

Sustainable Development in Practice:

A Case Study Analysis of
Coastal Enterprises, Inc.'s Experience

by

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*Carla Dickstein, Diane Branscom, John Piotti,
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The term "sustainable development," introduced in the 1987 Brundtland Commission's report¹ *Our Common Future*,² has now emerged in daily dialogue among development practitioners and in public policy debate.³ Although community economic development (CED) practitioners may argue that they have always been in the business of sustainability,⁴ the elevation of the sustainable development concept internationally and now nationally creates an opportunity to explain CED's unique contribution in this area and also challenges the field to perform according to the full meaning of the term.

This paper argues that CED practitioners have a great deal to share in the current sustainability dialogue because of CED's historic commitment to social justice and equity and practitioners' concrete experience in the field. Although "sustainability" has been defined and redefined and sustainability indicators have been generated through visioning and collective planning processes, concrete examples of how to put sustainable development goals into action are in short supply.⁵ At the same time, the concept of sustainable development explicitly raises preservation of natural resources and the environment to a status equal to the other goals of the development process. The concept forces CED practitioners to redefine their systems of operation, partners, and points of intervention.⁶

This paper examines sustainable development from the specific experience of Coastal Enterprises, Inc. (CEI), a CED practitioner. It first defines

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For additional information about the CEI study, contact Carla Dickstein at cbd@ceimaine.org; for information about the the paper's sponsor, the Tufts University College of Community and Public Service, contact Molly Mead at molly.mead@tufts.edu. Reprinted by permission of Coastal Enterprises, Inc., and the Tufts University College of Community and Public Service.

the elements of sustainability and the importance of the concept to CED, the current state of sustainable practice in the CED field, and CEI's specific history in sustainable economic development practice. The paper then moves to case studies from CEI's recent sustainable development projects, focusing on several that have incorporated explicit environmental goals. Finally, there is a discussion of the lessons from those cases that are relevant to the CED field as a whole.

We believe that hands-on engagement in sustainable development practice leads to a better understanding of what it is and what it could be. That said, we do not diminish the importance of global economic and environmental issues that frame the scope and impact of our work, such as whether growth must be limited in a sustainable economy or whether we can rely on stewardship and clean technologies to protect our resources while permitting varying rates of growth; whether present political and economic institutions have sufficient will and incentive to internalize costs and incorporate sustainable practices; and whether decentralized, locally controlled businesses and economies are necessary to provide systems of accountability and control. These questions constantly challenge our practice, but a thorough discussion of them is beyond the scope of this paper.

The concept of sustainable development arose primarily from the concern that environmental criteria were left out of development decisions. Until recently, the environment was considered a free resource to be used as a sink for the wastes that development creates; the development process did not fully account for negative impacts or externalities (Daly and Cobb 1989).

Most definitions of sustainable development include the Brundtland Commission's definition: "meeting the needs of the current generation without compromising the ability or opportunity for future generations to meet their needs."⁷ Without getting into a long literature review of competing definitions, we can say that even this general definition has plenty of room for interpretation and is a bellwether for the difficulties of translating concepts into action. We know that "needs" are relative to time, place, and person. Even fulfilling basic needs in one community raises huge equity and redistributive issues of existing resources.

These equity and social justice issues underlie sustainability. Sustaining ecological systems requires sustaining human systems; the two go hand in hand. The distribution of both financial and natural resources affects whether people and communities can meet their basic physical needs (food, shelter, clothing, education, and health). People who are unable to meet their basic needs are unlikely to focus on preserving the environment, even if it is in their long-term interest to do so.⁸ Sustainable development expands the concept of equity by forcing us to consider development that is compatible across nations, generations, and even species (Campbell 1996).

In addition to the principles of equity and harmony with the natural environment, there are at least two other elements of sustainable devel-

opment that are evident from our own work in CED: (1) creating institutions and public policies capable of implementing sustainable practices over the long run and (2) encouraging broad participation of people in those institutions and policy decisions that affect their lives. Sustainable development requires ongoing mechanisms and feedback loops for identifying needs and intervening in human-ecological systems. Usually this institution building is easier from the bottom up, starting at a local, geographic community level; but it can also develop from communities of interest, such as trade organizations serving firms or other sectors of the economy, or from governmental entities facing problems that transcend local community boundaries.

The Current State of CED Sustainable Development Practice

CED's primary contribution to sustainable development is its historic emphasis on practitioners playing a key role in building economically sustainable communities and acting as the conscience for social justice and equity for marginalized groups (Phillips 1993; Shaffer 1994; Harrison and Vietorisz 1970). CED emerged from racial and economic inequality in both urban and rural areas. It focuses on economic opportunities for low-income communities and individuals. It puts the values of equity, social justice, and grassroots empowerment squarely on the table as part of any sustainable development effort. In CED, equity and social justice must be included in the underlying values of sustainable development. Without them, there can be neither political nor community sustainability.

These equity and social justice principles have translated into building local urban and rural institutions (e.g., community development corporations and community development finance institutions) that are capable of undertaking concrete projects involving local residents and having long-term impacts. Depending on the community, CED projects range from building community infrastructure such as affordable housing, supermarkets, and social service and day-care facilities to assisting small businesses through financing, technical assistance, and business incubators, to job training and brokering jobs for inner-city residents or welfare recipients in regional labor markets, to supporting arts and cultural institutions and activities (*Building Communities That Work* 1994; Harrison, Weiss, and Grant 1994; *Sub-Cultures of Community* 1993).

Building strong local institutions, greater local control, and communities where people have opportunities to participate and flourish have long been principles guiding CED work. At times, the principle of local control is traded off for more pressing issues of equity and availability of reasonably priced goods and services in poor communities (for instance, helping to establish an inner-city supermarket chain or franchise). Periodically, practitioners have joined with other community organizers to fight for important local and national policies that affect the environment in which they work. A good example is the Community Reinvestment Act (CRA) of 1977 that mandates and, more recently, rewards more investment in distressed

communities by conventional bank lenders. The experience of practitioners laid the groundwork for a concerted organizing effort. Initially, Chicago community organizers⁹ took the leadership role in the CRA campaign, but CED practitioners have been involved in maintaining and improving the Act. This level of policy work, however, tends to be the exception.

In the last few years, more CED practitioners have started to explicitly incorporate environmental sustainability into their work. Bethel New Life in Chicago has partnered with Argonne Laboratories to undertake brown-field development, create recycling industries, and train inner-city residents in these industries. Ecotrust in the Northwest has partnered with South Shore Bank in Chicago to develop a bank that will finance indigenous, value-added industries that pass its environmental as well as financial screens for investment returns. First Nations, a national Native American development organization based in Virginia, goes the farthest in redefining development and creating a vision of sustainable community development. First Nations measures successful development according to a balance of internal personal and spiritual goals and economic, environmental, civic, and cultural goals. This organization keeps asking the basic question, "Development for what purpose?"¹⁰ Sustainable development in this vision could be reconstrued as meeting individuals' basic needs and creating a supportive physical and psychic environment that enables everyone to develop their mental and spiritual wealth.

Nonetheless, a comprehensive view of sustainability has a long way to go in the mainstream CED movement. It is interesting to note that a recent panel on sustainable development at a CED conference¹¹ emphasized only social equity issues of asset development, local ownership, and empowerment from securing housing and jobs; no one mentioned the concept of environmental sustainability.

