. It is only in the past two decades that economics, has been rejoined with ethics, opening up the way for reassessing organizational responsibility towards its stakeholders and the natural environment.[20,21,22]

Inadequate Concept of Organizational Environment

A third fundamental cause for the failure of organizations to address environmental problems lies in a basis inadequacy of Organizational Theory (OT). Since organizations are the primary instruments by which humans impact their natural environment, one would expect OT to be engaged in serious discourse with environmentalism. Unfortunately, OT has historically used a narrow and parochial concept of "organizational environment" which emphasizes the political, social, technological, and above all, economic aspects of environment to the virtual exclusion of the natural environment.[23,24]

OT generally envisions environments as separate from the organization. Distinction is made between the "task" environment and the "general" environment, which represent the social and economic milieu in which organizations operate.[25] Several analytical dimensions of the environment receive frequent mention in the literature. These include environmental uncertainty[26], turbulence[27], complexity[28], and resource dependence.[29] These concepts portray organizational environments as abstract, disembodied, ahistorical, external influences on the organization. Environment is seen as a resource to be used by organizations.

Ot emphasizes understanding how environments influence organizations, as well as how organizations can procure, exploit, or compete for environmental resources. The reverse relationship--how organizations impact their environments-- however, has received very little attention.[30,31] Some organization theorists have acknowledged the importance of managerial perceptions and the subjective nature of organizational environments. Others have even suggested that non-economic "stakeholders" are an important aspect of a firm's environment.[32] Stakeholders are all those individuals, groups, and organizations that are affected by or affect the firms' performance. This view sees that public, and its interest in protecting the natural environment, as a legitimate concern in strategy-making. However, OT has not extended the stakeholder view to encompass directly the relationship of organizations to their natural environments. The earth has yet to become a legitimate stakeholder in received organizational theory.

GREENING ORGANIZATIONS

Given the rise in environmentalism, and the seeming inevitability of further political, social and economic pressure for meaningful change, organizations of the future will need to take environmental concerns more seriously than they have in the past. As we have seen, there are several driving forces which make this a necessity.

--The Competitive Imperative. More customers are demanding green products and competitors increasingly are distinguishing themselves on green criteria.

--The Political Imperative. Corporations must respond to public demands for environmental preservation to remain legitimate and retain public support.

--The Ethical Imperative. Nature has a right to exist for its own sake, not just for human welfare. Humans and corporations have a moral responsibility to minimize their impact upon the planet.

--The Global Imperative. Environmental problems are inextricably tied to economic development issues in developing countries. If companies hope to enter the vast markets (population 3-4 billion) in developing countries, they must be ready to address environment-development relationships.

--The Sustainability Imperative. Future economic growth will more than likely be constrained by requirements for physical sustainability. It is doubtful that the world community will tolerate continuing resource depletion or waste production.

Despite these pressures, however, the inadequacy of existing regulatory approaches and theoretical frameworks places a tremendous burden on organizations to alter fundamentally their past behavior without any clear signals as to what constitutes appropriate practice for the future. To facilitate the greening of organizations, it is thus essential to develop new concepts which incorporate the natural environment as a central focus. These concepts must be based on an understanding of how and where organizational activities impact their natural and human environments. In this section, we discuss three concepts which can serve as tools for facilitating more environmentally conscious organizations: 1) environment as economic biosphere; 2) organizations as systems requiring total environmental management; and 3) green organizational design.

Environment as Economic Biosphere

Greening organizations requires transcending the prevailing parochial view of organizational "environment" that emphasizes only the socio-economic dimensions.[33] Indeed, business organizations are economic institutions operating in a physical world. Hence, their relevant environment is an economic biosphere, which includes not only economic, social, and political elements but also biological, geological, and atmospheric ones.[34]

The environment relevant to organizations is thus constituted of 1) the ecology of the planet Earth; 2) the world economic, social, and political order; and 3) the immediate market, technological, and socio-political context of organizations. Although these elements are separate analytically, in practice they form an interpenetrating organic whole. They mutually influence each other.

