

PARTNERING FOR SUSTAINABILITY:
MANAGING NONPROFIT ORGANIZATION-CORPORATE
ENVIRONMENTAL ALLIANCES

by

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and

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EXECUTIVE SUMMARY

A growing number of nonprofit organizations (NPOs) are promoting sustainable environmental development. Sustainable development calls for people and organizations to pursue their current needs without compromising the ability of future generations to meet their needs. As part of these efforts, NPOs have taken an active role in encouraging businesses to manage their environmental impacts more effectively.

In the past, disagreements between NPOs and corporations on environmental issues were often addressed through long, drawn-out adversarial conflicts in the news media, open-ended lengthy administrative processes in government agencies, or costly litigation in the courts.

Recently, however, some NPOs have started collaborating with corporations on a wide range of community and international environmental projects and working directly with corporations in implementing internal management practices that address crucial environmental issues.

This report explores the question of how NPOs and corporations can work together more effectively through “win-win” strategies that promote proactive environmental management in the private sector to achieve sustainable development goals.

Our research on private profit-making corporations and environmental NPOs focuses on determining their current strategies and collaborations for promoting sustainable environmental management. Through a content analysis of the audited environmental performance reports of multinational corporations operating in the United States, we 1) examine the types of management practices corporations use to achieve sustainable development; 2) analyze various types of collaborative activities that corporations and NPOs have undertaken; and 3) evaluate, from interviews with key participants in the most intensive

corporate-NPO alliances, these collaborative approaches. We then make recommendations to NPOs and corporations on improving their effectiveness in managing alliances aimed at achieving sustainable environmental objectives.

CORPORATE INTERNAL ENVIRONMENTAL MANAGEMENT PRACTICES

Understanding better how and why corporations adopt sustainable environmental practices, and the types of actions they pursue, can help NPOs to work with businesses more effectively in achieving mutual goals. Our review of corporate environmental performance reports revealed that the predominate concern of most corporations is with internal management of materials, products, and processes that have potentially negative environmental impacts and that add costs to and reduce efficiency in their operations.

Driven initially by regulatory control and fears of legal liability, many companies now recognize that proactive environmental management can also be good business, leading to more efficient, cost-effective, and profitable results. All of the corporations in our sample have adopted beyond-regulatory-compliance practices as part of their overall business strategies. They also perceive of these practices as good corporate citizenship. Internally-oriented practices that contribute to sustainable development include:

- Environmental management systems that reduce the corporations' negative environmental impacts in communities in which they are located;
- Adoption of pollution prevention and clean manufacturing practices that eliminate pollution before it occurs;

- Redesign of products and processes to achieve more beneficial environmental impacts for customers and communities;
- Materials reduction, recycling and reuse;
- Reduction of “end of pipe” air emissions and wastes;
- Energy and resource conservation; and,
- Environmental supply chain management.

CORPORATE-NPO COLLABORATIONS

Although much of what large corporations do to promote environmental sustainability focuses on internal changes in operations, products, and materials, many companies are also supporting or working with NPOs on external environmental issues. In addition, some corporations are now working closely with NPOs on improving internal processes as well.

The relationships between corporations and environmental NPOs vary in the intensity of interaction between the organizations. In other words, the amount of direct corporate participation in NPO activities, and vice-versa, is a useful metric to categorize corporate-NPO relationships. NPOs interested in developing partnerships or alliances with corporations should be aware of the wide range of options. Collaborations can be classified from least to most intensive:

- Corporate support for employee participation in environmental NPO activities
- Corporate contributions and gifts to NPO environmental programs and activities
- NPO-corporate marketing affiliations
- NPO certification of corporate business practices
- Corporate support for targeted NPO environmental projects
- Environmental awareness and education alliances
- NPO-corporate environmental management alliances

CHARACTERISTICS OF EFFECTIVE PARTNERSHIPS

Of particular interest is the environmental management alliance, a relatively recent phenomenon that can bring benefits and hazards to both parties. In these alliances, NPOs and corporations form joint teams to address internal environmental management issues within corporations. To learn more about these internal management alliances, we interviewed both corporate and NPO personnel to identify what they thought were the most important characteristics of or conditions in *corporations* for more effectively implementing these partnerships. Among the most important conditions identified were the following:

- Having a specific project or objective for collaboration.
- Assignment of responsibility for participation in the alliance to interested and committed managers who can serve as “champions” for recommended changes.
- Selection of managers for the alliance who are able to develop, sustain, and nurture strong relationships with NPO participants.
- Assignment of managers to the alliance representing a cross-section of administrative and operational units within the company and having impact at the highest levels in the organization.
- Development and use of metrics for measuring environmental aspects of company operations and impacts or results of recommended changes.
- Selection of managers for the team who are willing and able to follow up effectively on recommended changes.
- Strong commitment of high-level executives to addressing environmental problems or threats and to cooperating with external groups in solving them.
- Value-driven corporate leaders who see collaborative activity as part of the long-term vision for the corporation.

- Company experience in dealing with nonprofit or community groups.
- Willingness to make environmental performance improvements part of the remuneration/bonus package for managers.
- Ability to get suppliers involved in making environmental improvements in inputs and materials.

Similarly, we asked representatives of both corporations and NPOs involved in environmental management alliances to identify the most important characteristics of **environmental NPOs** for implementing corporate partnerships successfully. They responded that the effectiveness of corporate-NPO alliances depends on the existence or development of a set of characteristics in NPOs that include the following:

- Credibility as a legitimate, serious, responsible, and knowledgeable environmental group.
- Experience in dealing with private companies and in understanding how private enterprise works and the need for corporations to make profits if they are to survive.
- Ability to provide experience with and commit jointly to identifying alternatives that will improve corporate environmental performance.
- Capacity to maintain an appropriate balance between environmental advocacy and cooperative activity in order to make the partnership productive.
- Ability to produce high-quality work that builds the NPO's credibility and trustworthiness.
- Willingness of the NPO to state clearly what it can and cannot do as part of a collaborative alliance.
- Ability of the NPO to deliver real value to the company through realistic, cost-effective, and technically sound recommendations.
- Capacity to understand the length of time it can take to bring about meaningful changes in large organizations.

BUILDING STRONGER PARTNERSHIPS IN THE FUTURE

As NPOs and corporations consider environmental management alliances, they must carefully plan and manage the process if they are to benefit from the collaboration. Experience suggests that successful alliances depend on both the NPO's and the corporation's ability to identify carefully projects and activities for collaboration, mobilize internal support and commitment, and develop criteria for selecting an appropriate partner. Participants in the alliance must, together, develop procedures for collaborating and for defining problems and exploring feasible solutions. The corporation must also be willing to formulate an action plan for implementing acceptable recommendations and to integrate actions into their operations, administrative procedures, and supply chains.

When alliances are carefully crafted, cooperatively pursued, and successfully implemented, they benefit both corporations and environmental NPOs by synergistically achieving the objectives of improving environmental protection and enhancing corporate performance.

I. INTRODUCTION: THE EMERGENCE OF NPO-CORPORATE ENVIRONMENTAL COLLABORATIONS

Environmental nonprofit organizations (NPOs) have increasingly turned their attention to promoting sustainable development, which calls for people and organizations to pursue their current needs without compromising the ability of future generations to meet their needs.¹ Some NPOs have taken an active role -- either indirectly through pressure and persuasion, or directly through partnerships and alliances -- in encouraging businesses to manage their environmental impacts more effectively.

In the past, disagreements on environmental issues between NPOs and corporations were often addressed through long, drawn-out adversarial conflicts in the news media, open-ended lengthy administrative processes in government agencies, or costly litigation in the courts.²

Recently, however, some NPOs have succeeded in encouraging corporations to adopt voluntary citizenship programs and internal management practices that address crucial environmental issues. These alliances generally focus on developing clean manufacturing and pollution prevention processes and technologies, exploring environmentally neutral or beneficial products and services, and helping conserve natural resources and improve environmental conditions.

Corporations, and especially the large multinationals that now dominate global business and trade, can be powerful forces for achieving sustainable development objectives. Understanding their perceptions of and abilities to practice corporate environmental citizenship through both external relationships and internal management practices can help environmental NPOs and government regulatory agencies to leverage substantial corporate resources for sustainable development, both in the United States and internationally.

In particular, better knowledge of corporate perceptions and abilities can help create collaborative relationships -- which if they are realistically and carefully forged -- promote corporate citizenship and sustainable development.

In this section of the report, we review the importance of NPO-corporate environmental collaborations, observe their expansion, and identify the benefits to both the private and NPO sectors. Section II examines the shifting focus of relationships between corporations and NPOs: how the two types of organizations have been moving from a largely confrontational to a more cooperative approach. Section III describes the context in which progressive corporations are addressing issues of environmental citizenship and social responsibility -- how corporations define and perceive their social responsibility, how they pursue environmental sustainability objectives, and why they do so. In Section IV we categorize and describe the types of internal environmental management practices that progressive corporations are applying to address their environmental impacts. Section V examines the types of environmental collaborations that NPOs and corporations are engaged in and the reasons for their participation. Section VI draws on archival data, interviews with participants, and assessments of NPO-corporate environmental alliances to recommend ways in which these and other forms of collaboration can be more effectively managed. In Section VII we summarize the findings of our research and the implications for strengthening NPO-corporate environmental collaborations in the future.

THE EXPANSION OF COLLABORATIONS

Although for many years corporations have provided financial support, equipment, or personnel to assist environmental NPOs, the relationship between companies and nonprofits has often been one of tension and mutual distrust. Given the substantial complementary resources of

these two types of organizations, forming partnerships that more effectively use the capabilities and resources of both can create new opportunities to achieve, synergistically, greater corporate profitability and environmental protection.

A growing interest by some corporations and nonprofit groups in reconsidering traditional adversarial relationships is yielding new forms of cooperation. Forming strategic alliances with corporations to develop internal sustainable environmental management practices that also achieve strategic business objectives can be powerful new levers for environmental NPOs.³

NPOs are developing a diverse set of relationships with corporations to address environmental issues. The World Wildlife Fund, for example, forged a partnership with Unilever to help save the world's fisheries. The Environmental Defense Fund (EDF) is expanding its partnerships with businesses after successfully working with McDonald's to reduce fast-food waste and to develop environmentally beneficial packaging. EDF is assisting market-leading American companies to develop new methods of reducing environmental impacts and of implementing solutions that influence the behavior of suppliers, competitors, and consumers.

The Environmental Law Institute in Virginia works with businesses and communities to produce "blueprints for sustainable development." The Forest Stewardship Council works with companies in promoting good forest management worldwide. Conservation International formed a partnership with Starbucks Coffee to use a new shade-grown coffee harvested from farms using environmentally sound agricultural methods that help protect tropical forests.

Many other examples can also be cited. The World Resources Institute's Management Institute for Environment and Business works with corporations to demonstrate and communicate opportunities for

sustainable development and with business schools to develop curricula in environmental management.

The Nature Conservancy seeks, with corporate support, to preserve habitats and species by buying the lands and waters they need to survive. It recently formed a partnership, for example, with the Central and South West Corporation to help protect threatened natural areas while contributing to the management of global greenhouse gas levels. The Aspen Institute brings business, labor, government, and professional leaders together in impartial forums to find ways of solving environmental problems.⁴

THE BENEFITS OF ALLIANCES

Cooperation between NPOs and private companies has become more common not only because some nonprofits have changed their attitudes toward collaboration with the private sector, but also because corporate environmental responsibility is becoming an increasingly important issue for companies and their stakeholders. The adoption of voluntary sustainable environmental management practices is a recent and significant development in the business community and in the field of environmental protection.⁵

One NPO -- Business for Social Responsibility -- points out that public demands for enforcement of regulations and for increased disclosure by investors, regulators, and public interest groups have played a strong role in increasing corporations' sensitivity to their social responsibilities.⁶

Other observers note that public and shareholder expectations regarding corporate involvement in solving host-community problems have also risen dramatically as national- and local- government roles have been shrinking.⁷ Many corporations have learned that customers often seek to align themselves with firms that have a reputation for social and environmental responsibility. And to stay

competitive in global markets, multinational corporations have developed strong supply chains through which they can influence their suppliers, vendors, distributors, and contractors as well as their own divisions and subsidiaries to address environmental issues proactively.⁸

Many companies also perceive longer-term returns from promoting sustainable development, including stronger competitive advantage, preservation of crucial resources and raw materials, favorable corporate image, and opportunities for new product development. Moreover, many corporations now realize that the benefits of a strong reputation for corporate citizenship can include greater access to capital, reduced operating costs, improved financial performance, and enhanced brand image.⁹ NPOs can build on the growing recognition in many corporations of the immediate and direct business benefits from proactive environmental management in the form of lower costs, less risks and liabilities, and more efficient operations.