The Contribution of CED Practitioners to the Sustainability Debate

The broad implementation experience of CED practitioners can further the sustainability movement. Practitioners have wrestled with complex problems in order to create tangible results. Although the problems are far from being solved, at least CED practitioners have ventured into the morass. Simply put, these practitioners are much farther along than many individuals and groups who have never implemented a concrete project. CED has experience involving grassroots interests in development decisions that combine complex economic and social goals.

Although much has been written on the concept of sustainable development, there are few concrete examples of comprehensive implementation strategies (Colgan 1997). Available examples tend to be project specific at the community level.¹² As Campbell (1996) has noted, the scale of the problem often immobilizes action. We agree with Campbell that global sustainability is more likely to come from the incremental accumulation of specific local and industry advances and that the vision comes out of the specific negotiations, conflicts, or creative technical and institutional solu-

tions to specific problems. Similarly, CED emerges out of the messiness of the details. It occurs in the beginning on a project-by-project basis incorporating aspects of sustainability and ideally moves toward a more comprehensive sustainability screen of all projects.

The Importance of Sustainable Development to CED

As skillful as CED practitioners have become in doing deals, packaging complex resources, and responding to multiple goals, they are not as good at making systemic changes in communities. Rather, CED tends to intervene at the margins, looking for niches of opportunities that make a difference. Usually these are justified on the basis of market failures where a social subsidy or institutional change is needed to adjust the existing course. Rarely does the field engage in active project or political work that affects the dominant institutions and systems in which it operates. Sustainable development forces a systems perspective upon the CED field. It also challenges proponents of CED to rethink to what extent it can fulfill its multiple goals within existing economic, social, and value systems.

CEI has operated as a community development corporation in Maine since 1977 "for the purpose of helping people and communities, particularly those with low incomes, achieve an equitable standard of living, working, and learning." Only this year have we considered adding the phrase, "in balance with the natural environment" to the end of our mission statement to reflect a commitment to environmental sustainability. We have struggled to accomplish various levels of sustainability: economic, environmental, and institutional.

Economic Sustainability

CEI operates statewide with primary activities in the southern, mid-coast, and central regions of the state. Our main vehicle for achieving our mission is the development of small businesses, social service facilities (such as affordable day care and assisted living), and affordable housing. Among the populations CEI serves with various types of financing, technical assistance, and policy research initiatives are AFDC recipients, low-income or displaced workers, women business owners, and entrepreneurs who create high-quality employment and benefits for the community. We screen the companies that we finance based on their capacity to provide good-quality jobs suitable for people with low incomes or on public assistance. As part of the loan closing, companies sign an Employment Training Agreement (ETAG) in which they commit to using CEI as a first source to locate and screen applicants from these targeted populations for entry-level job openings.¹³

With over \$42 million in cumulative investment and assistance to 8,000 fledgling enterprises and additional financial leverage of \$120 million, CEI has continually grown and changed to meet the needs of Maine's primarily rural population. Today CEI is recognized nationally for its innovative

strategies to stimulate employment and local ownership for low-income people and communities.

Our work over the last twenty years of helping low-income people acquire resources, jobs, and assets to improve their lives and their communities has been a vital part of the sustainable development agenda. We have chosen to target locally owned small businesses as a foundation for building sustainable communities. We have focused on adding value to existing natural resource industries as a way of creating wealth in rural communities and preserving a rural way of life. In manufacturing, CEI has screened its projects and investments to avoid obvious nonsustainable practices (e.g., low-wage jobs and environmentally unsafe workplaces) but, other than the above strategic choices in ownership and sectors, has not screened proactively for environmentally sustainable practices or products.

Environmental Sustainability

The recent policy focus on sustainable development and attempts to define it have challenged our own practice. At a 1993 Maine conference on sustainable development, CEI President Ron Phillips defined sustainability as "a balance of providing basic necessities and creating opportunities for all people to have fulfilling lives, in harmony with their natural environment." This inclusion of environmental sustainability is reflected not only in the above mission statement, but also in our Five-Year Strategic Directions completed this year and in several recent project initiatives described below. The ongoing challenge is to push ourselves farther on the sustainability continuum.

Institutional Sustainability

CEI has long had concern for institutional sustainability, both our own and that of the CED movement. From the beginning, CEI approached grantsmanship with a goal of building our own assets as well as those of the individuals and businesses we served. We incorporated revolving loan funds and equity investments into our programs in order to build the internal resources of the organization. We quickly learned that our ability to bring capital to the table made us a player in Maine's economic development arena. Today our loan and investment funds (comprised of both grants and program-related investments from the government and major foundations, as well as other sources) total more than \$23 million with an \$11 million fund balance.

An important part of our strategy to build a sustainable institution is to take an active role in national and state policy. We have parlayed our practitioner experience in the policy arena to acquire necessary resources for CEI as well as for the field as a whole and to create a policy environment that supports the people and businesses we assist.¹⁴ CEI and a number of other established community development corporations jointly hire a Washington lobbyist to create federal resources for the movement. We have been successful in preserving the annual Discretionary Grant Program

from the Office of Community Service (OCS) in the Department of Health and Human Services and creating the Intermediary Relending Program and Rural Business Enterprise Grants at the Department of Agriculture, the Microloan Demonstration Program at the Small Business Administration, and the recent HUD Tax Credit program for community development corporations. CEI itself was the model for the welfare-to-work demonstration program, Job Opportunities for Low-Income Individuals at OCS. The result is that we have successfully accessed over \$15 million in these federal grants for our own programs and created over \$500 million for the field as a whole.

Our policy experience at the state level, although less enumerative, has accomplished some important objectives. In the late 1980s, CEI created a line item in the state budget to support a revolving fund to finance child-care providers. More recently, our experience in small business lending was the model for a \$10 million state bond to capitalize on regional revolving loan funds across the state. At the state level, we have experienced more competition than cooperation from other economic development organizations. Ironically, our state and national policy efforts to create resources have also benefited these groups. We have had difficulty finding counterpart organizations of similar scale or interest in targeted development (versus a trickle-down approach) to launch a cooperative lobbying effort. The focus on state policy is one of CEI's seven strategic priorities for the next five years.

Overview of Approach

CEI's recent work in environmentally sustainable development has built on its sector, or industry approach, to development. We have found a sector focus more effective in business development and job creation than targeting our development programs to a specific community or region, a practice more common among community development organizations.

CEI's decision to enter a sector is largely based on the economic opportunity, the importance to rural communities, and the talent and institutional capacity in the sector compared with CEI's strengths. In natural resource industries, we also look at the environmental capacity for development.

Specifically we look for

- potential of new products and markets;
- the existing capacity, limits, and reproduction of the natural resource base;
- community infrastructure;
- skills and knowledge in the sector;
- potential partners; and
- institutional capacity and vision.

Our distinguishing strength is our ability to add economic value to local industries that benefit local people and communities, particularly those with low incomes. At the same time we try to move toward more envi-

ronmentally sustainable outcomes. Our working definition of "more environmentally sustainable" emphasizes low impact: "projects should reduce the harm to the environment, preferably by prevention rather than remediation and substitution of new materials for toxic or scarce resources; conserve natural resources through efficient use of inputs; and minimize wastes."

Our sector strategies do not undertake a comprehensive analysis of all aspects of sustainability to determine an optimum point of entry. We do as much background research as we can to understand the economic forces, environmental and regulatory issues, and community and social development context in a particular sector. The research is done through key leaders and organizations in the industry as well as through secondary industry data sources. Often we organize advisory groups made up of various stakeholders working in or supporting the sector to design an initiative (see discussion of fisheries and farm projects below). However, we do not usually elicit general citizen representation for sector initiatives. Our initiatives may coincide with recommendations from community-based planning and visioning processes or from statewide policy initiatives, but CEI does not take a leadership role in organizing those processes.