The Earth's ecology includes land, water, atmosphere and the space around it. This ecology cannot be viewed simply as a set of resources that sustain life, but rather as an autonomously self-regulating system that carefully balances its component elements. As a system consisting of the atmosphere, the oceans, the climate, and the earth's crust, it gradually created itself and continually modifies its surroundings and parts.[35,36] From this perspective, humans and other species are only parts of an indivisible whole.

Human life within this "biosphere" is structured into a world economic, social, and political order established in the form of nation states with unique histories and interrelationships. Economic relations among nation states and within regional clusters of nations are governed by treaties and international laws. Despite the apparent separateness of nation states, their economies are tightly linked and interdependent.

Within this "world order" operate organizations of various types. They are surrounded by economic, industrial, social,

political, regulatory, and technological conditions. The economy is characterized by leading economic indicators, interest rate, employment rate, GNP, etc. Industry structure is characterized by number of competitors and rivalry among them, barriers to entry and exit, power of buyers and suppliers. Political and regulatory influences take the form of laws, standards, and organizational norms implemented by regulatory agencies. Technological conditions influence product designs, production technologies and waste management practices. Together these influences pose constraints and opportunities for organizations. Much organizational theorizing talks of these elements as the entire environment of organizations.

Conceiving of the environment as an "economic biosphere" expands the narrow vision of organizational environment to include the "world order" and ecological concerns. It thus opens up a new realm of organizational theorizing. The concepts of "total environmental management" and "green organizational design" are our first attempts at such theorizing.

Total Environmental Management

For meaningful "greening" of organizations to occur, it is necessary that managers and organization theorists alike recognize the systemic nature of organization-environment relationships. At each step of the value chain or life cycle of products and services, there is a systematic linkage between the natural environment and the organization. Every organizational activity from raw material usage (inputs), through production processes (throughputs), to disposal of packages and used products (outputs), is associated with environmental problems. Total Environmental Management (TEM) involves dealing with these problems from a total systems perspective.

Inputs. Every organization requires materials and energy as inputs to it's production process. Primary industries such as

mining, forest products, pulp and paper, and oil and gas are particularly oriented toward raw material extraction and utilization. Secondary (manufacturing) industries such as steel, construction, automobiles, and petrochemicals are important users of materials and energy. Service industries (e.g. health care, education, legal consulting, etc.) make fewer demands upon the natural resource base but use significant amounts of energy.

Environmental concerns over depletion of forests and other natural resources, loss of biodiversity, and pollution created by mining and fossil fuel use suggest the guiding principle of sustainable resource use. The basis for this principle is recognition that the earth's resources are finite and the limits to economic growth based upon material consumption imposed by this fact. Organizations cannot continue indefinitely to use natural resources without providing for their renewal. A "green" organization would thus seek to minimize the use of virgin materials and non-renewable forms of energy. This goal can be achieved either by 1) reducing energy and materials use through conservation measures; 2) making greater use of recycled or renewable materials and energy; or 3) off-setting consumption with replenishment.

The practical possibilities in resource and energy conservation are immense, and companies are already developing innovative programs to achieve them. Herman Miller, for example, no longer uses virgin timber in their top lines of furniture, turning instead to wood grown on a sustained yield basis. Applied Energy Services, an independent power generator, paid to plant 52 million trees to offset the 15 million tons of carbon dioxide expected to be emitted over the life of a newly constructed coal-fired power plant. Finally, the National Audobon Society's new headquarters building will cut its use of energy by 40% through solar architectural deign, use of energy efficient lighting fixtures, and conservation-oriented maintenance and energy use programs.

Throughputs. The actual production process of goods and services is seldom a closed system. Instead, there are points along the way where emissions and effluents occur. These emissions may sometimes have undesirable environmental and health consequences. In other cases, poor reliability or system malfunctions lead to spills, accidents, and or unintended consequences. Poorly designed throughout processes lead to occupational and public health risks as well an inefficient use of material and human resources. A "green" organization would seek to eliminate emissions, effluents, and accidents. Just as the "zero defects" goal in quality control demands preventative action and continuous improvement at every step of the production process, so too a "zero discharge" goal and "zero risk" goal can serve to focus efforts toward the virtual elimination of waste. This preventative approach should prove far more efficient than existing efforts aimed at controlling discharges at the "end of the pipe".