OVERVIEW OF THE REPORT

This report explores the question of how NPOs and corporations can work together more effectively through “win-win” strategies that promote proactive environmental management in the private sector to achieve sustainable development goals. Our research on private profit-making corporations and environmental NPOs focuses on determining their current strategies and collaborations for promoting sustainable environmental management.

Through a content analysis of the audited environmental performance reports of multinational corporations operating in the United States, we: 1) examine the types of management practices corporations use to achieve sustainable development; 2) analyze various types of collaborative activities that corporations and NPOs have undertaken; and 3) evaluate, from interviews with key participants in the most intensive corporate-NPO alliances,

these collaborative approaches. We then make recommendations to NPOs and corporations on improving their effectiveness in managing alliances aimed at achieving sustainable environmental objectives.

The major questions examined in this report are the following:

- What are multinational corporations that are operating in the United States currently doing to improve their environmental performance to achieve sustainable development?
- How do environmental NPOs attempt to influence corporations to manage their environmental impacts voluntarily to achieve sustainable development?
- What types of characteristics are needed in NPOs and corporations to collaborate successfully?
- How can NPOs work together with corporations more effectively in “win-win” alliances to promote sustainable environmental management in the private sector?

Answering these questions can help NPOs work more effectively with businesses to identify cutting-edge environmental management practices that can be disseminated and adopted more widely.¹⁰ Understanding better how and why corporations adopt sustainable environmental practices, and the types of actions they pursue, can help NPOs partner with businesses more effectively to achieve mutual goals.

II. BACKGROUND: THE SHIFTING FOCUS OF NPO-CORPORATE ENVIRONMENTAL RELATIONSHIPS

A noticeable shift has taken place over the past decade in the way many NPOs and corporations relate to each other on environmental issues. Disagreements between NPOs and corporations over environmental issues were often addressed through adversarial conflicts in the news media or through public protests, or costly judicial or administrative procedures during the 1980s. During the 1990s, several environmental advocacy groups shifted their strategy from confrontation to cooperating with business in finding solutions to environmental problems.

THE CONFRONTATIONAL APPROACH

Greenpeace's confrontation with Shell Corporation over the Brent Spar is an example of how environmental NPOs have used adversarial pressures to change business practices or to stop what they consider to be threatening activities. In 1995, a team of Greenpeace protestors occupied Shell's offshore oil installation in the North Sea after the company received permission from the British government to sink the unused storage platform in deep seas.

Despite studies by Shell and some environmental groups that deep-sea sinking was the most economically efficient and least environmentally damaging alternative, Greenpeace activists seized the platform and launched protests against Shell gas stations in Europe. Widespread publicity turned public opinion against Shell. Protestors set off explosions at two German gas stations and Greenpeace organized a successful boycott of Shell products in Europe, forcing the company to reverse its decision.

Under increasing external pressure, Shell agreed to dismantle the Spar instead of sinking it and to dispose of remaining contents on land, which Greenpeace argued was more environmentally benign.¹¹ The crisis damaged Shell's corporate reputation and forced it to use an alternative method of disposal that ultimately cost the company £60 million instead of the original £10 million for sinking the storage platform.¹²

But Greenpeace's victory also had costs for the advocacy group. The organization had to admit publicly that it used erroneous information in claiming that 5,500 tons of oil had been left in the spar when independent studies found that it contained only about 150 tons. Moreover, Greenpeace ignored the opinions of other environmental groups that deep-sea sinking was environmentally preferable to land disposal because of the relatively small amount of oil left in the spar and the depth at which Shell proposed to sink it. Governments, corporations, and more moderate environmental groups publicly criticized Greenpeace's tactics.

The dramatic campaign against Shell worked in this case, although such tactics may not be effective if repeated more frequently. Attacking corporate policies through protests, the media, and legal means can be effective strategies for NPOs in particular situations, but some environmental groups began to see the potential for greater impacts by working with corporations to improve their environmental performance.

EXPERIMENTS WITH COLLABORATION

Since the early 1990s, an increasing number of NPOs and corporations have been willing to explore cooperative relationships in addressing worldwide environmental issues and the management of companies' environmental impacts on the communities in which they operate.

Forming partnerships that effectively use the unique resources of both corporations and NPOs can create opportunities to promote long-lasting environmental practices while recognizing the need for firms to earn profits. By working with corporations to improve internal processes and products, NPOs can help avert negative impacts to the environment before they occur. NPOs can focus on eliminating the causes of environmental degradation within manufacturing and distribution systems instead of simply reacting to the results.

Some NPOs are also recognizing that there are funding opportunities associated with establishing a mutually beneficial corporate relationship. With the increasing awareness of the potential benefits of working together, the number, scope, and depth of corporate-NPO collaborations are likely to grow in the future.

Even Greenpeace – while reserving its right to use confrontation – has turned to cooperation with corporations as an extension of (rather than as a substitute for) adversarial relationships.¹³ In Europe and North America, Greenpeace has used a combination of coalition-building, cooperation with companies, and coercion to try to convince appliance manufacturers to use ozone- and climate-safe refrigerants.

With their extensive experience in environmental issues there is now a tremendous opportunity for NPOs to move beyond conflict and confrontation and establish mutually beneficial relationships with corporations to improve environmental performance.

More corporations are now adopting voluntary environmental management systems based on ISO 14000 and other international standards and are likely to be open to new ideas and view favorably partnerships with NPOs to both solve environmental problems and create competitive advantage in the marketplace.

Some NPOs are now working directly with corporations to create programs that directly address public concerns about the potential environmental impacts of their plants, facilities, and operations and that actively involve stakeholders in improving local economic, environmental, and social conditions through cooperation and partnership.¹⁴

These alliances for corporate responsibility are especially important in communities where environmental conditions are hazardous and where regulatory protection may not be effective.

Many of the current non-adversarial interactions between NPOs and corporations still focus on the latter's philanthropic activities. As important as these external activities are, they do not adequately or sufficiently define the broad range of substantive environmental management practices that NPOs can help corporations to adopt in order to mitigate or eliminate environmental hazards or improve community environmental conditions. Indeed, these external relationships may be far less important for sustainable development than the voluntary internal management practices that corporations use to prevent pollution at its source.

Much of what companies do within their plants or facilities directly impacts environmental conditions in the localities in which they operate. Farsighted NPOs and corporations have begun working together in cross-sectoral partnerships on a wide variety of community, environmental, and social issues.¹⁵

Until recently, most corporations saw a strong distinction between their internal environmental management activities and their external social and environmental responsibilities.¹⁶ Corporations spend significantly more money on internal product and process improvements than on external philanthropic activities, and environmental groups such as the Alliance for Environmental Innovation, Environmental Defense, the World Resources Institute,

The Nature Conservancy, Conservation International, and others have begun to forge active alliances with corporations to address both internal and external environmental issues.¹⁷

More corporations are recognizing the unique skills and resources that NPOs can bring to external environmental protection activities, and some are now examining more closely the role that collaboration can play in addressing problematic operational practices, in supporting product development and marketing, and in dealing with suppliers and external stakeholders.

Although companies such as McDonald's, United Parcel Service, Shell, DuPont, Westvaco, and Starbucks see advantages of alliances with environmental NPOs, active partnerships between them are often complex, and they do not always succeed. From their assessment of early environmental partnerships, Long and Arnold point out that three psychological hurdles often undermine the formation of these alliances: mistrust, fear of loss of control, and misunderstandings of the motivations and intent of each of the partners.¹⁸ And even those partnerships that are formed can be wrought with difficulties during implementation.

The attempt by Scott Paper Company and the Rainforest Action Network to develop an environmentally sound eucalyptus plantation in Indonesia, for example, never achieved its intended goals despite the fact that both organizations were committed to cooperating.¹⁹ Thus, both corporations and NPOs need a clearer understanding of the types of alliances that are forming on environmental issues, the potential benefits of cross-sectoral alliances, and the factors that contribute to the successful management of collaborative activities.

In order to manage NPO-corporate environmental collaborations more effectively, it is important to understand the context in which the shift in relationships is taking place by examining progressive corporations'

perceptions of environmental citizenship and social responsibility.

III. CONTEXT: UNDERSTANDING CORPORATE ENVIRONMENTAL MANAGEMENT POLICIES

NPOs interested in working more closely with the private sector should understand what corporations are currently doing to manage their environmental impacts and how they are doing it. Many corporations now publish their environmental performance reports both in hard copy and on the Internet. From a content analysis of the environmental performance reports of 50 multinational corporations (see Appendix 1) we sought information about four questions:

- How are corporations pursuing environmental citizenship and responsibility?
- Are corporations linking their environmental citizenship programs to concepts and principles of sustainable development?
- How do corporate environmental citizenship and social responsibility activities contribute to sustainable development?
- What factors contribute to the success of corporate environmental management practices?

This review of corporate environmental performance reports was not meant to be comprehensive or exhaustive, or to measure quantitatively environmental management activities. Rather we sought to determine the diversity and scope of corporate environment management and sustainable development practices.

We chose 50 companies from the more than 200 listed on the environmental reporting website of the United Kingdom's Center for Environmental Informatics (<http://cei.sund.ac.uk/envrep>) and from other sources to obtain a sample of corporations engaged in proactive

environmental management across industries and size groups.

This sample of companies is significant in the sense that, together, these 50 corporations represent more than \$1.8 trillion in worldwide annual sales and employ more than 5.3 million people. The corporations range in size from those with about \$ 3 billion in sales to more than \$180 billion in sales and with from 9,000 to more than 460,000 employees.

These reports yielded specific examples how corporations define and engage in environmental management, but they also show that corporations of different sizes and across industries are adopting similar types of sustainable development programs. From the review, we identified categories of corporate environmental citizenship activities that are widely practiced.

Understanding how and why corporations adopt these practices not only provides NPOs with important background material when approaching a corporation about a collaborative activity, it can also help NPOs, governments, and businesses to work together more effectively to disseminate and expand successful environmental management practices that promote sustainable development.

WHAT IS CORPORATE SOCIAL RESPONSIBILITY AND ENVIRONMENTAL CITIZENSHIP?

Many corporations consider their environmental management activities as part of their “corporate citizenship” and “social responsibility” activities, terms that are often used interchangeably and inconsistently among companies.

The World Business Council for Sustainable Development defines corporate social responsibility as “the ethical behavior of a company toward society,” that is, management “acting responsibly in its relationships with

other stakeholders who have a legitimate interest in the business—not just the shareholders.”²⁰

Marsden and Andriof contend that corporate citizenship is “about understanding and managing an organization’s influences on and relationships with the rest of society in a way that minimizes the negative and maximizes the positive.”²¹ Business for Social Responsibility, an environmental NPO, considers corporate social responsibility to be “operating a business in a manner that meets or exceeds the ethical, legal, commercial, and public expectations that society has of business.”²²

Logan, Roy and Regelbrugge define corporate citizenship as the practices that reflect “a corporation’s direct responsibilities to employees, shareholders, or owners, customers and suppliers and to the communities where it conducts business and serves markets.”²³ They contend that corporations exhibit good citizenship through at least four levels of activities:²⁴

- *commercial self-interest* -- in which they adhere to all laws and regulations and select those activities benefiting stakeholders and communities that also directly contribute to their profitability and competitiveness in the market;
- *expanded self-interest with immediate benefits* -- in which they undertake activities that go beyond normal business concerns to benefit stakeholders and communities in ways that also provide measurable short- and medium-term benefits to the company;
- *expanded self-interest with long-term benefits* -- in which they support community activities, such as education and training, that will have important impacts on continuing business success; and
- *promoting the common good* -- in which they support or participate in activities that improve conditions in the community or for stakeholders

with no expectation of direct tangible benefits to the company.

Generally, corporate citizenship is pursued through activities selected by strategic business criteria, by corporate philanthropy, and by business-community partnerships. NPOs need to understand that corporations have different, and perhaps unique, definitions of social responsibility and environmental citizenship and they need to understand how a specific corporation defines these terms before entering into a collaborative relationship.

DO CORPORATIONS IDENTIFY SUSTAINABLE DEVELOPMENT AS AN OBJECTIVE OF ENVIRONMENTAL MANAGEMENT ACTIVITIES?

Although clear and universal definitions of corporate social responsibility and environmental citizenship may remain elusive, it is clear that more corporations are taking these issues seriously.