No matter what the point of entry is, the environmental, regulatory, and cultural aspects of the sustainability system begin to emerge and must be considered to understand how to design interventions, as illustrated in the three case studies below. The more knowledge of and involvement in the sector, the better we are able to intervene and move toward various dimensions of sustainability. We have consciously chosen the risks of incrementalism over the risks of immobility. We recognize that we will never know everything but, nonetheless, must move ahead and learn from our practice.

We have become more systematic in looking for points of intervention that influence sustainability along a production continuum or life cycle. Some of the factors influencing preproduction, production, and postproduction are described in Table I. Ideally, sustainability is easier to achieve by focusing at an early stage on what goes into the production process in order to create viable businesses and communities and prevent pollution at the other end. Each point along the continuum has distributional impacts for people and communities. Federal, state, and local policy can affect any point along the continuum.

Sustainability Criteria

Although we do not conduct a comprehensive screen of a sector or project based on the above list, we have become more conscious (through practice) of the following economic, environmental, and institutional sustainability criteria in the projects we undertake.

- **Added value:** The project creates potential for more income and economic value to accrue to local communities.
- **Available local products:** The project provides goods and services for local needs and basic necessities.

Pre-production	Production	Post-production
<ul style="list-style-type: none"> • Raw materials • Manufacturing inputs • Energy • Labor skills and distance to work • Financing availability and cost • Consequences of input production waste and environmental impacts • Training of workers 	<ul style="list-style-type: none"> • Ownership (Is it locally controlled? Does it matter?) • Scale of operation (large or small) • Sourcing decisions • Efficient processing • Product packaging • Processing wastes • Environmental impacts 	<ul style="list-style-type: none"> • Markets and distance to markets • Product pricing (Who can afford it?) • Product use (primary and secondary) • Company reuse and refurbishment of products • Product wastes • Distribution of profits • Reinvestment in firm • Payback to workers (wages and benefits)

- **Equitable distribution:** The project generates increased economic activity that benefits Maine people and communities, especially those with low incomes.
- **Low environmental impact:** The project reduces wastes, energy costs, and pollution and conserves natural resources.
- **Local ownership:** Because of the project, economic activity is more likely to stay in local communities.
- **Institutional capacity:** Existing businesses, trade organizations, or other support groups can help implement and sustain the project.

In addition, we look at the following project risks:

- **Economic:** The project has viable markets and entrepreneurs; the scale itself of the project is viable.
- **Environmental:** The project has little or no potential to create unintended environmental impacts.

Invariably, there are trade-offs among criteria. Added value, equitable distribution, and local ownership have been the cornerstone of CEI's screening in the past. The case studies discussed in the following section emphasize projects with various levels of low environmental impact.

Key Interventions

Our key interventions, described in more detail in the upcoming case studies, are used to accomplish more sustainable project outcomes. These typically include the following:

- **Gap financing:** Provide subordinated debt and small-scale equity investments through CEI's for-profit subsidiary, Coastal Ventures, Inc.
- **Business technical assistance:** Provide help in management, market development, marketing and financing, and strategic planning.
- **Market development:** Undertake market research and testing of new products; organize and market education.
- **Targeted job development:** Link low-income people and public-assistance recipients to jobs created in businesses we finance.
- **Institution building:** Create new institutions where needed to help develop markets and cooperative relationships among businesses such as trade organizations.
- **Policy development:** Create resources and a favorable regulatory environment to support sector development.
- **Measurement and evaluation of outcomes:** Answer the question, "Did we make a difference?"

The following case studies demonstrate how we implement our development approach in sector initiatives.

The three sector projects described below illustrate the types of challenges CED practitioners face along the sustainability continuum. Our projects in Fisheries, Maine Farms, and the Green Fund demonstrate the overlap of environmental, community, and economic components of sustainability. Since its inception, CEI has been involved in the fishing and farming sectors, and we consider them vital for sustaining rural Maine communities and their way of life. Our reentry into fishing largely came from the "crisis" of diminishing groundfish resources. In farming, we perceived the opportunity to develop new markets in a threatened industry and way of life. The Green Fund was a later attempt to target a sector that could deliver job growth and also further environmental goals. Both the Fisheries and Green Fund projects are in the implementation stage, whereas Maine Farms is still in the planning stage.

The Fisheries Revisited

Background

CEI owes its existence to the fishing industry. It was founded to improve the economic prospects of Maine's fishermen and coastal communities. The industry, with annual revenues over \$500 million, forms the economic base and cultural fabric of Maine's coastal communities. CEI's original constituents were fishermen, clam diggers, and aquaculturists. Since 1977, CEI has leveraged \$17 million and directly loaned nearly \$5 million in fixed-rate financing for Maine vessels, berthing, processing, freezing, marketing facilities, and fishery-related services affecting fishermen families and employees from Portland to the midcoast.¹⁵

CEI has also been a pioneer in Maine's growing aquaculture industry since the late 1970s. We organized the Maine Aquaculture Association, which is today a sixty-member active trade association. Our initial focus was on the use of alternative technology to create local markets in oysters

and mussels. Environmental issues, such as the impact of wastes or contamination of wild species by domestically bred species, were not known at the time and are still subject to debate. In addition to the Aquaculture Association, we have worked closely with other industry associations, such as the Maine Fishermen's Wives Association and Associated Fisheries of Maine, Maine Gillnetters Association, Maine Seaweed Council, and the Maine Fisheries Industry Development Center, which we helped organize and where a CEI staff member currently serves on the board.

Our reentry into the fishing sector in 1994 led us head-on into the sustainability debate. A lawsuit brought by the Conservation Law Foundation challenged fisheries' management policies and drove the New England Fisheries Management Council to develop a faster and more stringent stock rebuilding plan for the region's groundfisheries. Between 1976 and 1987, the New England groundfish landings declined by 65 percent. Also at risk were an estimated 300 to 400 groundfishermen in Maine with as many as 5,000 jobs supported directly or indirectly by this industry.¹⁶

The fisheries "crisis" was a highly visible battle over what it means to rebuild a resource without decimating one of New England's oldest industries and what constitutes the best available science for determining the distribution of a public resource (fish). Striking the balance between conservation goals of restoring groundfish stocks and maintaining the core of Maine's valuable fleet (the wholesale/processing sector and markets) is, in practice, the challenge of sustainability.

Underneath the simple slogan of "overfishing" is a set of complex economic and political dynamics. Improved electronic fishing technologies have enabled fishermen to find and catch fish more easily; packaging technologies and new trade agreements have facilitated movement of fish across the globe to meet increased international demand, and nonregulated foreign fleets fished within the 200-mile boundary of the United States up until the late 1970s. Federal government policies to bolster the U.S. fishing industry against foreign competition had the unintended consequence of overcapitalizing the industry. Tax incentives, loan guarantees, and capital grants in the 1970s and 1980s encouraged fishermen to construct more commercial fishing vessels that were more competitive with foreign vessels. Southern New England's fleet, composed of vessels larger than Maine's, tended to take advantage of these incentives.

Maine fishermen are apt to operate a "switch fishery," which shifts from species to species,¹⁷ a more sustainable approach to fishing. CEI's early investments were to these small, owner-operated vessels.

When regulations were imposed, many people thought that prices would rise as supply went down. However, that has not happened due to the abundant supply of imported groundfish. Between 1993 and 1995, groundfish landings declined 38 percent in Maine, yet costs have risen every year. The regulations are, in effect, weeding out marginal operators.¹⁸ Essentially, Maine's groundfish boats, shoreside processors, and marine-based suppliers have faced a very difficult decision: to stay in or get out.