Corporations are realizing that throughout process improvement can be a cost-effective and even revenue generating activity. Evidence of this is provided by 3M Company's Pollution Prevention Pays (PPP) Program, Dow Chemical's Waste Reduction Always Pays (WRAP) Program, and Chevron's Save Money and Reduce Toxics (SMART) Program. Each of these programs is a significant revenue and profit generator for the respective companies. Most recently, General Electric has created an entire business division dedicated to plastics recycling.

Outputs. Product choice and design also have important implications for environmental performance. Products which lack durability or are difficult to repair clearly place greater demand upon the resource base for the use of new materials and energy. Furthermore, products which are difficult or expensive to reuse or recycle are destructive to the environment in that they result in unnecessary waste and disposal costs. A "green" organization would seek to minimize the life cycle cost of its products and services. Life-cycle costing attaches a monetary figure on every

impact of a product--disposal costs, legal fees, liability for product harm, loss of environmental quality, etc. Product development decisions are then based not only upon projected cash flows but also projected future costs associated with each product design. Some companies are now using product design and packaging as a basis for building competitive advantage, i.e unique features of superiority over competitors. BMW, for example, has initiated a "design for disassembly" process which they hope will result in the first fully recyclable car. Honda Motor Company also appears committed to developing the world's first "clean" engine in response to the growing pressure around the world for pollution control and the reduction of carbon emissions.

Systems Thinking. Just as "total quality control" in corporations demands attention to each stage of the design and production process to be successful, only by adopting a "total environmental management" perspective can the performance of the total system be optimized.[37,38] The life-cycle framework discussed above is a holistic approach to understanding the linkages between an organization and the natural environment. Identifying inputs, throughputs and outputs helps prevent the shifting of impacts from one medium to another (e.g. from air to solid waste). Furthermore, life cycle analysis can prevent the transfer of environmental impacts and health risks between the different stages in a product's or service's life by extending the system boundaries to include all aspects of product development, production, use, and retirement. Thus, "total environmental management" facilitates the integrated examination of product choice, product design, production techniques, and waste management practices.

Green Organization Design

Genuine corporate responses to environmentalism require the transformation of all aspects of organizations.[39] This transformation cannot be a superficial or marginal public relations response, but mst address every dimension of the organization.

The literature[40,41,42] posits several dimensions as key elements of organizational design, including 1) competitive strategies; 2) structure and formal systems; and 3) organizational processes and culture. Recent literature also points to the important of an organization's 4) core competencies [43] and it's sense of 5) mission and vision [44,45] to competitive success. For the "green" organization, these design elements must be focused on environmentally sustainable performance, and be internally consistent and self-reinforcing. After considering each of the above dimensions of organizational design in the context of greening, we close this section with a discussion of what constitutes high performance for the "green" organization.

Competitive Strategies. A growing number of companies are realizing that environmental responsiveness can be good strategy both at the corporate and business unit levels.[46] Environmentally sensitive corporate strategies can guide organizations to exit out of environmentally hazardous businesses and enter into environmentally friendly ones. This could reduce the overall risk level associated with company operations. At the business unit level, green strategies can produce cost savings and efficiency gains, and also serve to differentiate a firm's products from those of its competitors.[47] Furthermore, "green" strategy can result in powerful reputation effects and corporate goodwill.

The Body Shop in England, Loblaw International Merchants in Canada, and Ben & Jerry's Homemade Ice Cream in the U.S. are examples of companies that have made environmental responsiveness the cornerstone of their competitive strategies. The Body Shop, for example, utilizes only renewable or recyclable materials, engages in no animal testing of its products, and contributes considerable corporate attention to issues of global environmental concern. It also happens to be one of the fastest growing companies in the world today.

Structure and Systems. Appropriate organizational structure and reporting relationships, as well as formal systems (e.g. reward, resource allocation, and information) appear to by key elements of the "green" organization.[48] A strong environmental affairs office with direct ties to top management seems to be a necessity. This includes the appointment of a credible and visible "champion" for environmental issues within the firm. Adding board members or trustees to oversee environmental performance is also a useful step. Companies such as Down, DuPont, and Chevron, for example, have Executive Vice President-level senior managers in charge of the environmental management function.