For example, an increasing number of corporations have begun to issue environmental performance reports that describe their corporate citizenship policies and environmental management activities.²⁵ In a survey of 169 North American, European, and Japanese corporations with sales exceeding \$1 billion each, the United Nations found that by 1993 more than 43 percent of them had published policy statements on environment that committed the company to a significant degree of social responsibility in managing their environmental impacts.²⁶

About 70 percent of the multinational corporations in North America had such policies, as did about 41 percent in Europe. Among the most frequently identified corporate environmental citizenship practices were: contributing to local environmental and nature societies (46 percent), publishing a separate environmental performance report or an environmental section of the annual report (47 percent), holding annual meetings between headquarters and local

environmental officials (50 percent), and voluntarily financing environmental organizations (51 percent).

Other frequently reported practices included: eliciting community participation in emergency planning (51 percent), providing public information on the contents of materials used in manufacturing and data safety sheets to workers (64 percent), and providing content lists and safety instructions on product labels (52 percent).

Since the United Nations completed its survey in the early 1990s, a larger number of international corporations began reporting their environmental performance and pursuing a greater variety of actions that can be considered good corporate citizenship.²⁷

By 2001 more than 160 major corporations were members and financial supporters of the World Business Council for Sustainable Development, a leading international advocate of corporate environmental responsibility.²⁸ More than 2,500 companies around the world committed themselves to the principles of the International Chamber of Commerce's "Business Charter for Sustainable Development."

By the end of 2000, more than 18,500 organizations worldwide and nearly 950 organizations in the United States had certified their environmental management systems under the International Organization for Standards' ISO 14001 guidelines.

Perhaps the strongest indication of progress is that the terms "sustainable development," "corporate citizenship," and "corporate social responsibility" are now explicitly and frequently used in describing corporations' environmental policies and management practices.

The policy of the Electrolux Corporation, for example, is "to fulfill the needs of society that generate demand for our products. This involves a responsibility to contribute to sustainable development by continuously improving our

products and our production processes from an environmental perspective.”²⁹ Dow Chemical’s vision “is to achieve financial, environmental and social excellence in all parts of the world where do business.”³⁰ Johnson & Johnson’s policy objectives are to “prevent or reduce all environmental impacts of Johnson & Johnson operations worldwide, striving for environmental neutrality and resource efficiency consistent with principles of sustainable development.”³¹

Bristol-Myers Squibb’s environmental policy statement pledges to protect “the environment and health and safety of our employees, our customers, and the public. We strive to conduct our activities in an environmentally-sustainable manner, taking into consideration the complex and interconnected relationship to our ecosystem.”³²

Unilever points out that “developing sustainable agricultural practices is an essential element of the long-term health and prosperity of our business.”³³ DuPont affirms to all its stakeholders “including our employees, customers, shareholders and the public, that we will conduct our business with respect and care for the environment. We will implement those strategies that build successful business and achieve the greatest benefit for all our stakeholders without compromising the ability of future generations to meet their needs.”³⁴ Deere & Company seeks “to conduct its business on a worldwide basis in a manner that protects and sustains the environment.”³⁵

Toyota’s environmental policy pledges to promote environmental measures that strengthen its reputation as “a company trusted by the local community.”³⁶ Conoco supports sustainable development because “our investments must be: 1) financially sound; 2) safe while preserving the environment; and 3) of benefit to all stakeholders, including the communities where we work.”³⁷

Baxter International notes that sustainable development “challenges us to find approaches to business which

provide robust, long-term health for the environment, for the individual, for local economies and for the business itself.”³⁸ The Goodyear Company recognizes the firm’s “social responsibility to be a leader in EHS matters and strives to be a good corporate citizen in each of the communities it calls home. Goodyear associates worldwide help meet this proviso of responsible corporate citizenship through participation in literally thousands of local activities.”³⁹

WHY DO CORPORATIONS ENGAGE IN PROACTIVE ENVIRONMENTAL MANAGEMENT?

A review of environmental performance reports, and studies by external observers, show that a complex mix of forces drive corporations to practice good corporate environmental citizenship. Business for Social Responsibility points out that public demands for enforcement of regulations and for increased disclosure by investors, regulators, and public interest groups have played a strong role in increasing corporations’ sensitivity to their social responsibilities.⁴⁰

Others note that public and shareholder expectations of corporations to deal with complex social and economic issues in the communities where they operate have also risen dramatically over the past decade at the same time that the roles of national and local governments have been shrinking.⁴¹ The Global Environmental Management Initiative (GEMI) has found that strong environmental management can reduce operating costs by making resource utilization rates and production processes more efficient, reducing wastes, and lowering legal, insurance, cleanup and overhead costs.⁴²

Many corporations have learned that consumers and business customers often seek to align themselves with firms that have a reputation for social responsibility. And to stay competitive in global markets multinational corporations have developed strong supply chains through

which they can impose rules of conduct on their suppliers as well as on their own divisions and subsidiaries.

Our review indicates that many corporations see immediate and direct business benefits from proactive environmental management in the form of lower costs, less risks and liabilities, and more efficient operations.⁴³ Executives of these companies also perceive longer-term returns from promoting sustainable development, including stronger competitive advantage, preservation of crucial resources and raw materials, favorable corporate image, and opportunities for new product development. Moreover, many corporations now realize that the benefits of a strong reputation for corporate citizenship can include greater access to capital, reduced operating costs, improved financial performance, and enhanced brand image.⁴⁴

Socially responsible environmental practices may also lead to stronger sales and customer loyalty, increased productivity and quality, an enhanced ability to attract and retain employees and, in some cases, to reduced regulatory oversight or more favorable treatment by regulatory agencies. Proactive environmental management allows companies to maintain control over their own environmental activities, provide evidence of planning and interaction to address environmental issues, and influence future regulatory and competitive requirements.

SUMMARY

NPOs and business leaders continue to debate whether the broad policy statements used by corporations are true reflections of social responsibility, or merely “green-wash” or “window dressing.”⁴⁵ Yet the fact that a substantial number of corporations clearly perceive their proactive environmental management practices as forms of corporate citizenship that contribute to social well-being is an indication of the progress being made by NPOs and other organizations in sensitizing corporations to the importance of these concepts.

All of the reports explicitly recognize stakeholders' and the general public's expectations that corporations must operate responsibly in environmental matters both in the communities in which they have facilities and in the world at large. Most of the reports frame their environmental management activities in terms of achieving sustainable development objectives, although perceptions and definitions of the term vary greatly.

Given that so many corporations now claim their environmental management practices as evidence of corporate citizenship, a more important question is: how do progressive companies pursue socially responsible programs and activities, and how do those activities contribute to sustainable development? If NPOs understand the answers to these questions, they will be well positioned to leverage their unique resources and capabilities in collaborative efforts with corporations.

In order to determine if corporations take their sustainable environmental policies, NPOs should assess their environmental management practices and their environmental performance. In the next section we describe the types of internal environmental management practices progressive companies are applying to address the impacts of their operations.

IV. PRACTICES: CORPORATIONS' INTERNAL MANAGEMENT OF ENVIRONMENTAL IMPACTS

Although no recent surveys comparable to the United Nations' early 1990s study document the number of corporations that have significant corporate environmental citizenship programs worldwide, our content analysis of 50 companies' environmental performance reports indicates the types, characteristics, diversity, and scope of activities many of them carry out.

Our review of corporate environmental performance reports quickly revealed that the predominate concern of most corporations is with internal management of materials, products, and processes that have potentially negative environmental impacts and that add costs to and reduce efficiency in their operations. Driven initially by regulatory control and fears of legal liability, many companies now recognize that proactive environmental management can also be good business, leading to more efficient, cost-effective, and profitable results.

The corporations in our sample have adopted beyond regulatory compliance practices as part of their overall business strategies, but also perceive of them as good corporate citizenship. Internally-oriented practices that contribute to sustainable development include:

- Environmental management systems that reduce the corporations' negative environmental impacts in communities in which they are located;
- Adoption of pollution prevention and clean manufacturing practices that eliminate pollution before it occurs;
- Redesign of products and processes to achieve more beneficial environmental impacts for customers and communities;

- Materials reduction, recycling, and reuse;
- Reduction of “end of pipeline” air emissions and wastes;
- Energy and resource conservation; and,
- Environmental supply chain management.

ENVIRONMENTAL MANAGEMENT SYSTEMS

Corporations concerned about environmental sustainability seek to meet all legal and regulatory requirements as a fundamental principle. Most of the corporations in our sample are also enhancing their regulatory compliance by adopting voluntary environmental management systems (EMS) that go beyond what local or national regulations require. Texaco, Eastman Kodak, Goodyear, Bristol-Myers Squibb, and Alcoa, for example, have created their own corporate environmental, health, and safety standards that meet international guidelines. These corporate standards are often more stringent than the requirements adopted by governments and are usually applied in all of their facilities worldwide.

Many companies are exceeding regulatory compliance by voluntarily developing and certifying their EMS under ISO 14001 guidelines. By 2000 more than 950 organizations in the United States had certified their EMS by authorized registrars, joining more than 18,000 organizations worldwide.

By 2000, ABB had ISO 14001-certified EMS for 96 percent of its sites and workshops in 38 countries.⁴⁶ All of ABB’s sites must report their environmental performance annually using 20 operational and two management indicators in addition to site-specific parameters. Lucent Technologies had deployed its EMS for 95 percent of its products, services, operations and facilities by 2000, and achieved 100 percent deployment in three of its five global regions.⁴⁷

Goodyear has developed corporate standards of environment, health, and safety in countries where regulations are weak or nonexistent and enforces whichever standards are more stringent. Goodyear certified plants in Argentina, Mexico, and Germany under ISO 14001 and is implementing certification procedures for other plants around the world. BP-Amoco set a corporate-wide greenhouse gas emissions reduction target of 10 percent between 1990 and 2010 and is testing a pilot internal system for emissions trading among individual business units that allows them to find low-cost ways of meeting the overall target.⁴⁸

Xerox has completely integrated its EMS with health, safety and operational processes and is continuously improving its environmental performance through beyond-compliance practices. Xerox's EH&S system focuses on achieving sustainable growth by internally managing environmental impacts, reducing the corporation's external environmental "footprint," and partnering with customers and suppliers to improve environmental performance.

Companies with an EMS must train and educate their employees in the company's environmental policies and programs and in safe environmental practices. Anheuser-Busch, for example, conducts environmental training for all employees from new recruits to plant managers. All employees receive environment, health and safety awareness training and those involved in activities affected by environmental regulation received specific training in topics such as hazardous waste handling and emergency preparedness.⁴⁹

Corporations with an EMS also monitor and assess their environmental performance and audit their operations on a regular basis. Eastman Kodak, for example, measures how well business unit managers integrate environmental responsibility into business plans and tracks progress in environmental performance semi-annually.⁵⁰ Kodak assesses each of its facilities' environmental performance against legislation and corporate standards at least once

every three years, as do many other companies in our sample. Kodak evaluates all of its sites worldwide on a regular basis by 28 performance criteria and for compliance with local laws and regulations.

Each year Sonoco Products conducts voluntary self-audits of its plants using 150 environmental checkpoints to ensure that the operations are in compliance with environmental best practices and corporate policies. Bristol-Myers Squibb and many other companies in our sample developed self-assessment processes for measuring performance against 16 principles of the ICC Business Charter for Sustainable Development and their own EHS codes of practice that encompass ISO 14001 standards and those of the European Union's Environmental Management and Audit Scheme (EMAS).

POLLUTION PREVENTION AND CLEAN MANUFACTURING PRACTICES

Other corporations have gone beyond regulatory compliance to adopt clean manufacturing practices that prevent pollution before it occurs not only in their own operations but also among their suppliers, vendors, and contractors. Many firms are actively seeking ways of making their operations cleaner and reducing or eliminating environmentally harmful wastes from their operations.

Anheuser-Busch requires all of its breweries and packaging units to use a sophisticated system of chemical material management that tracks and assesses chemical usage. All requests for new chemicals must be approved through a process that includes review on an extensive database. The process determines the impacts of potential hazards of the material, environmental risks, regulatory requirements, training, and disposal.

The 3M Corporation carries out pollution prevention programs within its own plants and designs products that prevent pollution for its customers. General Motors is

adapting its materials accounting systems, its material safety data sheet management systems, and its materials inventory control systems to generate environmental regulatory reports and to support pollution prevention initiatives. The Sony Corporation is finding ways of cutting down the time needed to assemble and disassemble products as a means of encouraging recycling and of reducing the number of parts and material types -- especially plastics -- used in its products.⁵¹

Other firms apply life cycle analysis to improve their operations. Bristol-Myers Squibb conducts reviews of all of the company's product lines to identify and reduce potentially negative environmental impacts at all stages of a product's life from raw material acquisition, design, marketing, manufacturing and packaging, to distribution, customer use, and ultimate disposal.