Those who have decided to stay must find ways to cut costs, add value to their catch, and/or diversify into new products and markets.

The Fisheries Project Design and Activities

CEI developed its Fisheries Project in this context of urgency. Our historic relation to the fishing industry strengthened our role. Our broader purpose is to advocate for Maine's fishing communities as well as the resource upon which they depend.

At the state level, CEI participated in shaping Maine's Fisheries Adjustment Strategy in 1994 and the design of a fisheries revolving loan fund. In collaboration with a small industry advisory group, CEI defined the goal for our Fisheries Project as follows: "to promote the sustainable development of Maine's marine resources and to ensure that the maximum economic and social benefits derived from their use are returned to Maine's coastal communities." In addition to revolving loan funds from the state (funded by a grant from the Economic Development Administration) and CEI's matching funds capitalized at \$1.5 million, CEI also raised \$350,000 from the Fish and Wildlife Federation, the Cox Foundation, and the Surdna Foundation for a three-year project to provide business technical assistance, research, and policy development support.

Financing

The centerpiece of CEI's Fisheries Project is the revolving loan fund, which offers fixed-rate financing from \$5,000 to \$150,000 for harvesters, processors, shoreside suppliers, new marine-related enterprises, and diversification projects benefiting displaced fishermen. To date, CEI has closed twenty-four loans representing \$1,096,600 and leveraged an additional \$956,876 in private funding. These companies support 488 jobs and are projected to create 103 new jobs. The companies in our portfolio represent a cross section of the above industry sectors located along four southern coastal counties. The fund's performance to date has exceeded expectations with only a 5 percent delinquency rate. The lending criteria targeted experienced fishermen and businesses impacted by the new regulations. Loan eligibility criteria included

- time in fishery, impacted by Amendments 4 and 5;¹⁹
- multispecies/scallop license;
- value-added processing, income diversification/enhancement, and targeted opportunities for displaced fishermen;
- record of compliance with National Marine Fish Service regulations; and
- business viability and ability to repay.

Initially the fund moved very slowly. This in part reflected the uncertainty in the pending regulations. The long deliberations over the management plan made it difficult for boats and fishing businesses to plan, let alone consider taking on additional debt. The slower pace also reflected the nature of the financing criteria. The industry advisory group specifi-

cally designed the fund to assist businesses in making an investment in the industry's future. The fund has not been available for refinancing or restructuring existing debt load. It targets those businesses prepared to take on new debt for a future-oriented strategy, i.e., diversifying and/or converting.

One of the best examples of a sustainable development investment is Coast of Maine Organic Products, Inc., which manufactures organic compost from fish wastes in Maine's poorest county, Washington County. Although the entrepreneur was not a fisherman, the company solved a waste problem for other fishing and aquaculture businesses, created a high-value-added export product, and was projected to provide jobs in a distressed coastal community. The project initially assisted the company with grant applications and a loan to fund a market study.

After Coast of Maine Organic Products proved its market potential, it received an equity investment from CEI Ventures, Inc., CEI's new for-profit venture capital subsidiary, which is the general partner for Coastal Ventures, a unique limited partnership. CEI Ventures's main sustainability screen is a criterion of placing low-income people in 50 percent of the jobs created in portfolio firms.²⁰ Firms with a low environmental impact or firms that create jobs in distressed regions are desirable investments but are not mandated.²¹ The fund tries to balance expected market returns of at least 10 percent with social returns. If it can get multiple sustainability goals along with projections of good financial return, as it did with Coast of Maine Organic Products, all the better. The fund investment screens are similar to CEI's traditional lending criteria except that we look for a higher financial return from these projects.

The Revolving Loan Fund has allowed us to promote economic sustainability issues in the industry and work with businesses developing new fisheries. This is a risky area for financing, particularly when dealing with new nontraditional species like whelks, hagfish, and sea cucumbers. We do a great deal of due diligence on the resource and market issues. Often there is an outline of regulations in place, but not a "management plan." In many cases, there is no real assessment of the scope/scale and biological constraints in harvesting the new species. We never have sufficient information and are forced to work with estimates. The financing, however, allows us to ask fishing operators to gather information voluntarily on landings (about sex and size, for example), which can contribute to building a base of biological information for a resource management plan.

Business Assistance

CEI's Small Business Assistance Center (SBAC) has tailored its programs to meet the industry's needs. Based on a survey of holders of multispecies permits, we designed and conducted a series of targeted workshops for forty-six participants. We also provided individual counseling on management, marketing, organizational planning, financial forecasting, and loan packaging to eighty-nine different fishing-related companies, as well as to

members of the industry interested in starting a new business altogether. Based on a survey of industry needs, the SBAC is currently developing a telecommunications workshop for marine-related biotechnology and seaweed companies.

Research

CEI's research has focused on market development and demonstration projects that identify new marine-related industry opportunities for Maine's fleet and coastal communities. Research is related to one of three themes: promoting markets for local products and nontraditional species; identifying opportunities for reducing, transforming, and/or adding value to marine waste; and developing Maine's marine-based biotech and seaweed companies. (See box on page 437.) The sustainability goals are to diversify marine activity away from dependence on stressed fishing resources and to add value to the fishing and other marine resources (including wastes) so that they are used efficiently and benefit local people and communities.

The first year was dedicated to building trust, learning the landscape and emerging sector issues, and working closely with key industry groups and businesses to surface potential projects. We interviewed local fishermen to elicit ideas for diversification, showed up at many meetings, and participated in projects driven by other groups in an attempt to balance a sector approach with a community focus. Partnerships were formed with fishing associations, marine businesses, state agencies, technical colleges, community foundations, economic development organizations, local community-based environmental organizations, and local restaurants willing to try new seafood products.

Policy Development

A principal question in a targeted sector strategy is, "Where can we add the most value?" In the fisheries sector, policy activities are well covered. Our potential contribution here is to promote the industry's participation in generating basic scientific data used to make management and policy decisions. Through our financing of new fisheries, we are asking fishermen to provide biological data on their catch that can be used for future management plans and to require management plans as a condition of financing for nontraditional species. We are working with the state and industry partners to raise additional resources to prepare for the fact that future fisheries will be highly regulated and that the ability for the industry to participate in solutions (e.g., co-management) will require capital.

Future Work

The project will continue with its current focus on financing, business assistance, and research and development, with more involvement in the marine biotechnology sector. We will pursue the concept of using financing as a means of leveraging environmental data and developing resource

management plans. We are also considering playing a role in developing a halibut hatchery.

The Maine Farms Project

Background

The Maine Farms Project began in 1995 with a technology-planning grant from the Department of Agriculture's Rural Development Program. It is CEI's most recent attempt to help small-scale agriculture prosper and at the same time preserve farmland as a vital resource for both rural communities and the state's tourist industry. Maine's agricultural sector currently represents over \$500 million in annual sales at the farm level and about 40,000 jobs. The key sustainability criteria were preserving farming communities and farming family income, increasing the use of more sustainable farming practices (e.g., low input and/or organic practices), and creating a local source of food that would avoid the expense and environmental costs of transport.

These were not new ideas. In the late 1970s and early 1980s, CEI tried several cooperative strategies to warehouse and market produce, notably the Kennebec Valley Growers Cooperative. It also did feasibility studies of value-added products and processing for sheep farming and poultry. None of these projects was successful (although several individual farmers were quite successful), and for years family farms were on the back burner as CEI diversified its loan portfolio and development strategies. We hope that, having learned from past mistakes, we are approaching new value-added strategies more cautiously.