Perhaps even more importantly, however, "green" organizations seek to align the formal systems of the organization with the strategic aim. Measurement and reward systems include evaluation of environmental performance. Recognition is also given to individuals and teams for outstanding achievements with respect to "green" criteria.[49] The resource allocation process-- planning and budgeting systems-- incorporates environmental criteria. In particular, the life-cycle approach to project analysis and capital budgeting becomes accepted as part of standard operating procedure.[50]

Finally, the information systems within organizations need to be redesigned to foster the free flow of information about environmental problems and opportunities. Experience in a range of industries demonstrates that the mere gathering an dissemination of environmental information promotes the transfer of learning and best practices across the organization and facilitates continuous improvements in environmental performance.[51] Furthermore, "green" information systems encompass key stakeholders of the organization. They foster communications and a constant dialogue with its many constituencies-- community leaders, pressure groups, the media, legislators, regulators, etc. [52] Credibility is also fostered by open two-way communication.

Organizational Processes and Culture. Of critical concern to the "green" organization are the informal problem-solving and decision-making processes used by line people in the company. Pauchant and Mitroff[53] have shown that organizational culture and processes are central to explaining the occurrence of environmental crises in companies. "Crisis prone" organizational cultures disregard the natural environment, encourage rigid structures, are overconfident about their technological prowess, and overly defensive of organizational resources.[54]

Indeed, it is not coincidence that the polluting industrial organizations of the past (the "smokestack" companies) were organized as "chimneys"-- functional units managed hierarchically through formal control systems. Individuals were held accountable for producing specific results through the formal hierarchy and often spend their entire careers working within the "walls" of one functional chimney.[55]

"Green" organizations require different organizational cultures and processes. Their cultural values emphasize harmonious co-existence with the natural world, view humans as part of the natural world, and acknowledge the rights of nature to exist. Environmental performance also appears to demand greatly improved coordination and integration across traditionally isolated functions and staff organizations within firms. For example, staff from the environmental affairs office should be in constant touch with legal counsel and the public affairs office. Much more importantly, however, environmental staff should also be well-integrated into the firm's product development and production processes.[56] Only when environmental concerns are integrated into day-to-day operations can an organization be "green". Close working relationships with marketing are also important if customers' environmental expectations are to be identified early.[57] Cross-functional teams are therefore a key to the greening of the organization. Developing such capability, however, requires a great deal of time and energy and involves wholesale redefinition of the roles of executives, middle managers, and line workers.

Core Competencies. If a "green" strategy is to be successful, the underlying technological capability or "core competence"[58] of the corporation must be configured to support the strategy. This will necessitate an internal audit of technological and human skills and capabilities, and the reallocation of resources toward those technologies which meet the criteria of "total environmental management": minimization of energy, material, waste, and life-cycle costs.

DuPont provides an interesting example of a firm which is actively altering its core competencies in light of its commitment to phase out the production of CFCs by the year 2000. Such a corporate commitment has entailed significant reallocation of resources to new technologies that can serve as potential substitutes for the ozone-depleting CFCs. Laidlaw, the Canadian waste management and environmental services firm, has also initiated redeployment of its assets and core competencies away from traditional "disposal" technologies (e.g. landfilling) in favor of source reduction services and recycling technologies. The "green" organization would undertake similar self-examination for all of its technologies and competencies.

Mission and Vision. Corporate mission and vision are still a relatively neglected area of organization design. Most management theorists have given it only a cursory glance, and what research there is has been devoted to analyzing mission and policy statements and developing checklists of items that should be included.[59] This preoccupation with written statements also seems to characterize the environmental policy area.[60]

For a "green" mission and vision to be anything more than a formal statement, it must signal strong corporate norms and values and provide a few well-articulated guiding principles of behavior.[61] A mission statement without principles to guide the day-to-day decisions of lone managers and workers fails to communicate how environmental concerns fit into the broad

strategies of the firm. The corporate environmental mission and vision must provide the "glue" which holds together the other elements of organizational design. Alignment of the organization's strategies, structure, systems, and processes is greatly facilitated by a few widely-shared values and norms. For example, a vision of a "green" organization might include the principles outlined in the previous section dealing with Total Environmental Management. Specifically, the "green" organization would seek to:

--minimize the use of virgin materials and non-renewable forms of energy;
--eliminate emissions, effluents, and accidents; and
--minimize the life cycle of its products and services.