PRODUCT AND PROCESS REDESIGN

Corporations that are pursuing sustainable development objectives also seek ways to reduce the environmental impacts of their processes on the communities in which they operate and on users of their products.

Boeing Corporation uses life cycle analysis, for example, to make environmental decisions and to determine the cost of potential tradeoffs at all stages of its production process. It is exploring ways of using and disposing of corrosion-inhibiting materials and of finding toxic-free substitutes for materials such as chromium and cadmium used in preventing corrosion on airplanes.⁵²

Lucent Technologies applies a "design for environment" system to find ways to "dematerialize" (use as little and as few types of materials as possible) its products, recycle materials into new products, detoxify products, and minimize energy use in production.⁵³

ABB applies life cycle analysis to identify areas where it can reduce the environmental affects of its products over their operational lifetime, during which 95 percent of the environmental impact usually takes place. Its business units develop environmental product declarations describing the environmental aspects of core products over their whole life cycle.

ITT Industries' Flygt unit uses life cycle assessment to evaluate its pump products' environmental impact "from cradle to grave." The organization developed methods that can be used in other ITT Industries businesses for improving product stewardship.⁵⁴

The Sony Corporation created a Center for Environmental Technologies to create, test, and market new products that are more environmentally friendly. It has developed alternatives to styrene foam for packaging and cushioning materials and a limonene-based system for dissolving styrene foam for reuse. And it is researching new techniques for transforming plastics extracted from home electronics for other uses and on methods of collecting, purifying and repackaging high-performance dyes from video printer ribbon cartridges.

Philips Electronics uses eco-design principles to develop new products that are cleaner to make, use, and dispose of, relieving local landfills of expensive burdens. Intel seeks to reduce the power consumption of personal computers and is designing computer subsystems that use advanced power management techniques during operation and when in standby mode. Dell Corporation is producing personal computer chassis that are recyclable and upgradeable, extending their life cycle and reducing disposal problems.

Texaco has designed or reformulated products to reduce potential hazards, including biodegradable hydraulic fluids, non-chlorinated gear compounds, cleaner burning gasoline, ash-less lubricants, and long-life antifreezes.⁵⁵ Cooper Industries produces air-tight recessed lighting fixtures for homes and offices to prevent energy leaks and reduce

heating costs. Its industrial fluorescent lamps provide double the wattage output of incandescent lamps and last 13 times longer, thereby cutting energy use in factories.⁵⁶

REDUCTIONS IN “END OF PIPE” AIR EMISSIONS AND WASTES

Many of the corporations in our sample have made substantial gains in reducing air pollutants and solid and liquid waste, both through better end-of-pipe control and through pollution prevention processes. Boeing, for example, reduced its TRI (Toxic Release Inventory) air emissions by 82 percent between 1991 and 1999, during a period when its production of aircraft increased substantially.

Rockwell International cut its chemical air emissions in the United States from nearly 1.2 billion pounds in 1990 to less than 29 million pounds in 1999, at a time when production was increasing. Proctor & Gamble found ways of reducing or eliminating manufacturing wastes that saved the company \$300 million between 1994 and 2000.⁵⁷

Companies are also finding ways of producing goods and services more efficiently and at the same time reducing their environmental impacts. United Technologies lowered its hazardous waste generation in the United States from more than 45 million pounds in 1990 to less than 8 million pounds in 2000.⁵⁸ Dow Chemical Company reduced its waste-to-production ratio by 14 percent from 1994 to 1999 during a period when its global production was increasing by 20 percent. By 1999 its potential amount of waste avoided was more than 350 million pounds.

Some companies reduce their air and waste emissions through better-designed production processes or through new technologies, others through materials reduction, recycling or reuse. ABB introduced more efficient, high-speed steam-turbine technology that reduced iron, copper, and energy use. It also developed low nitrogen oxide-burning combustion engines and utility boilers, thereby

allowing power and manufacturing plants to emit less NO_x, a precursor to acid rain.

MATERIALS REDUCTION, RECYCLING, AND REUSE

Corporations contribute to environmental sustainability when they reduce their waste materials or reuse them instead of disposing of them at or outside of their plants and facilities. Waste reduction, recycling, or reuse not only relieves pressures on natural resources and virgin materials, but also helps solve disposal and treatment problems for customers and communities.

Baxter International recycled 35 million kilograms of materials in 1999 generating revenues from recycling of more than \$5.5 million. Texas Instruments reduces materials by diluting chemical baths, recapturing and reusing pump oils, recycling water within plants, and replacing solvents with high-pressure water in its parts cleaning operations. The company recycles 75 percent of its nonhazardous solid waste.

Anheuser-Busch recycles over 97 percent of its solid waste and buys about \$2 billion worth of recycled products a year. Each year, the company recycles 3.5 billion pounds of spent grains, and million of pounds of glass and cardboard. It recycles 14 million pounds of diatomaceous earth a year as soil enhancer or components of cement and bricks. It makes compost by annually recycling beechwood chips, hop vines, and animal pen, landscape, and other wastes.

Ford Motor Company's worldwide stamping, casting and forging operations use more than 2 million tons of recycled metals a year. Its North American manufacturing plants recycle 450 million pounds of waste annually.

Sonoco Products takes back much of its packaging materials in the United States and Europe for recycling and reuse. Sonoco recycles more than 2 million tons of paper a

year and many of its products are made from 100 percent recycled materials. It collects more than 160,000 tons of used cores and tubes from customers that it recycles and reuses in new products. Intel is maximizing its recycling efforts to promote sustainable production in its facilities in the United States. In 1999 and 2000 Proctor & Gamble recycled or reused 55 percent of its generated waste (879,000 metric tons) and used 444,000 metric tons of recycled materials in its packaging. More than 30 percent of material that P&G uses for packaging is from recycled materials.⁵⁹

Johnson & Johnson's programs for reducing health products packaging not only decrease substantially the waste that must be disposed of in communities where the products are used, but also lowers the company's production and waste disposal costs. J & J reduced the paperboard carton packaging for its contact lens products by 82 percent saving the company 90 percent of the cost. It also saved by downsizing blister and shell cartons for its endoscopic reloadable linear cutter products and eliminated 157,000 pounds of waste annually. In addition, by increasing the number of vials of its product Procrit, the company eliminated 487,000 pounds of waste annually. By offering consumers options between bi-metal and paper boxes for its commercial bandages, J&J reduced waste by 1.5 million pounds annually.

ENERGY AND RESOURCE CONSERVATION

As part of their proactive environmental management programs, nearly all corporations whose environmental performance reports we reviewed cited attempts to reduce their use of energy, water, and other natural resources.

PepsiCo, for example, initiated energy conservation programs that have saved more than 4.6 million kilowatts of electricity since the programs' inception, preventing the emission of 1.5 pounds of carbon dioxide, 5.8 grams of

sulfur dioxide and 2.5 grams of nitrogen oxide for every kilowatt-hour saved.

Cooper Industries supports resource conservation at its plants around the world to reduce energy and water use. ARCO uses a steam turbine-powered co-generation plant in Los Angeles to refine natural gas fuel, saving the energy equivalent of 4,000 barrels of crude oil a day and reducing daily nitrogen oxide (NO_x) emissions equivalent to those from 162,000 vehicles. Texas Instruments has retrofitted 95 percent of its facilities with energy management systems to improve the efficiency of lighting and air conditioning equipment.

Other companies are re-equipping their facilities to save energy and water. Baxter International installed energy-saving lighting systems in many of its sites, reducing both its energy use and its lighting costs. Hughes Electronics' Spectrolabs adopted new initiatives that save 192,000 kilowatt-hours of electricity a year and is installing high-efficiency T-8 lamps, electronic ballasts, and high efficiency motors to conserve energy. Hughes Network Systems decreased natural gas consumption by installing energy-efficient boilers and chillers.

Anheuser-Busch has developed programs to keep utility costs below 1995 levels -- saving the company more than \$40 million -- and to save 15 percent of brewery fuel, and reduce biological sludge by 50 percent and community energy use by 80 percent. Weyerhaeuser has lowered its wastewater discharges by 90 percent and water usage by recycling 35 million gallons of effluent and storm water runoff into its Arkansas paper mill's process water. Overall, Weyerhaeuser reduced water use in its U.S. and Canadian wood product facilities from 244 gallons per ton of production in 1996 to 137 gallons per ton of production in 1998.⁶⁰

ENVIRONMENTAL SUPPLY CHAIN MANAGEMENT

An increasing number of companies are encouraging or requiring their suppliers to comply with environmental regulations and to adopt proactive environmental management practices. Texas Instruments evaluates its suppliers to determine if they have environmental policies in place and measurement tools to monitor internal compliance with environmental policy and if they have complied with all government regulations.⁶¹

Unilever is making substantial investments in cleaner manufacturing technology to improve supply chain performance. Its “Total Productivity Maintenance Teams” reduce waste and emissions from packing machine operations in its food businesses and several Unilever companies have certification programs encouraging higher standards of environmental performance among their suppliers.

Baxter International’s EHS management standards require the integration of environmental, health and safety considerations into procurement processes for both contractors and suppliers and these considerations are used in its quality evaluations of suppliers.⁶² More than 40 percent of Baxter International’s facilities reporting on EHS performance have supplier programs targeted to pollution prevention.

Ford, General Motors, and Chrysler are promoting pollution-prevention measures in production and distribution, and requiring their suppliers around the world to certify their environmental management systems under ISO 14001 standards. General Motors created a “GM Suppliers Environmental Advisory Team” to improve mutual understanding of environmental programs and efficiency and evaluate new ideas to promote eco-efficiency throughout its supply chain.⁶³

Toyota North America requires 500 suppliers that provide parts, materials, and components directly or indirectly to Toyota to adopt the company's "Green Supplier Guidelines."⁶⁴ The guidelines extend Toyota's own environmental management standards, including environmental management system certification by ISO 14001 criteria, to its suppliers. Toyota extended to its suppliers a chemical ban on 450 chemicals and substances that suppliers must phase out from new or reformulated materials. It also requires them to formulate and implement policies and procedures that comply with all international, federal, and state requirements for transporting hazardous materials.

SUMMARY

In sum, voluntary environmental management practices have become an integral part of the business operations of most international corporations. The conventional definition of corporate citizenship simply as philanthropy or external relationships with stakeholders no longer captures the full range of business activities that constitute environmental responsibility or that contribute to sustainable development.

Recognizing the many ways in which corporations address environmental issues is a crucial starting point for NPOs interested in developing collaborative relationships and to leverage their unique capabilities for assisting corporations to undertake these and other types of internal management improvements. Knowing how corporations pursue environmental management can also help NPOs to assist corporations in framing sustainable development in new and different ways that might prove to be mutually beneficial.

V. APPROACHES: TYPES OF NPO-CORPORATE ENVIRONMENTAL COLLABORATIONS

Although much of what large corporations do to promote environmental sustainability focuses on internal changes in operations, products, and materials, an increasing number of companies are also collaborating with NPOs on external environmental issues and some are working closely with NPOs on improving internal processes as well. NPOs interested in developing partnerships or alliances with corporations should be aware of the wide range of options.

The relationships between corporations and environmental NPOs vary in the intensity of interaction between the organizations, that is, in the amount of direct participation in each other's activities. In observing the intensity of interaction, we focus on the level of collaborative activities undertaken that directly impact the corporation's internal operations, practices, or activities.

Some relationships -- such as a corporation's actions to obtain "certification" from an NPO -- can involve substantial employee effort, but the actual interaction with the certifying NPO is usually limited. Similarly, marketing affiliations may result in support for an NPO, but these activities are unlikely to affect internal corporate or NPO operations.

Using intensity in this sense, our research indicates that collaborations can be classified into seven categories of interaction described in Table 1.