The Maine Farm Project's primary focus is to help small farms in western Waldo County, a distressed dairy farm region of Maine; work together to overcome the disadvantages of size; and work with local communities to create new markets. Twenty years ago western Waldo County's economy was almost entirely agricultural. Between 1978 and 1992, the number of farms in the county declined from 470 to 339, and the total value of farm products decreased by 47 percent from \$32.1 million to \$17.1 million (Federal Agricultural Census). The decline has been even more rapid since 1992. The dairy farms, which contribute the most to local agriculture, dropped an estimated 20 percent between 1993 and 1994 alone. (This level of decline is not particular to Waldo County; dairy farming is declining across the state.)

Public policies have contributed, largely unintentionally, to the demise of Maine family farms. For example, federal policies subsidizing highways and transportation infrastructure and providing water subsidies to western states in effect subsidize farming elsewhere. Maine's dependence on local property taxes puts agriculture at a competitive disadvantage.

State environmental regulations requiring new remedial equipment or infrastructure (such as manure pits) have made agricultural operations cleaner but have pushed some farms to closure. Farms that cannot handle the cost of remediation measures generally fold rather than change to more

sustainable practices. This happens for two reasons. Many farmers are nearing retirement and are not particularly interested in or able to change. More importantly, farmers are often heavily invested in equipment and facilities inappropriate for new and different practices. They also have little access to alternative marketing channels needed to get a good return from sustainably grown products.²⁴

In addition to the dairy farms, a variety of small specialty farms raising a diverse array of produce and livestock have stagnated. Low-level food processing (washing and bagging produce) is taking place, but very little is aimed at adding higher value. Unlike other parts of Maine, Waldo County has not enjoyed the emergence of a new industry, such as tourism, to replace agriculture.

From an asset-versus-deficit approach to community development (Kretzman and McKnight 1993), we see that the region retains a critical mass of farm infrastructure (metal repair shops and grain and equipment stores) and know-how. It possesses large tracts of underutilized farmland that have not yet been developed. Also, it already has a small core of organic farms and specialty processors, although growth of this sector is limited because of difficulty accessing markets.

CEI created Maine Farms Project, Inc., as a subsidiary to help move the industry closer to sustainable practices, which could not be undertaken by individual businesses, and provide services and activities that would make these practices economically viable. Several beliefs drove the concept:

- Some of the decline in Maine's conventional agriculture can be offset by an increase in specialty agriculture that, in turn, can capitalize on new market opportunities.
- Small-scale agriculture that emphasizes low-purchased inputs and local markets can increase economic and community sustainability with low environmental impact.
- Small-scale agriculture can become a potentially significant economic force and, as such, demands more attention from CEI.
- Innovative agricultural ventures can be more successfully incorporated into broader community development strategies than is now common.

The Maine Farms Project avoided establishing farmers' cooperatives based on the limitations CEI experienced during its earlier efforts with producer cooperatives. Rather, the emphasis was on

- flexible production networks,
- cooperative marketing organized by a third party, and
- innovative community compacts.

The planning grant enabled the Maine Farms Project to study various needs and opportunities within Maine agriculture while focusing on the target region, identify promising cooperative activities, and select the most promising ones as indicated in the projects below. The project started by answering the question, "What is practical in the target region?" We began to explore a few paths that showed promise. The goal was to develop new

activities in the target region, not to think through all facets of sustainable agriculture or even to identify critical policy issues or industry trends.

Project Design and Activities

With local farmers, businesses, and community residents, our staff selected several project ideas based on the following criteria:

- advances sustainable agriculture,
- possesses economic viability,
- responds to industry needs,
- provides a service the industry cannot provide by itself,
- fits the opportunities within the target region,
- is practical to pursue, and
- has potential as a model for replication.

Activity 1: Farm Fresh

Adding value to the farm product remains a promising strategy. Processing is critical if small-scale sustainable farming is to expand substantially. Simply put, only a small portion of the food consumed in Maine will ever be sold through sales vehicles that can bring adequate return without processing (e.g., farmers' markets, community-supported agriculture, or direct sales to fine restaurants). The vast bulk of consumers will get most of their food through supermarkets and standard food service. Processing (of some sort) is already critical to competing successfully in these markets, and the importance of processing will only grow. Research during the planning project showed that

- more prepared foods (and fewer whole foods) are being purchased at food stores;
- consumer preference for fresh products over canned or frozen products is growing;
- so-called "fresh cuts" and "value-added produce" represent the fastest-growing segment of the produce industry and are expected to account for 25 percent of all product sales within four years; and
- food stores are moving toward what the industry calls "meal solutions," which range from a simple salad provided with a fork and dressing to an "assembled meal" to a ready-to-eat dinner.

Based on these trends, the Maine Farms Project has completed a business plan for a venture called Farm Fresh, which will produce fresh, processed items (including soups, unique salads, side dishes, and produce-based entrees) designed to use inputs available from a wide range of Maine farms and processors. The products will coincide with the "freshness" and "seasonality" of Maine's farm products. Sales will be targeted to supermarkets, specialty food stores, and select restaurants. We need to do further market testing that may include a pilot operation. If the tests are promising, the Maine Farms Project will look for an entrepreneur and financing to make the idea a reality. The goal is to start operation by spring of 1998.

Eventually, Farm Fresh may become a cooperative run by participating firms.

Although Farm Fresh is conceived as a business venture, it has as its mission the support of sustainable agriculture in Maine. Farm Fresh will enable Maine's small organic farms to participate in value-added processing and thereby gain access to marketing channels that are traditionally closed to them. At first, there will be times when a shortage of local organic produce will force substitutions to maintain the business and reliability of the product; over time, Farm Fresh will be a vehicle for increasing local farming production.

Activity 2: Downeast Market

The Maine Farms Project has been conducting a pilot test of Downeast Market, a cooperative marketing venture supporting small specialty food processors. Downeast Market is an Internet-based catalog selling gift assortments.²⁵ It provides consumers with a chance to sample Maine products and provides the participating processors (currently twelve) with both sales and broader market exposure. The pilot test explored different ways that Downeast Market can promote itself and sell its wares, including the following:

- website design (including links to other sites),
- a companion mail-order catalog,
- on-line advertising, and
- different pricing strategies.

This activity's focus on specialty food producers probably advances sustainable agriculture less than the other options we are studying, although it can contribute to marketing and expanding local value-added processing. It raises the question of whether selling and transporting food nationally or even internationally is a sustainable practice. If the products are produced with local inputs and are grown with sustainable practices, then possibly the export question can be downplayed. With sustainability as a goal, we question the standard business assistance mentality that focuses on export markets.

Activity 3: Community Markets

The Maine Farms Project is working with two existing food stores that might become "community markets" in downtown Unity, Maine, which is a major market center of the target region but has a struggling town center. "Community market" is a designation that will be applied to a store (existing or new) that follows certain purchasing, pricing, display, and education policies designed to promote Maine food, with a special focus on local foods. In this way, the market will be a sales vehicle for small local farms and processors. The Maine Farms Project will provide the market with information and services, such as advice on store layout, advertising copy, point-of-purchase materials, and coordinated access to Maine and local products.

At the present time, the region does not supply many of its own food needs. Many of the region's residents do not even shop in the region. However, there is an increased and growing consumer interest in buying organic produce and local produce wherever possible. Large supermarkets are not reluctant to work with farmers but demand that produce be in the form they want (e.g., graded, in standard crates, and with uniform pricing code stickers). It is easier to create links between local producers and consumers through smaller, community-based markets.