A "green" organization would also have a sense of purpose or "strategic intent" which provides the backdrop for its competitive strategies.[62] For example, electric utilities in the U.S. have historically seen their mission as one of generating and distributing electric power at the lowest possible cost. As resistance to further development of nuclear power and the construction of power plants has increased, however, many utilities are redefining their missions as providing energy services to customers. Such a reconceptualization of mission sends an important signal to employees: conservation, efficiency gains, and decentralized power production are now valued goals for the organization.

The importance of a sense of vision and mission should not be underestimated. For the "green" organization, however, the vision and mission must be coupled with the other elements of organizational design to create a consistent configuration.

Performance. Organizations are held accountable for their performance. Received economic theory asserts that performance be defined primarily from the point of view of investors, as profits or shareholder wealth.[63] However, research in the area of

organizational effectiveness suggests that what constitutes "good returns" is a contestable issue.[64,65]

Environmentalism appears to dictate that performance be viewed in more holistic terms. The fundamental right of nature to exist imposes certain responsibilities on organizations that seek to interact with it.[66] Indeed, it is clear that organizations produce more than just economic goods; they also produce jobs, taxes, pollution, waste, and work places. "Good returns" must therefore be defined not simply as economic returns, but more broadly, in terms of socially and environmentally desirable outcomes.[67] The aim of the "green" organization would thus be the creation of financially and competitively viable business that conserve non-renewable resources, protect the health of workers and the public, and minimize technological risks faced by communities.

CONCLUSION

Environmental pressures in the coming decade are going to force organizations to become more environmentally responsive. Greening organizations is going to be a high priority item on the agendas of corporate and public sector organizations. Organizational theory and practice seem to be ill-prepared for this challenge. This paper provides some initial concepts that can facilitate the creation of environmentally responsive organizations.

Environmentalism poses an enormous challenge to organizational theorists has shown to environmental issues has created major lacunae in vocabulary, concepts, frameworks, and models for dealing with environmental problems. Environmentalism forces us to rethink the very nature of organizations, their purpose, their inputs, outputs, and throughout systems. For Organization Theory 2000, the agenda from environmentalism is long and complex. If includes but is not limited to the following issues:

--Reconceptualizing organizations not only as systems of production, but also as systems of destruction (of environmental value);
--Reassessing the goals of organizational efficiency, productivity, and profitability, in light of their impacts on organizational destructiveness, hazardousness, and health risks;
--Integrating the economic, technological and competitive concerns of organizations with social, ethical and moral concerns of society; and
--Redefining the basic concepts of organizational environment, technology, structure, and culture, in ways that permit organizations to be responsive to environmental concerns.

For organizational practitioners the challenges are even greater. They must begin making sense of the wide ranging impacts of environmentalism on different aspects of their organizations. The number of new environmental, safety and health regulations and standards being imposed on organizations each year is staggering. Managers must find ways of systematizing the myriad ad hoc responses their organizations are forced to make to fragmented regulations, and public pressures.

A second challenge deals with the costs of greening. Put simple, these costs can be huge. They include costs of developing new products, developing cleaner technologies, improving waste management practices, reducing polluting emissions, training employees, and organizational restructuring. The costs of developing new technologies can be reduced by joint or shared development of technologies within industries. Industry level efforts for environmental protection are already underway in the chemical industry under the aegis of the Chemical Manufactures Association.

Forcing organizations to become environmentally responsible through regulations has its limits. Regulations can serve to jump-start the greening process, but eventually ways must be found to

voluntarily motivate firms to become environmentally responsive. Such voluntary greening could be facilitated if the greening efforts were a source of revenues, profits, competitive advantages, or overall effectiveness. For example, most future market growth will take place in newly industrializing and developing nations where three-quarters of the world's population resides. The ecological integrity of the planet can not be maintained unless industrial activity and economic development in these regions is based upon principles of sustainability. There is thus tremendous opportunity for those companies and organizations capable of designing, producing, and selling "green" products and services suited to the needs of developing markets. The challenge for managers is to find ways of making the greening effort financially self-sustaining.

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