- Corporate support for employee participation in NPO environmental activities
- Corporate contributions and gifts to NPO environmental programs and activities

Table 1: Types of NPO-Corporate Environmental Relationships

Types of Corporate-NPO Relationships	Level of Intensity	Objectives of Corporations	Objectives of NPOs
Corporate Support for Employee Participation in NPO Activities	Low	-Improve employee morale -Develop image of social responsibility -Enhance community relationships	-Obtain greater visibility for programs -Tap new sources of funding -Recruit new volunteers and participants
Corporate Contributions and Gifts	Low	-Support favored environmental organizations -Develop image of social responsibility -Cultivate potential allies in environmental community	-Acquire new sources of funding -Obtain publicity for environmental programs
Corporate-NPO Marketing Affiliations	Low	-Obtain endorsement from environmental groups -Add social value to products -Develop image of social responsibility	-Acquire new sources of income -Enhance visibility -Endorse environmentally-friendly companies or products -Strengthen market for “green” products
NPO Certification of Corporate Business Practices	Low to Moderate	-Obtain external certification of environmental practices -Offer “green” products -Develop image of social responsibility -Prevent boycotts and protests	-Certify sustainability of sources of natural resources -Change corporate raw materials procurement or purchasing practices -Publicize importance of natural resource conservation -Help environmentally responsible resource owners expand markets for their products
Targeted Project Support	Moderate	-Focus corporate contributions on specific environmental activities or project locations -Develop medium- to long-term philanthropic relationships -Enhance image of social responsibility -Provide visibility for products through equipment donations	-Obtain additional sources of revenue -Publicize high-priority projects -Obtain equipment and services -Expand activities in specific projects -Enhance ability to raise project-specific funding
Environmental Awareness and Education Collaborations	Moderate	-Ability to access and disseminate environmental information -Networking opportunities -Support research on new environmental approaches -Influence business practices -Increase public awareness of environmental issues -Disseminate performance results	-Expand research on environmental issues -Influence business leaders’ thinking on environmental issues -Expand public education on environmental issues -Engage in training and educational functions -Influence public policy on environmental protection
Environmental Management Alliances	High	-Obtain access to environmental expertise -Diversify perspectives on environmental problems -Obtain external endorsement of environmental solutions -Achieve favorable publicity for partnering efforts	-Achieve environmental goals and objectives -Learn how corporations deal with environmental issues -Influence changes in corporate management practices -Help prevent environmental pollution and degradation -Tap expertise and resources of corporations

- NPO-corporate marketing affiliations
- NPO certification of corporate business practices
- Corporate support for targeted NPO environmental projects
- Environmental awareness and education alliances
- Environmental management alliances

CORPORATE SUPPORT FOR EMPLOYEE PARTICIPATION IN NPO ENVIRONMENTAL ACTIVITIES

One way in which corporations relate to environmental NPOs is through an “arms-length” relationship: matching employee contributions to environmental causes or maintaining programs that encourage and facilitate employees to volunteer their time to NPO environmental activities.

Many corporations offer incentives and encouragement for their employees to work with external stakeholders and local communities to improve environmental conditions and prevent or clean up environmental degradation. This type of relationship is generally initiated and maintained by a corporation’s employees who, either on their own or through corporate outreach activities, donate their time and money to selected NPOs. Many firms match their employees’ contributions to, or encourage employees to volunteer for, NPO environmental programs.

Frequently-mentioned activities are: 1) awards to and financial support for employees participating in community environmental activities; 2) corporate technical assistance to community, educational, and environmental groups; 3) corporate financial matching programs for employee’s contributions of time or money to environmental projects; 4) employee education and training programs in environmental management that reduce or eliminate

negative environmental impacts on the communities in which they work.

For example, PepsiCo double matches its employees' contributions of personal time or money. In addition to making direct grants, DaimlerChrysler Fund's Matching Gift Program and company-sponsored volunteer programs recognize employee involvement in community and environmental activities. Xerox provides "Earth Awards" to its employees worldwide who use their knowledge, experience, and skills to help communities and NPOs solve environmental problems.

Ashland Inc. makes donations to NPOs through a Chairman's Challenge Award that recognizes employees, retirees, and family members who volunteer or participate in noteworthy environmental programs in their communities. AT&T developed a corporate program to pay employees for an eight-hour day that is dedicated to volunteering with environmental or community organizations. Chevron also supports employee volunteers in California, Texas, Mississippi, and Louisiana to volunteer each year to clean up beach areas during National Coastal Cleanup Day.

Many other corporations also have reward programs for employees who volunteer for community environmental improvement programs. DuPont recognizes the volunteer activities of its employees in local communities by making contributions to the nonprofit organizations of their choice. In communities where Goodyear has facilities, the company helps design and implement community recycling programs and the firm encourages its employees to volunteer their time to participate in community cleanup programs.

Alcoa offers awards and incentives to its employees in plants around the world to work with community groups on innovative ways of preserving the natural environment and cleaning up environmental problems.⁶⁵ Competition is keen among Alcoa plants to win or be recognized for

corporate environmental citizenship activities. The Sony Corporation also provides awards for employees who work with community groups at its sites around the world. Awards have gone to employees at facilities in Mexico for finding alternative ways of transporting waste from production sites to landfills and for developing recycling systems that reduced the amount of waste that had to be disposed of through other means.

Other companies support employee contributions not only to local communities but also to national and international environmental causes. Chevron has supported more than 1,000 employees' volunteer efforts since 1987 to restore portions of Yosemite National Park damaged by overuse by contributing more than \$600,000 to their efforts. Chevron also helps finance employee programs in Alberta, Canada to replant more than 100,000 evergreens on land cleared for oil and gas production, and to educate teachers and students in Mississippi about wildlife and habitat preservation.

For corporations, these collaborations boost employee morale, enhance community relationships, and generate good public relations. They help NPOs to tap new sources of funding and recruit new volunteers and give their programs greater visibility. In this arrangement, however, corporations typically maintain an indirect relationship with NPOs and there may be little or no formal interaction between the organizations.

CORPORATE CONTRIBUTIONS AND GIFTS

The most prevalent relationship between corporations and environmental NPOs is philanthropic. This is also an "arm's length" relationship in which a corporate foundation or public relations division makes grants or gifts to selected environmental organizations, often based on proposals submitted by NPOs. After the donation is made,

NPOs must usually report on the use of the funds, but typically the relationship ends there.

Many large U.S. and multinational corporations now contribute to community and environmental groups. For example, between 1999 and 2004, General Motors plans to contribute more than \$5 million in cash and vehicles to The Nature Conservancy (TNC). The contributions will support TNC-administered GM Fellowships to create conservation plans for U.S. communities, and establish preservation projects in the Appalachian region of the United States as well as in China, Indonesia, Brazil, and Venezuela.⁶⁶

Since 1991, Hewlett Packard (HP) has donated nearly \$4 million in cash, equipment, and technology to U.S. environmental and conservation groups. HP also provides geographic information systems, mapping equipment, and training to more than 150 conservation groups in the United States and contributes to NPOs seeking to improve rivers and waterways in Europe.⁶⁷ Philip Morris supports hundreds of environmental programs such as the Conservation Fund's conservation leadership project, its Great Lakes Basin initiative, and its national forum on non-point pollution.

Motorola has donated two-way radio equipment worth more than \$1 million to the Worldwide Fund for Nature to use in protecting wildlife in remote and environmentally endangered regions in the world.⁶⁸ The clothing and outdoor equipment company, Patagonia, has donated more than \$15 million to more than 900 NPOs that protect habitat, wilderness, and biodiversity.

This type of cooperation provides a corporation with the opportunity to demonstrate good citizenship without having to make a significant investment in time to develop and manage a formal alliance. Contributions provide companies with opportunities to enhance public relations and demonstrate that the corporation is "giving back to society."

As government funds become more limited and foundation grants become more competitive, nonprofits see corporations as an important funding source. Thus, NPOs are becoming more aggressive in targeting businesses for in-kind or cash donations.

CORPORATE-NPO MARKETING AFFILIATIONS

Some companies license the name or logo of environmental organizations for their products, purchase the endorsements of environmental groups for their goods or services, or donate a portion of their sales to environmental NPOs as a way of affiliating with an environmental cause.

Toy manufacturer Milton Bradley licensed the name of the Sierra Club, for example, for its jigsaw puzzles, as did Bushnell binoculars from the National Audubon Society.⁶⁹ Bay Beyond Inc., a Virginia food company with strong interests in environmental and social issues, for many years placed the logo of the Chesapeake Bay Foundation on some of its products and gave the foundation a percentage of sales from those products to support its environmental protection activities.

The clothing manufacturer, Eddie Bauer, works closely with American Forests to replant trees in urban areas and in woodlands devastated by natural disasters. Eddie Bauer asks its customers to contribute one dollar above the purchase price of its products to support the “Eddie Bauer Global Releaf Tree Project.” Through the project, American Forests replanted more than half a million trees since 1998 in the United States and Canada.

Corporations see these marketing affiliations as means of supporting worthy causes, obtaining endorsements from environmental groups, adding social value to their products, and enhancing their public images. For NPOs, these affiliations can be effective new sources of income

that also provide visibility for their causes. They offer NPOs the opportunity to endorse companies that pursue environmentally friendly practices and to strengthen the market for “green” products.

NPO CERTIFICATION OF CORPORATE BUSINESS PRACTICES

Recently, corporations in environmentally sensitive industries -- such as natural resource exploitation or sales of natural resource products -- began developing relationships with environmental NPOs, primarily as the result of external pressures to provide third-party authentication of environmentally appropriate business practices.

Unilever and the World Wide Fund for Nature (WWFN), for example, established the Marine Stewardship Council, an independent certification program that endorses environmentally responsible fishing practices. The Unilever-WWFN alliance developed principles and criteria, began the process of accrediting professional assessment organizations, and formed the Council as a self-financing NPO. Unilever committed itself to purchase all of its fish from certified fisheries by 2005.⁷⁰

Major lumber wholesalers, retailers, and users such as Home Depot, Wickes Inc., Lowes, 84 Lumber, and the Anderson Corporation work with the Forest Stewardship Council (FSC) to obtain FSC's certification that their products come from forests in which environmentally and socially responsible harvesting processes are used and in which environmental damage is minimized.⁷¹ The FSC develops and promotes certification and labeling through the use of a trademark that allows customers to identify and purchase “green” timber products that originate from a forest or woodland that is managed according to accepted social and environmental criteria.

According to FSC, its trademark allows consumers and corporations to put pressure on forest product companies to change their harvesting practices to meet environmental standards. FSC has the support of many companies that have formed themselves into “buyers’ groups.” The members of buyers groups commit themselves to selling only independently certified timber and timber products within three to five years. Buyers’ groups in the United Kingdom, Netherlands, Belgium, Austria, Switzerland, Germany, Brazil, Japan, and the United States use FSC labeling. Through certification, FSC provides an incentive in the marketplace for good forest stewardship. A growing number of products -- such as wooden kitchen utensils, doors, and frames -- are already available.

Certification-oriented NPOs do not typically accept funding from corporations and are not necessarily interested in developing long-term relationships with them. Although they sometimes involve the private sector in their activities, their main direct interaction in this area is linking buyers and producers of products from properly managed environmental sites, thereby expanding the market for “green” products. Thus, while corporations may significantly change their operational practices to meet certification requirements, their direct collaboration with the actual certification groups is usually limited.

TARGETED PROJECT SUPPORT

Beyond simply making a donation, many corporations are targeting a significant portion of their philanthropic activities to particular projects, activities, or geographic regions that are in some way related to corporate interests. Most of these NPO-corporate relationships focus on one specific project or activity, typically for a limited period of time.

The Wildlife Habitat Council, for example, works with the Ford Motor Company to encourage communities to create wildlife sites and educational programs in the United States, Canada, Mexico, England, Brazil and other countries where

Ford has significant manufacturing and assembly operations. In addition, the alliance has helped to establish more than a dozen “Wildlife at Work” sites at Ford plants, providing protection and habitats for wildlife. Ford also developed a strategic partnership with Conservation International to support research on biodiversity of the fragile rainforests of the Amazon Basin.⁷² This is part of Ford’s \$5 million contribution over five years to support CI’s global conservation efforts.

Starbucks also works with Conservation International. This collaboration focuses on the use of new shade-grown coffee harvested from farms supported by the partnership. The coffee marketed by Starbucks under the name “Shade Grown Mexico” comes exclusively from farms in a buffer zone surrounding the El Triunfo Biosphere Reserve in Chiapas, Mexico. Conservation International promotes water and soil conservation, crop diversification, and chemical fertilizer and pesticide reduction, which help protect the forest, streams, and wildlife surrounding the reserve and Starbucks offers financial support to the project and technical advice to farmers to raise the quality of their coffee. The relationship between the two organizations is continuing to expand and develop.

Corporations recognize that supporting specific projects of NPOs, either financially or through employee participation, can result in good public relations and help develop their image as environmentally responsible organizations. Visitors to a corporate-supported wildlife refuge or company-sponsored reforestation project, for instance, are reminded of a company’s positive impact. In addition, the corporation increases its organizational knowledge about and commitment to a particular region or activity. This can be valuable as it considers future activities in the same region or faces similar issues in other locations. Additionally, staff can get involved in these projects, building a sense of teamwork and increasing internal morale.

For corporations, targeted projects also offer an opportunity to focus contributions on preferred activities, provide visibility for products through in-kind contributions, develop longer-term philanthropic relationships, and enhance their image as socially responsible organizations. For NPOs, a corporate donation directed at a particular project provides both financial support and a unique opportunity to increase the visibility of an important on-going activity. This could lead to additional support from other sources or leverage with other parties (e.g. government, multinational donors) to further the goals of the project. Additionally, once a corporation contributes to a successful project, it is more likely to offer additional support to that project or to other programs managed by the same NPO.