The proposed community market will be part of a broader downtown revitalization strategy. The assumption is that fresh local food (such as produce and baked goods) will draw people who will then take advantage of other stores and services in the downtown area. The concept is to get the entire business community supporting a strong local food system for their own self-interest. The Town of Unity has been awarded a Community Development Block Grant for a related downtown revitalization project that will promote the linkages.

This project is an interesting paradox. It is attempting to respect the realities of the market but recognize that market forces on their own will not bring about community markets. It is exactly the niche that the Maine Farms Project wants to fill. At the same time, the project demonstrates the difficulty of working in a hands-on manner with a local community and the multiple stakeholders' interests and hidden agendas. There is also a chicken-or-egg problem of supply. Some would-be farmers or processors are reluctant to gear up production until the market proves a success. Despite the potential problems of making it work, this activity could have a strong sustainability impact. Food products will be consumed close to where they are grown. Moreover, local food will be used as a vehicle for creating a community focused on serving more of its other needs locally.

Activity 4: Community Food Project

The Community Food Project targets Portland and western Waldo County in order to link issues of food security (hunger and malnutrition) to issues of sustainable agriculture and consumption of local food. The project creates model "food policy councils" to identify food system problems and opportunities and undertakes programming to respond to problems and opportunities. The initial programming focus creates a Portland food festival that showcases Maine food and calls attention to food security issues. CEI's partners are the Maine Coalition for Food Security and the Maine Organic Farmers and Gardeners Association.

The interesting unknown is to what extent long-term systems thinking to reinvent the food system can be held up as a solution to basic, immediate hunger problems. People who run soup kitchens and pantries often do not feel there is the luxury of thinking long term; they place changing the food system far lower on the list of priorities than finding food for today's hungry. The issue came to the surface in the organization of a public event (the festival) that must convey a simple, easily understood theme to the public.

Future Work

By the end of September 1997, the Maine Farms Project will complete its project feasibility work for Activities 1–3 and determine whether the activities can go forward with further support and capitalization. The Community Food Project (Activity 4) continues through 1998. We expect that the policy councils will become activated and food security will become synonymous with thinking about the local food system. We are also looking at a role for the project to play in developing “farming incubators” among existing large farms and creating opportunities for young farmers to make a living in family farming. The state’s new interest in rural sprawl issues may prove an important policy arena for encouraging wise use of farmland.

The Green Fund

Background

In 1995, CEI launched a Green Fund to market its financing and business assistance programs to small businesses that were contributing to environmentally friendly business practices. The Green Fund came out of two years of prior research to establish a market niche for CEI in the environmental sector.

In 1993, CEI undertook a market scan of environmental industries in Maine, initially for the purpose of looking for a job-creating sector that could offer substitute markets and products for declining defense industries but could also have a positive environmental impact (see Dickstein 1994). We defined “environmental industries” broadly as

firms that produce or sell products, or provide services that are involved with the conservation of energy, the provision of energy from alternative sources, the conservation of natural resources or industrial materials, the reduction or prevention of pollution, the disposal or recycling of wastes and hazardous materials, the restoration of the environment and its resources, or the production of “environmentally safe” products.

Maine, in theory, had a comparative advantage for developing environmental industries because the state’s strong environmental regulations had created markets for environmental goods and services. Maine’s industry was estimated at \$729 million in 1992 with growth to \$880 million by 1995 (*Environmental Business Journal* 1994). As we looked at our existing loan portfolio, we had already invested over \$1.5 million in environmental firms, which included not only consulting firms involved with remediation and cleanup, recycling and recycled products, and monitoring devices for underground storage tanks, but also green companies (such as Tom’s of Maine) involved with natural products. These investments were based solely on CEI’s job creation lending screen rather than on any conscious environmental screen or corporate interest in ecology.

Our research clarified that environmental industries are not really a sector in themselves, but transcend traditional standard industrial codes. En-

environmental industries cover the spectrum from those dealing with remediation and cleanup ("end-of-the-pipeline" solutions) to those involved with pollution prevention and waste reduction. Federal policy was moving toward an emphasis on prevention, and the projected growth of the industry was in prevention.

Most of Maine's environmental industries were service firms undertaking remediation, which already faced saturated domestic markets. Our challenge was to encourage environmental technologies and manufacturing of substitute environmental materials and green products that could create jobs suitable for CEI's targeted constituency, people with low incomes and on public assistance.

The study looked specifically at the following questions:

- What regulations were creating pressure on small firms to change their production or operations?
- What market failures existed for small firms to access conventional financing?
- Where were the gaps in providing assistance?
- How could CEI's Green Fund fill the gaps?

We found capital gaps related to financing research and development for new high technologies, working capital, and equipment purchases. Some of these problems were not exclusive to environmental firms, but because the technologies were in rapid flux and subject to fickle regulatory environments, they were even more risky. Environmental service firms faced problems acquiring financing because they lacked sufficient assets to collateralize loans.

As we looked more closely at the industry that supplies the goods and services, we developed a greater interest in businesses that generated environmental problems; these represented the market for the goods and services produced. Many small firms facing the state's new Toxic Use Reduction Act or the Clean Air Act regulations did not have access to resources or financing to enable them to make the necessary process or equipment changes in their businesses. In other words, there were financial barriers not only to the supply of environmental products and services, but also to the demand for those goods and services. If these businesses could not, or would not, purchase the environmental products and services, then it would not matter what was produced. With the help of a summer intern, we identified barriers that small manufacturers and other generators in Maine faced in moving toward pollution prevention (Eisenberg 1993).

Program Design and Activities

Based on these two studies, CEI designed the Green Fund for the purpose of providing technical assistance and gap financing to support the growth of (1) environmental industries that produce goods or services that reduce pollution and waste and (2) green businesses with locally generated natural and conservation-minded products. The fund also helps small firms respond to new environmental regulations and move toward more

sustainable practices. We hoped this push/pull approach to green lending would foster market development for green products and services and, at the same time, encourage pollution prevention (P²). Both studies identified legitimate financial advantages to be gained from P² and marketing a green product. Participation in policy development was the third leg of the strategy. It was clear that policy and the regulatory environment drove the industry's growth.

This approach to promoting more environmentally sustainable business practices focused mainly on reducing inputs and outputs, i.e., working with companies using organic or nonpolluting processes; those willing to reduce use of chemicals, energy, raw materials, and other supplies (such as packaging); and/or those willing to incorporate more recycled material into their purchases or products. In other words, it is the first "greening step" most companies undertake (see Hart 1996). CEI and its other technical assistance partners developed action plans to advance areas of consensus. We have not yet explored, as a group of partners or as a community development organization, additional measures of sustainability, nor have we taken a systems approach to examine "green engineering" and other more advanced pollution-prevention steps.

The three segments of the Green Fund described below—P², environmental industries, and green industries—are interlinked. We labeled the activities we undertook "green" rather than "sustainable" in part because of the acceptance of the term in green business and industrial settings. Since the start-up of the Green Fund in early 1995, we have made three P² loans and fifteen additional investments in environmental and green industries totaling almost \$500,000.

P² Lending

P² lending and technical assistance were targeted to companies needing to make process improvements in order to comply with federal or state environmental regulations, such as Maine's Toxic Use Reduction Act or the federal Clean Air Act. The Green Fund offered these firms below-market financing at 7 percent interest and technical assistance including training programs on upcoming regulatory changes for small business. Internally, the fund advocated for the businesses (as part of the environmental sector initiative) with CEI's loan department and assisted with due diligence for internal project development. Several industries were targeted: wood products, metal, hospitality, and light manufacturing. The working hypothesis was that a combination of marketing, technical assistance, advocacy, and lower-than-normal loan rates for financing (independent of CEI's normal job creation screen) would encourage smaller companies to take steps toward pollution prevention and compliance with environmental regulations through process upgrades.