ENVIRONMENTAL AWARENESS AND EDUCATIONAL COLLABORATIONS

An increasing number of corporate-NPO collaborations focus on environmental education. Nike's "The Air to Earth" (ATE) program, for example, is a collaboration with the North American Association for Environmental Education (NAAEE) and Eco Educators (a nonprofit environmental training organization) aimed at fifth- and sixth-grade students. It allows students to explore how businesses and consumers can share responsibility for building sustainable communities and how they themselves can get involved.

Beyond working together to improve environmental awareness, education, and training for the general public and for targeted groups of people, corporations and NPOs are also collaborating to increase the information available to the private sector on important environmental topics. With corporate support, a variety of NPOs conduct research, publish reports, organize workshops, seminars, and conferences, and develop training and educational programs on environmental issues of concern to businesses.

One way in which corporations support environmental education and awareness is through business membership organizations, such as the World Business Council for Sustainable Development (WBCSD) or Business for Social Responsibility (BSR). These NPOs attempt to establish long-term relationships with corporations in order to obtain financial support and involve company representatives in their activities.

Membership usually encourages corporations to commit both time and resources to the NPO's projects and to the principles it advocates. Implementation of ideas generated from business-membership NPOs generally face less resistance than recommendations coming from institutions with which companies have no affiliation.

The WBCSD, for example, is a coalition of more than 160 international companies from more than 30 countries and 20 major industrial sectors united by a shared commitment to the environment and to the principles of economic growth and sustainable development. Its global network of national and regional business councils and partner organizations brings WBCSD into contact with a far larger number of companies and executives.

The WBCSD promotes cooperation among businesses, governments, and other organizations concerned with the environment and encourages high standards of environmental management in the private sector. WBCSD is a channel through which corporations can participate in policy development, demonstrate progress in environmental and resource management, and share leading-edge practices. The WBCSD has published reports on sustainable production and consumption and organized dialogues with academic, government, NGO, consumer groups, and business participants on other environmental issues.

Many corporations -- including American Express, Wal-Mart, S.C. Johnson, Novo Nordisk, BP Amoco, Cisco

Systems, Johnson & Johnson, General Motors, Land's End, and Home Depot -- financially support Business for Social Responsibility (BSR), a US-based NPO that seeks to be a global resource for companies concerned with ethical values, communities, and the environment. BSR assists member companies by offering expert assistance on corporate responsibility issues.

BSR provides businesses with information needed to understand and implement more responsible policies and practices, and promotes knowledge-sharing and collaboration among companies and with other sectors. BSR operates a Global Business Responsibility Resource Center, a collection of reports on environmental issues and company experiences with environmental improvements, and links to resources on corporate social responsibility.

ENVIRONMENTAL MANAGEMENT ALLIANCES

Although “arms-length” corporate and NPO relationships can benefit both parties by sponsoring or financing external environmental programs, some corporations are pursuing more active partnerships with NPOs to address problems of internal environmental management.

One of the earliest collaborations was formed in 1990 when McDonald's and the Environmental Defense Fund (EDF) created a task force to seek ways of reducing waste in McDonald's operations. Since then, many other corporations have sought out or accepted invitations to work with NPOs on various aspects of their internal environmental management systems.

Westvaco and The Nature Conservancy partnered to inventory natural resources and protect them more effectively on company-owned lands. Conservation International and Starbucks collaborated on introducing coffee grown in areas where CI helped farmers develop environmentally sustainable production methods.

The National Pollution Prevention Center collaborated with Ford Motor Company to develop a pilot project for applying life cycle assessment and design studies on aluminum intake manifolds to reduce energy use, solid waste, air emissions, water discharges and costs. The Wildlife Habitat Council (WHC) helps Abbott Laboratories create wildlife protection programs on company property, engage employees in voluntary environmental activities, and accredit the company's environmental activities.

The World Resources Institute (WRI) collaborated with DuPont on a "Green Polymers" project and other activities to improve the company's environmental performance. Collins Products used the process developed by The Natural Step to track and reduce raw material use and to monitor and measure the company's environmental impacts.

Bristol-Myers Squibb partnered in 1999 with the Alliance for Environmental Innovation (the Alliance) to develop a software package that improves integration of environmental considerations into new product development. Several other corporations have worked closely with the Alliance to improve internal operations. For example, Norm Thompson Outfitters, a specialty retailer of apparel, gifts, and home items, developed a project with the Alliance to reduce energy and resource use, solid waste, and pollution in its catalog paper practices. The Alliance and UPS collaborated on reducing the delivery and logistics corporation's packaging waste and on substituting more environmentally-friendly materials. The Alliance is also working with FedEx on developing a fleet of low-polluting trucks.

Those NPOs that are seeking stronger impacts on corporate practices work collaboratively with companies to change their products or processes to prevent pollution or reduce environmental damage. Business for Social Responsibility's "Business and the Environment" program helps member companies develop cost-effective practices for improving environmental performance, including

establishing environmentally-sustainable supply chain-management, creating value from sustainable development, mitigating greenhouse gas emissions, designing products to reduce negative environmental impacts, improving the environmental aspects of building design, and incorporating sustainability practices into business operations.

The Mitsubishi Corporation of America negotiated an agreement with the Rainforest Action Network (RAN) to develop an eco-accounting system that will measure environmental performance of Mitsubishi's operations in resource productivity, pollution intensity, waste intensity, and energy use intensity and to train its managers and staff in industrial ecology.⁷³ Mitsubishi also works with RAN on phasing out wood and paper products from old-growth timber sources and funding forest reserves that protect existing natural resources. This alliance also developed an arrangement to allow consumers of one model of Mitsubishi vehicle to elect a "carbon offset" tied to the amount of carbon emitted from the tailpipe over the life of their cars through which Mitsubishi would fund the forest reserves.

The goal of these internal environmental management partnerships is usually to help corporations become more environmentally friendly while positively impacting the bottom line. These activities are typically project-focused, and not necessarily aimed at developing long-term relationships or at expanding efforts into other activities. Corporations gain from these partnerships greater knowledge of environmental and social issues and effective implementation strategies to reduce or eliminate negative environmental impacts.

These internal projects allow corporations to take advantage of NPOs' environmental expertise in a relatively non-threatening way. The nonprofits learn more about the key issues involved in designing and implementing a corporate environmental strategy and become more knowledgeable about the relationship between social

responsibility and profit-driven business development. Both organizations gain experience that they can use outside of their current partnerships.

In brief, corporations are engaging in a wide range of alliances with NPOs, encompassing a rich diversity of environmental activities. The types of activities undertaken by corporations in these alliances are summarized in Table 2.

Figure 2: Corporate Activities in NPO Environmental Alliances

Type of Interaction	Typical Activities	Corporate Examples
Corporate Support for Employee Participation	<ul style="list-style-type: none"> -Corporate outreach -Release time for employee volunteers -Compensation for employee participation -Corporate matching of employee gifts -Corporate awards for employee volunteers 	<ul style="list-style-type: none"> -IBM -PepsiCo -Xerox -Ashland -Chevron -AT&T -Daimler-Chrysler
Corporate Contributions and Gifts	<ul style="list-style-type: none"> -Grants to NPOs -Monetary donations to environmental programs -Equipment/technology gifts to NPOs -In-kind or materials contributions 	<ul style="list-style-type: none"> -General Motors -Hewlett-Packard -Philip Morris -Motorola -Patagonia
Corporate-NPO Marketing Affiliations	<ul style="list-style-type: none"> -Licensing of NPO name or logo -Purchase of NPO endorsement -Joint fund-raising campaigns -Product price supplements as donations 	<ul style="list-style-type: none"> -Milton Bradley -Bushnell -The Bay Beyond -Eddie Bauer
NPO Certification of Corporate Business Practices	<ul style="list-style-type: none"> -Creation of stewardship councils -Agreement to recognize NPO certification -Use of certification standards in natural resource harvesting or purchasing practices -Promotion and sale of “green” products 	<ul style="list-style-type: none"> -Home Depot -Wickes Lumber -Lowe's -Anderson Corp. -Unilever -84 Lumber
Targeted Project Support	<ul style="list-style-type: none"> -Sponsorship of wildlife or habitat protection projects -Development of eco-preserves on company property -Sponsorship of projects in targeted locations -Protection of endangered animal and plant species -Protection of biodiversity areas -Use or sale of products from sustainable eco-areas 	<ul style="list-style-type: none"> -Kodak -Johnson & Johnson -Ford Motor Co. -Starbucks
Environmental Awareness and Education Collaborations	<ul style="list-style-type: none"> -Support for environmental research -Participation in environmental workshops and panels -Access to current information on environmental issues and practices -Sponsorship of environmental education and training -Collaboration on business-government environmental task forces 	<ul style="list-style-type: none"> -American Express -BP-Amoco -Land's End -Home Depot -SC Johnson -Wal-Mart -Novo Nordisk -Cisco Systems
Environmental Management Alliances	<ul style="list-style-type: none"> -Waste reduction and reuse -Product redesign -Manufacturing and distribution process changes -Improvements in plant environmental performance -Application of life cycle analysis -Packaging reduction -Materials substitution -Air and water pollution prevention -Energy and water conservation 	<ul style="list-style-type: none"> -SC Johnson -Johnson & Johnson -Starbucks -United Parcel Service -DuPont

VI. IMPLICATIONS: MANAGING NPO-CORPORATE PARTNERSHIPS EFFECTIVELY

In order to understand better the types of highly intensive, internally-oriented environmental management alliances corporations and NPOs are forming, the benefits to each party, and the factors that contribute to their successful implementation, we interviewed 16 participants from both corporations and NPOs that have been involved in these types of collaborations and reviewed archival material on their operations. Representatives of DuPont, Starbucks, Bay Beyond, Norm Thompson, Westvaco, Collins Products, and Shell agreed to be interviewed as did those from World Resources Institute, Conservation International, the Center for Compatible Economic Development, The Nature Conservancy, The Natural Step, the Alliance for Environmental Innovation, Business for Social Responsibility, and SustainAbility (which is somewhat of a hybrid organization that operates as a think tank, an advocacy organization, and a for-profit consultancy). We asked them to discuss these issues with the assurance that confidential information would not be attributed to specific projects. The responses to three sets of questions provided insights into how corporations and NPOs can better manage the partnerships.

WHAT CORPORATE CHARACTERISTICS OR CONDITIONS CONTRIBUTE TO ALLIANCE SUCCESS?

We asked both corporate and NPO personnel to identify what they thought were the most important characteristics of or conditions in *corporations* for successfully implementing environmental management alliances. Among the most important conditions identified were the following:

- Having a specific project or objective for collaboration.

- Assignment of responsibility for participation in the alliance to interested and committed managers who can serve as “champions” for recommended changes.
- Selection of managers for the alliance who are able to develop, sustain, and nurture strong relationships with NPO participants.
- Assignment of managers to the alliance that represent a cross-section of administrative and operational units within the company and that have impact at the highest levels in the organization.
- Development and use of metrics for measuring environmental aspects of company operations and impacts or results of recommended changes.
- Selection of managers for the team who are willing and able to follow up effectively on recommended changes.
- Strong commitment of high-level executives to addressing environmental problems or threats and to cooperating with external groups in solving them.
- Value-driven corporate leaders who see collaborative activity as part of the long-term vision for the corporation.
- Company experience in dealing with nonprofit or community groups.
- Willingness to make environmental performance improvements part of the remuneration/bonus package for managers.
- Ability to get suppliers involved in making environmental improvements in inputs and materials.

WHAT CHARACTERISTICS OR CONDITIONS IN NPOS CONTRIBUTE TO MAKING ALLIANCES SUCCESSFUL?

Similarly, we asked representatives of both corporations and NPOs involved in environmental management alliances or collaborations to identify the most important characteristics of *environmental NPOs* for implementing corporate partnerships successfully. They responded that the success of NPO-corporate alliances depends on the

existence or development of a set of characteristics in NPOs that include the following:

- Credibility as a legitimate, serious, responsible, and knowledgeable environmental group.
- Experience in dealing with private companies and in understanding how private enterprise works and the need for corporations to make profits if they are to survive.
- Ability to provide experience with and commit jointly to identifying alternatives that will improve corporate environmental performance.
- Capacity to maintain an appropriate balance between environmental advocacy and cooperative activity in order to make the partnership productive.
- Ability to produce high-quality work that builds the NPO's credibility and trustworthiness.
- Willingness of the NPO to state clearly what it can and cannot do as part of a collaborative alliance.
- Ability of the NPO to deliver real value to the company through realistic, cost-effective, and technically sound recommendations.
- Capacity to understand the length of time it can take to bring about meaningful changes in large organizations.