The project had multiple partners. The Maine Department of Environmental Protection was the sponsoring agency and an enthusiastic partici-

part in developing the project. The Environmental Protection Agency ultimately provided the funding. The Maine Small Business Development Center (SBDC) network assisted with client referrals and delivery of some regional training. The Center for Technology's Environmentally Conscious Manufacturing Project provided engineering and process information.

Although the technical assistance and training components of the project were familiar functions, the lending portion of the project stretched CEI's boundaries. CEI's previous lending practice had linked financing to targeted-job generation for low-income workers in the borrowing company. This new project was designed without a job creation criterion and, in fact, could result in job cuts. Many internal discussions ensued over the delinking process and the appropriateness of providing financing for companies that might or might not meet our basic job creation screen. Issues of both market positioning and social justice were raised and settled before agreement was reached to proceed on this limited-trial basis.

Despite prolonged discussion, only three P² loans totaling \$75,000 were made, all to companies undergoing expansions. In these cases, the companies would have made the investment without the reduced financing available because it was cost effective to replace existing equipment with new, efficient, energy-saving systems. These companies required increased production capacity, implying either increased staff or upgraded skills on the part of present staff.

Nonetheless, the project generated a great deal of interest in furthering low-impact, green business behaviors rather than trying to satisfy particular P² regulations such as removing chemicals. Additionally, there was much concern in the small business community over regulatory requirements and the cost, liability, and confusion in meeting them. Many companies were interested in recycling, energy assessments, or limiting their regulatory and/or business risk; few were interested in P² finance largely because of credit and debt limitations. Companies would not incur debt for an item that might or might not affect the bottom line. Even though many of the companies were currently subject to state toxic-use reduction laws, the environmental enforcement agencies were not enforcing the regulations for the small companies that CEI targeted.

After reviewing initial P² project results, we started generating data from twenty-five clients at our SBAC to determine their current environmental practices and level of interest in environmental issues. Their responses also indicated a great deal of interest in and sensitivity to recycling, the negative effects of toxic chemicals, and the notion of leaving a viable business and clean environment for the next generation. Family businesses were closest to an appreciation of sustainable activities because of the emphasis on the future generation. The ability to implement changes appeared more or less proportionate to the size of the company, with a few outliers in each direction. However, we did not have sufficient data to analyze this.

Based on the learning from our first demonstration and from the survey of business clients, we have submitted a proposal to fund another dem-

onstration project, also aimed at encouraging businesses seeking financing to move toward P² behavior. Instead of financing P² investments, we are proposing to fund normal business purposes on the condition that the borrower negotiate an environmental impact exploration agreement, or "GreenTag."²⁶ It will be up to the company to decide what improvements will actually be made; the funding will be contingent upon their participation in an evaluation process to identify what improvements make sense to the company and at what stage. We will continue to work with the same partners who are the service providers.

Environmental Industries

The Green Fund has served as a marketing tool for CEI to identify promising environmental companies for our financing programs and to provide business-related technical assistance. The domestic market focus is changing from engineering projects to P² and by-product harvesting, but the international market is still media and pollution control driven. In order to provide internal support for due diligence for environmental technology deals, we hired a Green Fund coordinator with both a business and science background.

For the most part, we have reacted to the existing market and deal flow rather than engaging in active market development. This past year, however, we began to look at the market for renewable energy, one segment of environmental industries. Although Maine ranks highest among the northeastern states in the percentage of its electric power from renewables (over 40 percent), long-term dependence on nuclear power and fossil fuels is a growing issue. Maine and New England as a whole anticipate energy shortages over the summer due to five aging nuclear power plants currently off-line. One of them, Maine Yankee, is located in CEI's home base, Wiscasset.²⁷ The electric utility deregulation now under way in Maine presents one opportunity for stimulating renewable markets. We are participating in the Maine Electric Consumer Coalition that has proposed legislation for Maine to adopt a 30 percent renewable energy portfolio standard for all electric generators under a deregulated electric market. Also, a .5 mill charge is proposed on the distribution and transmission of electricity to establish a research and development fund for renewable technologies. Maine's renewable energy industry includes mainly service and distribution companies rather than manufacturers. Over the next six months, we intend to do a more in-depth study of the industry, similar to our study of the environmental sector as a whole, to see what role we can play to support its development.

Green Products and Services

CEI's longest-standing involvement with green businesses has been through green products and services. CEI's lending portfolio historically has had a large component of companies with organic or natural products. The linkage between technical capacity and lending has provided addi-

tional support for companies making use of engineered solutions (to energy issues, for example) or recycling technologies. There has been a large influx of companies replacing organic chemical cleaners, household products, cosmetics, and the like with natural products.

The Green Fund has reactivated old networks of businesses seeking sources of recycled materials.²⁸ As part of our technical assistance work, we have successfully advised companies about how and where to find recycled materials. In other cases we have partnered with other organizations (such as Waste Cap, which does waste audits for businesses) to find sources, and where there are gaps, we have helped create new brokering mechanisms (e.g., an umbrella organization for joint program development, fund raising, and a materials Exchange).

Although interest in use of recycled raw materials for environmental reasons is significant, for many materials the economics are still limiting. The number of recycled-content users is difficult to quantify because no single tracking mechanism exists. Some due diligence support and advocacy are needed for natural and recycled products. An expanded universe of green products has required that significant effort be expended in developing ways to evaluate and assist companies with a much broader range of product types. Often we find differing scientific opinions that make it difficult to identify shades of green or which one of several alternatives is best.

Institutional Impacts

The Green Fund has enabled CEI to contribute to institutional change at several levels. CEI has established new partnerships and gained credibility for its knowledge in the environmental business arena. Because of our efforts to experiment with P² financing mechanisms, we received the 1997 Governor's Award for Pollution Prevention.

We have become an active player among the businesses and nonprofit organizations promoting environmental industries and green businesses. We are a board member of a young industry association, the Maine Environmental Industry Council, and provide technical support for the Center for Environmental Enterprise, a business incubator for young companies. Both are sources for our deal flow. For the Maine Chamber and Business Alliance, we wrote an environmental industries report that became part of their sector strategy for state economic development policy and contributed to the state's initiative to support environmental industries.

The environmental industry is starting to demonstrate that it can play both a significant economic and a P² role and has begun moving down both paths with the support of the appropriate state agencies. Business opportunity drives the partnership forming among economic, scientific, and regulatory forces. Time is needed for a formerly unorganized industry to develop a critical mass and begin working effectively as an association and with state-level entities.

We have had an impact on other business assistance providers statewide. The Green Fund coordinator, who works in our SBAC, is the technical liaison to the SBDC network across the state on environmental/green business issues. Her work has generated many questions from SBDC counselors statewide and has given them a new base of resources for their clients.

Perhaps the biggest impact has been the increased capacity of CEI staff to think of programs that are not solely focused on job-related or equity impacts. There have been more frequent staff discussions about the environmental effects of everyday business development activities and increased sensitivity to green behaviors, especially recycling. We have begun several new internal recycling efforts and have sought recycled-content office products. Although there is still not a systematic evaluation of all of CEI's development activities within the context of sustainable development, different departments have so far agreed to work jointly where green behaviors will stabilize or sustain a nonexpanding business and to focus on areas where both growth and green coexist. We have developed new ways of looking at these issues, but in a compartmentalized rather than a holistic manner.