WHAT ARE THE MOST IMPORTANT FACTORS IN MANAGING CORPORATE-NPO ALLIANCES?

We drew on both the interviews and archival material on NPO-corporate alliances to identify elements that are considered crucial in managing environmental partnerships successfully. Table 3 depicts a framework encompassing the most important stages for corporate management of NPO alliances.

Table 3: Components Of Managing NPOo-Corporate Environmental Alliances

1. Identify specific project for collaboration	<ul style="list-style-type: none"> • Compare costs/benefits of collaboration with adversarial relationship • Identify interests and objectives • Determine criteria for partner selection • Mobilize internal support • Identify organizational “champions” • Select cross-functional teams
2. Select appropriate partner	<ul style="list-style-type: none"> • Explore values and perspectives • Determine common interests and objectives
3. Develop procedures for collaboration	<ul style="list-style-type: none"> • Negotiate written memo of agreement between partners • Decide on dispute settlement procedures • Decide on ways of selecting mediators and technical experts
4. Define problems and explore feasible solutions	<ul style="list-style-type: none"> • Develop transparent procedures for problem assessment • Create metrics for problem assessment and environmental performance • Specify rigorous outcomes and results • Develop mechanisms for information sharing
5. Focus on manageable sets of tasks	<ul style="list-style-type: none"> • Assess and select feasible potential solutions • Test potential solutions in pilot or demonstration projects
6. Formulate action plan	<ul style="list-style-type: none"> • Set time horizons for accomplishments • Focus first on actions with most potential success
7. Execute implementation plan	<ul style="list-style-type: none"> • Measure and assess results • Integrate solutions into operational and administrative procedures
8. Protect confidentiality and issue joint NPO-corporate public report	<ul style="list-style-type: none"> • Protect confidential business information • Agree on joint report on process and results

• Identify Specific Projects for Collaboration

First, corporations and NPOs considering environmental management alliances should identify specific projects or activities for which they need or can provide external assistance. Effective alliances are focused on specific objectives that can be attained in a reasonable period of time. Companies should consider the costs (e.g., adversarial pressures from external groups) and benefits of collaborating compared to proceeding alone or ignoring the problem.

The NPO and the corporation should clearly identify their own interests and objectives for the alliance and determine criteria for partner selection. For The Nature Conservancy (TNC), for example, working with corporations provides access to large areas of privately-owned forest lands on which it can identify rare species and special natural

habitats and help corporations develop plans for protecting these resources.

Business for Social Responsibility sees partnerships as a way to achieve its objectives of providing training to companies and their key business partners on environmental issues, learning about emerging issues, and gaining access to thought leaders in order to serve as an information clearinghouse. BSR uses collaborations with corporations to create a “safe space” in which corporations can comfortably work with external groups on solving environmental problems, and for benchmarking -- through one-on-one consulting -- what companies have done in terms of innovative environmental practices.

The Environmental Defense Fund approached McDonalds in 1989 about helping to solve its solid waste problems because EDF saw the fast-food giant as an industry leader through which EDF could influence not only the corporation’s environmental practices, but also those of its then 600 suppliers and 18 million customers, as well as other firms in the industry.⁷⁴

Corporations too need to have specific objectives in mind and clearly identify the projects that would benefit from partnering with NPOs. The project between Norm Thompson Outfitters and the Alliance for Environmental Innovation was designed to identify, test and implement environmental improvements in the apparel manufacturer’s catalog paper practices. The partnership had three specific goals: 1) to deliver significant reductions in energy and resource use, solid waste, and pollution; 2) to demonstrate that greener paper practices need not adversely affect cost or business performance; and 3) to drive positive change in the catalog industry.

Starbucks has focused on creating a line of biodiversity-friendly and “shade-grown” coffee and on improving the environmental quality of its cups, McDonald’s on reducing waste in operations and packaging, UPS on substituting packaging materials that were less environmentally harmful,

and Collins Products on improving manufacturing operations in its lumber mills. Unilever decided to work with the World Wide Fund for Nature on certifying environmentally sustainable fisheries because of the “high level of public awareness motivating its stakeholders” and the mutual recognition by the partners that pursuing common interests would help them achieve similar goals.⁷⁵ Westvaco had two important criteria for partnering with The Nature Conservancy: TNC was able to bring to the partnership both technical competence (decision-making based on science and technical data) and professionalism (operating on business and environmental criteria rather than emotional reaction).

If the partnership is to be productive, there must be strong commitment within the corporation and the NPO to pursue the alliance and to cooperate with the selected partner on finding solutions. Finding “champions” of environmental dialogue and cooperation within the firm is crucial to initiating the partnership and keeping it on track. In addition, the NPO representatives must be able to understand business needs and constraints and to work cooperatively with business executives. Strong commitment from high-level executives is also important. The NPO-corporate alliance at UPS, for example, succeeded in part because top corporate executives “believed from the start that this environmental project could benefit its customers and its businesses in a tangible way. Because of that, there was high-level commitment to the goals of the project.”⁷⁶

The corporation must be able to put together a cross-functional team that is respected within the company to work with NPOs. Starbucks aligned itself internally before its president signed a memorandum of agreement with Conservation International. Responsibility for dealing with product issues was assigned to the coffee department and for maintaining relationships with the NPO was assigned to the department of environment and community affairs. Both partners agree that the alliance progressed because it not only focused on environmental and social issues but

also because it was aligned with Starbucks' business structure.

The UPS-Alliance for Environmental Innovation task force succeeded because both the corporate and NPO team members were knowledgeable about packaging, environmentally favorable materials, and UPS' graphic standards and operating requirements. As the final report noted "...the project team was cross-functional both within and across the two organizations."⁷⁷ The UPS team members included representatives from environmental affairs, domestic and international marketing, customer communications, package engineering, and materials management and purchasing. The Alliance team had technical expertise in lifecycle analysis of paper and plastic materials and waste reduction. The company team members represented their own departments but also communicated important decisions to key corporate decision makers.

- **Select Appropriate Partners**

Second, corporations and NPOs should carefully consider which partners are most likely to have the commitment, information, expertise, and experience to work effectively with their own managers in defining the problem and finding feasible solutions. The corporation should use its internal criteria to select an appropriate NPO with which to work (or determine if it can work with an NPO that initiates the partnership).

Norm Thompson Outfitters approached the Alliance for Environmental Innovation as a partner in improving its catalog paper practices because of the Alliances' long experience in working with companies on projects that address both environmental and business challenges.

Many corporations work with Business for Social Responsibility (BSR) because it offers a "safe space" to obtain information and advice about problems for which they might feel uncomfortable working with more militant

environmental groups and because BSR, as one of our respondents noted, “can link its projects to business reality.”

Similarly, NPOs should have a strong set of internal criteria by which to select their corporate partners. The Alliance for Environmental Innovation chooses companies that can help to meet its core strategies. Those strategies include: 1) defining new best practices in environmental management; 2) greening the supply chain; 3) motivating change in the industry; 4) paving the way for stricter internal environmental controls; 5) demonstrating the business benefits of environmentalism; and 6) environmentally improving product design. The Alliance develops partnerships with top companies that have sufficient purchasing power to create change in the supply chain and enough influence to create new best practices for corporate environmental management in their industries.

In some cases, collaboration evolves gradually from limited activities to more extensive ones. The World Resources Institute-DuPont alliance started with a specific individual from WRI providing consulting to the corporation on how it could identify and cope with barriers to initiating internal sustainability and environmental changes. This study found that shareholders did not always see the value in environmental sustainability activities, that customers were not always willing to pay a premium for environmentally-friendly products, that the corporation needed to develop a better framework for measuring and reporting on environmental impacts and activities, and that the company required more effective tools and training to manage change across the organization. From this specific set of tasks, WRI was able to develop activities to address important issues within the company and to expand its relationships with DuPont over time.

Conservation International’s alliance with Starbucks also expanded gradually from an initial contact in which CI sought (and received) a donation for its conservation site in Chiapas, Mexico. Starbucks became more interested in

learning about the conservation site as a result of its donation and CI arranged visits for Starbucks executives to see the operations in Mexico. Over time, the interests of both sides grew to the point where Starbucks worked more closely with CI on a coffee purchasing agreement and marketing of the “Shade Grown Mexico” coffee product. From its success, Starbucks began to talk with CI about expanding its purchasing of coffee from CI projects in Guatemala, Colombia, or East Africa.

In order to select partners effectively, initial meetings should focus on exploring values and perspectives, determining common interests and objectives, and maintaining open minds on both sides about the nature, extent, and importance of problems and potential solutions. In the UPS-Alliance team, for instance, participants started with an open mind about the nature of the problems and the possible solutions for preferable packaging rather than staking out positions before information and knowledge were exchanged.

- **Develop Procedures for Collaboration**

Third, the alliance team should develop procedures for collaboration, including negotiating a clear written memorandum of agreement on the purpose, scope, objectives, intended outcomes, and duration of work. To help ensure that all procedures are open, transparent, and mutually beneficial, the Alliance for Environmental Innovation negotiates a formal agreement when it partners with corporations. The agreement defines the purpose of the partnership and the tasks to be undertaken, requires the distribution of a joint final report to the public that describes the work undertaken and the results at the end of the project, and sets a completion time to carry out agreed-upon activities. The agreement also defines the allocation of costs and expenses of activities, allows for termination of the project by either party at any time, and ensures that each party can pursue its business and environmental advocacy activities independently.

The Norm Thompson-Alliance collaboration was anchored in an agreement that clearly stated the scope of work, specific deliverables, confidentiality provisions, resource commitments, termination clauses, and reporting conditions. The agreement protected the independence of the NPO and recognized the profit-making objectives of the corporation. The team jointly decided how disputes would be settled and who would mediate them, and on the technical experts who would conduct studies or provide information.

- **Define Problems and Explore Feasible Solutions**

Fourth, the NPO-corporate team should move quickly once an agreement is signed to explore the dimensions of the problem and feasible solutions. If the partnership is to succeed, the company should create metrics for measuring its environmental performance and assessing the problems under consideration.

The EDF-McDonalds alliance worked because the joint task force used a five-step process that included 1) an inventory process to measure and understand the materials that McDonalds used and discarded; 2) brainstorming to explore a wide range of potential solutions; 3) evaluation to develop priorities for action; 4) modification of existing management tools to bring environmental considerations into standard operating procedures and practices and 5) accountability, to develop clear measurement systems and assignment of authority and responsibility.⁷⁸ EDF gained legitimacy with McDonalds by learning about its business. The joint task force met with a cross section of staff members, visited distribution centers, and talked with packaging and food suppliers.

SC Johnson, a worldwide manufacturer of household, professional, and institutional products, formed a joint task force with the Alliance to assess the environmental impacts of its new product conceptualization, design and development, and to review its existing products and

packaging. The company needed an alternative to costly and lengthy life-cycle assessments to analyze rapidly the environmental implications of its new products in order to compete more effectively in world markets and to understand consumer preferences for “green” products. Collins Products, using the principles of The Natural Step, developed a results tracking system called “Journey Indicators” for log, fiber, steam and electricity use, raw material use compared to output, and hazardous waste reduction, allowing for better oversight and direction.

The team should also specify rigorous outcomes and results that can be monitored and measured after solutions are applied, and develop mechanisms for sharing information. The corporate-NPO task force working on environmental design problems at SC Johnson developed a specific set of environmental strategies and design principles – dematerializing products, conserving materials, reducing chemical intensity, reducing energy intensity, extending product life, and enhancing functionality -- through which all new product concepts would be screened. The alliance was successful in part because the team initially established a “scientifically sound conceptual framework for systematically driving value-added environmental improvement into the company’s products.”⁷⁹

- **Focus on Manageable Set of Tasks**

Fifth, the alliance team should target a manageable set of tasks, recognizing that the partnership can get bogged down quickly if problems are defined too broadly or abstractly or if solutions are so comprehensive that it will take years for the company to implement them. Starbucks’ task force with the Alliance focused on finding environmentally beneficial changes in the way Starbucks served coffee in its 1,000 company-owned stores and with its licensees and joint ventures who serve millions of customers a week. The collaboration focused on finding ways of substituting reusable cups for disposable cups and improving the environmental performance of single-use hot cups.

United Parcel Service worked with the Alliance on a project for decreasing the amount of material used in its packaging and improving the environmental impact of its production, expanding the use of reusable packaging, increasing the post-consumer recycled content in plastic and paper envelopes and boxes, and eliminating bleached paper in air-express packaging. The overnight shipping industry uses more than a billion shipping envelopes and boxes each year; the packaging creates after-use solid waste and its production requires large quantities of paper and plastic, energy, and water, and produces both air and water pollution. The joint effort began early in 1998 while UPS was developing its reusable Next Day Air envelope for overnight shipping.

The more focused the tasks are, the more likely the partnership will achieve its objectives. The partnership between FedEx and the Alliance, for example, had a strong focus: collaboration on developing low-pollution cleaner-running vehicles for the package delivery firm's fleet of 45,000 trucks. The FedEx-Alliance partnership was structured to examine the potential of diesel-electric hybrid trucks and other possible solutions to cutting truck emissions up to 90 percent and increase fuel efficiency by more than 50 percent.⁸⁰

Nike, Home Depot, Collins Products, Interface, IKEA and other companies have worked closely with The Natural Step (TNS) because it is able to apply life-cycle analysis and system-wide reviews of products and production processes for integrating sustainability into a company's activities. Nike collaborated with TNS on developing "sustainability champions" within the company, and Collins Products used TNS principles for improving the manufacturing process in its lumber mills. The McDonald's-EDF partnership was successful because it focused specifically on a waste reduction plan with clearly stated initiatives, projects, and pilot tests.

- **Formulate Action Plan**

Sixth, the alliance should formulate recommendations into an action plan that focuses initially on those tasks that have the highest potential for success and set a time schedule for achieving other targets. The six-month process developed by the Environmental Defense Fund-McDonalds alliance produced a comprehensive waste reduction action plan with 42 discrete initiatives, pilot projects, and tests in source reduction, materials recycling, reuse, and composting for the 80 percent of McDonald's waste that was generated "behind the counter."⁸¹

As a result of the partnership's recommendations, McDonald's reduced its packaging volume by 70 percent to 90 percent by switching completely from polystyrene foam "clamshells" to paper-based wraps. It also replaced disposable containers with reusable bulk storage systems. McDonald's began recycling corrugated boxes and coated and uncoated paper food-contact items, and composting on-premises food waste. It requested that its suppliers use recycled materials in paper and post-consumer materials in bags, napkins and other packaging. The company adopted a waste-reduction policy committing it to taking a total life-cycle approach to solid waste and to three specific courses of action: to reduce, reuse, and recycle its waste. It set out for each course of action well-defined targets with specific time periods for accomplishment, and it systematized waste reduction into the company's standard operating procedures and its packaging and product specifications.⁸²

Similarly, Westvaco's partnership with the Nature Conservancy was implemented by conducting inventories of all of its corporate land to identify rare species, special natural habitats, and areas of high biodiversity. Westvaco funded the inventory with a \$1 million grant that also helped The Nature Conservancy develop a GIS system for use in this and other conservation projects.

- **Execute Implementation Plan**

Seventh, if the project is to succeed, the company must also take specific steps to implement the action plan by integrating the recommendations into operational procedures and throughout the supply chain, measuring and assessing results, and linking performance to managerial compensation and bonuses. The EDF-McDonalds partnership was successful because the corporation gave broad-based authority to its environmental affairs officer to bring the entire corporate system into adherence with its environmental principles. The environmental affairs officer reported to the board of directors on a regular basis.

The packaging action plan announced in November 1998 by UPS and the Alliance addressed all of UPS' express packaging. The new packaging improvements and the reusable envelope reduced air pollution by almost 50 percent, cut wastewater discharge by more than 15 percent, and used 12 percent less energy than previous UPS packaging. In addition, the initiatives saved the company more than \$1 million annually. The packaging changes included nearly doubling the amount of post-consumer recycled material in the UPS box and use of at least 80 percent post-consumer recycled material in the Express Letter envelope. UPS eliminated the use of bleached paper in all express packaging and reduced overall waste and pollution from production of shipping materials by an average of 13 percent. UPS also began using post-consumer recycled material in its plastic PAK, reducing each PAK's weight by almost 10 percent.

The impact of the joint team's recommendations depends not only on integrating them into the operational procedures of a corporation but also on enlisting the support or active participation of its suppliers and customers. In the UPS-Alliance collaboration, the project team worked with and enlisted UPS' suppliers as active partners in the search for packaging options. The suppliers created new designs and alternative technologies in order to

meet the team's objectives. Customer surveys carried out by the SC Johnson-Alliance task force found that marketing the changes that came out of the team's work on product design had to be sold on sound business principles, not primarily on the environmental benefits. The participants learned that "...product performance, not environmental benefit, remains the primary product differentiator."⁸³

Although customers approved of environmentally-beneficial products and product characteristics, the surveys uncovered the fact that "environmental product concepts are most successful when no tradeoff is stated or implied between the environmental benefit and primary purchasing criteria such as efficiency, value, and convenience."

- **Protect Confidentiality and Issue Joint Public Report**

Finally, the alliance team must maintain confidentiality throughout the collaboration processes and once the project is completed and results are known, should issue public reports should jointly and simultaneously. In order to develop the level of trust that is necessary to make an NPO-corporate collaboration work effectively, it is essential to protect information during the partnership process and to cooperate on the release of a final report at the end.

In its formal agreement, the Alliance for Environmental Innovation promises to protect and prevent disclosure of all information that the company declares confidential and that it is not required by law to reveal. The NPO guarantees that it will not use, disclose, or distribute confidential information without company authorization. At the same time, the companies that work with the Alliance agree not to use the partnership in advertising, marketing, or sale of material without explicit approval of the NPO.

To maintain trust, neither side should leak advance information or independently put a “spin” on the results of a project that assigns credit or blame for the process and outcomes to only one party.

VII. CONCLUSIONS

The formation of alliances and partnerships between NPOs and corporations to develop collaborative solutions to internal corporate environmental problems can be a powerful new lever to help corporations achieve sustainable development goals.

As environmental issues become more important to people and communities, and as information about corporate practices and products become more accessible through the Internet and the media, NPO-corporate alliances are likely to be used more frequently by both types of organizations to improve environmental performance.

Our review of corporate environmental performance reports indicates that most companies operate proactively when they see the business benefits derived from social responsibility and corporate citizenship. Although each corporation may define these terms slightly differently, it is clear that many firms have made a public commitment to pursue these objectives. These reports indicate that most corporate activity has focused on internal environmental issues such as developing environmental management systems, adopting pollution prevention practices, redesigning products and processes, recycling and reusing materials, reducing air emissions and waste, conserving energy, and managing the supply chain.

However, more corporations are now using a variety of relationships – ranging from “arms-length” arrangements such as supporting employee volunteerism, corporate philanthropy, and fund-raising affiliations, to more intensive interactions such as project-specific funding, support for environmental education and awareness, and internal environmental management partnerships -- to collaborate with environmental NPOs. Each type of relationship has benefits and limitations and requires different levels of commitment, support, and participation. Arms-length

relationships usually focus on activities external to the corporation, while environmental management alliances address internal process and product improvements.

In order to make partnerships between corporations and external stakeholders work, the World Business Council for Sustainable Development points out that corporations must develop an integrated approach to environmental management, have committed top management leadership, see employees as partners, and continuously pursue positive actions.⁸⁴ They must develop a management culture that explicitly recognizes the importance of social responsibility. Openness and accountability are essential to earn the trust of employees and external stakeholders. All alliance or partnership members must be willing to develop workable stakeholder consultation processes. Our research suggests that many corporations are following this approach, particularly as they develop environmental management alliances with NPOs. When they choose to collaborate in environmental management alliances, NPOs and corporations must carefully plan and manage the alliance process if they are to benefit from the collaboration.

Experience suggests that successful alliances depend on both the NPO's and the corporation's ability to identify carefully projects and activities for collaboration, mobilize internal support, and develop criteria for selecting an appropriate partner. Participants in the alliance must, together, develop procedures for collaborating and for defining problems and exploring feasible solutions. The corporation must also be willing to formulate an action plan for implementing acceptable recommendations and to integrate actions into their operations, administrative procedures, and supply chains.

In brief, when these types of partnerships are carefully crafted, cooperatively pursued, and successfully implemented, they benefit both corporations and environmental NPOs by synergistically achieving the objectives of improving environmental protection and enhancing corporate performance.

Appendix 1: Sample of Corporations' Environmental Performance Reports

Company	Businesses	Annual Sales (billions)	Employees
3M	Adhesives, abrasives, non-woven fibers, films, precision coatings, chemicals	\$16	75,100
ABB	Engineering and technology, industrial products, financial services	\$25	164,000
Alcoa	Aluminum and alumina products	\$23	127,000
Anheuser-Busch	Beer, malt processing, rice milling, theme parks	\$12	24,000
ARCO	Petroleum and petrochemicals	\$19	20,000
Ashland	Motor oil, lubricants, chemicals, petroleum products	\$8	25,800
AT&T	Communications services, information management	\$53	130,000
Baxter International	Pharmaceuticals	\$ 6	41,000
Boeing	Aircraft, space missiles and parts, helicopters, electronic equipment	\$56	202,000
BP Amoco	Oil and gas exploration, refining sales, gasoline, fuels, chemicals and plastics	\$83	80,400
Bristol-Myers Squibb	Pharmaceuticals, consumer products, nutrition products	\$18	54,000
Chevron	Gasoline, asphalt, natural gas	\$51	36,500
Compaq	Computers	\$42	94,600
Conoco	Petroleum products, natural gas	\$27	16,700
Cooper Industries	Electrical power distribution equipment, hand tools, power tools, hardware, automotive and aviation parts	\$4	30,100
DaimlerChrysler	Automobiles, trucks, related parts, electronics, aerospace products and financial services	\$151	466,900
Deere Corporation	Farm and industrial equipment	\$13	37,000
Dell Corporation	Computer systems	\$32	31,800
Dow Chemical	Plastics, chemicals, and metals	\$21	39,200
DuPont	Food and nutritional products, health care, apparel and chemicals	\$29	94,100
Eastman Kodak	Imaging products	\$14	80,650
Electrolux	Household and professional appliances, white goods, floor care products	\$14	93,000
Ford Motor Company	Automobiles, trucks, financial services	\$170	364,500
General Motors	Automobiles, trucks, related parts, financial services, military vehicles and weapons, business information-telecommunications systems	\$184	388,000
Goodyear	Tires, industrial automotive products and chemicals	\$13	100,600
Hewlett Packard	Computers, imaging and printing peripherals, software	\$48	88,500
Hughes Electronics	Broadcasting and telecommunications equipment, electronic components, aeronautical equipment, guided missile systems	\$5	9,000
Intel	Microprocessors and micro-communications components	\$34	70,200

ITT Industries	Defense products and services, pumps, valves	\$5	9,000
Johnson & Johnson	Health care, pharmaceuticals, professional and consumer products	\$29	97,000
Lucent Technologies	Telecom equipment and software	\$33	126,000
Monsanto	Agricultural and chemical products, plastics and manufactured fibers, pharmaceuticals, food products	\$5	14,000
Motorola	Personal and network communications products	\$37	121,000
Nortel Networks	Telecommunications equipment and integrated office systems	\$30	76,700
Novo Nordisk	Health care products and drugs	\$3	15,184
PepsiCo	Beverages, snack foods and restaurants	\$20	118,000
Philips Electronics	Lighting, consumer electronics, appliances	\$32	226,874
Proctor & Gamble	Soaps, detergents, household products, paper products, food products, drinks, chemicals	\$39	110,000
Rockwell International	Worker interface devices and machines, industrial motors	\$7	41,200
Shell, Royal Dutch	Oil, natural gas, chemicals, coal and forestry	\$105	96,000
SmithKlein-Beecham	Pharmaceuticals, consumer healthcare, clinical laboratory services	\$13	53,000
Sonoco	Paper and plastic packaging products, tubes, cores, spools, and drums	\$3	17,500
Sony	Audio and video equipment, computers, electronic devices, motion pictures	\$63	189,700
Texaco	Crude oil products and petrochemicals	\$51	18,400
Texas Instruments	Digital signal processors, analog chips, logic chips, microprocessors	\$12	42,400
Toyota Motor Corp.	Passenger cars and trucks	\$119	214,631
Unilever	Foods, detergents, personal products, specialty chemicals	\$43	255,000
United Parcel Service	Delivery services	\$29	344,000
United Technologies	Building systems and aerospace products	\$26	153,800
Weyerhaeuser	Wood products, wood fiber products, chemicals, real estate and financial services	\$16	44,800

Sources of information concerning businesses, sales, and employees: Standard & Poor's *Register of Corporations, Directors and Executives*, Charlottesville, VA: McGraw-Hill, 2000; and *Hoover's Company Profiles*, 2001.

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