Future Work

In addition to ongoing financial and technical assistance, we will experiment with the GreenTag and do more in-depth research on developing markets for renewable energy.

Summary of Cases

Table II summarizes project interventions, partners, and how the projects respond to sustainability criteria.

Development Approach

The cases demonstrate a mix of top-down and bottom-up approaches to development.

Both the Fisheries Project and the Green Fund rely on CEI's standard financing and business technical assistance tools to respond to market demands. The Maine Farms Project is still in a planning and development stage and has focused primarily on market and product development. Both the Fisheries Project and the Green Fund have also engaged in some market development work, the Fisheries Project focusing on new product niches and the Green Fund focusing primarily on how to create consumer demand for the environmental industry (e.g., P² financing for pollution generators or policy work for renewables). The specific type of support needed depends largely on the position and context of the industry (e.g., crises, opportunities, emerging trends, or regulatory changes).

In the past, our most successful sector initiatives have been those in which we are supporting existing entrepreneurs who have identified markets. As we move toward sustainable development practices, market de-

Table II: Project Intervention Partners		
FISHERIES	Interventions	Partners
Financing		
Fisheries Revolving Loan Fund	Subordinated debt at 7 percent interest for harvesters, processors, and suppliers	U.S. Economic Development Administration; Maine Department of Marine Resources
Coastal Ventures, Inc.	Equity finance	Public and private investors
Business Technical Assistance	General workshops, telecommunications workshop, and one-on-one assistance	Small Business Development Center; telecommunications consultant
Research and Development Projects		
Cape Shark	Product development Market development	Ben and Amanda Fisheries Local restaurants
Live Fish	Product development Market analysis	Fishing Association; Washington County Technical College; Sunrise Community Development Council
Fish Wastes	Research Market development	Center for Applied Regional Studies Nova Seafood (food product development company)
Promoting Local Markets	Marketing	St. George's Clam Project; Portland Public Market; Portland Fish Exchange; Gulf of Maine Campaign
Policy	Management plans as a part of financing agreements (proposed)	Department of Marine Resources; fishing associations (proposed)
Institution Building	Board member of Seaweed Council and Maine Fisheries Industry Development Center	Seaweed Council; Maine Fisheries Industry Development Center; Maine Fishermen's Wives Association
Measurement and Evaluation	Business assistance and internal process evaluation of loans	
MAINE FARMS		
Research and Development Projects		
Farm Fresh	Market analysis and product development	Specialty processor; advisory team
Downeast Markets	Product development and marketing	Specialty processors
Community Markets	Market development	Supermarket owner; Town of Unity; Unity businesses
Institution Building		
Community Markets	Community institution as economic development strategy	Supermarket owner; Town of Unity; Unity businesses
Food Policy Councils	Creating new policy organizations Economic analysis	Maine Coalition for Food Security
Local Market Development	Marketing Organizing food festivals and urban markets	Maine Organic Farmers and Gardeners Association; Maine Coalition for Food Security
GREEN FUND		
p ²	Subordinated debt at 7 percent interest Business technical assistance	Maine Department of Environmental Protection; Environmental Protection Agency; Environmentally Conscious Manufacturing Project
Environmental Industries Green Businesses	Subordinated debt and equity capital Business technical assistance	Coastal Ventures, Inc.
Institution Building	Develop trade organizations, incubators, materials exchanges, and coordination	Environmental Business Council; Center for Environmental Enterprise
Research	Market scan of environmental industries Market study of P ²	
Policy	Drafted environmental industry policy for state business group Task force member to draft state environmental industry policy	Maine Chamber and Business Alliance; Maine Environmental Business Council; Maine Department of Environmental Protection
Measurement and Evaluation	Internal process evaluation of P ² loans and pollution reduction	

velopment becomes more difficult. In the case of sustaining remote rural communities dependent on a natural resource base, local entrepreneurs often lack the ability either to identify the location of markets for value-added products or to acquire some aggregation of producers to attain a critical mass that can access new markets. For other environmental products or technologies, there needs to be a consistent policy environment that privileges these products through incentives (such as research and development funds or sheltered markets), regulations that create standards or prohibit certain practices, or disincentives such as green taxes to internalize the costs and force different behavior. Thus, sustainable development practices require that CEI take more initiative in market development and policy. Even if CEI identifies promising markets top down, there is often the question of who will champion such markets and make them a reality. Proactive market development initiatives also incur high up-front learning costs and can be an expensive approach to development if a number of market initiatives fail.

Information Gathering and Market Identification

A thorough knowledge of an industry is needed to identify sustainable practices. Often alternative product or market strategies are required where a proven model does not already exist. Many sustainable development strategies are not obvious. Identifying them requires looking at business opportunities in a new way (such as community markets). Few small business owners have the time and/or training to do so.

At the same time, identifying practical alternatives requires a thorough understanding of what is possible within that industry. The generalists who see some of the broader sustainable opportunities need the practicality of the specialists who make a living in the target industry.

The ability to work with specific geographic communities is also very important, especially in the natural resource sectors. A strategy may require a more holistic focus than a single industry sector and require knowledge of potential linkages and synergies within a specific community, as the community market concept illustrates.

Partnerships

Sector initiatives require a variety of public and private sector partners. All three of these CEI projects involve actively working with industry, state, community, and, in some cases, academic partners in the initial research and project identification as well as in building new networks and institutions to serve the sectors. Our partners draw us closer to local problems and opportunities. We learn other viewpoints that are critical to our understanding and embrace all dimensions of sustainability, and we increase our ability to undertake valuable programming. It is a process of both educating the community and being educated by the community: "gaining membership."

Partnering also comes with costs. Coordination takes more time, and philosophical differences can be a hindrance. We have found sensitivity and mistrust of environmental issues and advocacy groups among businesses with which we work. With many business owners being apprehensive about sustainability, it is possible to focus on concepts of using fewer inputs and serving local markets that can be equated with traditional concepts of self-reliance. Educational efforts with businesses and the broader community are needed to convey a different message of sustainable economic development.

Not all partnerships are worth promoting when the true impact is made transparent. Our Internet catalog, Downeast Market, for example, was a response to food processors who said they wanted a collaborative mail-order catalog. At the same time, the specialty food is high priced, transported over long distances, and is not necessarily the outcome of sustainable agriculture. The project raises the issue of whether the Maine Farms Project or similar initiatives need to respond to what the industry says it wants in order to establish credibility for future work.

Due Diligence

Sector initiatives give us closer ties to industry, government, and environmental experts. Nonetheless, due diligence in the investment process, particularly in terms of the quality of scientific knowledge about a technology or an environmental impact, is not easy. A staff member with a strong scientific as well as business background can help (as happened in the Green Fund), but the scope of products and technologies that we need to assess transcend one person's knowledge. Good due diligence requires constant education, networking, and partnerships.

Financing as a Lever for Sustainable Behavior

The Fisheries Project and the Green Fund are experimenting with using financing as a tool to exact social paybacks from businesses in the form of more sustainable business practices. Our experience with our ETAG model shows that financing can prod different behavior from businesses if what we are asking is economically viable and nonthreatening. Although our first attempt at using below-market financing in the Green Fund for P² failed, we think that our new initiatives with the Green Fund (to get more waste and energy audits and greater reduction) and with Fisheries Project loans (for data collection and eventual management plans) will be perceived as helpful rather than burdensome.

Policy

The cases reaffirm not only that public policy has a major impact on sustainable development practice but also the limitations of those policies. For example, regulation directly creates the market for environmental industries and pollution prevention in the Green Fund; it also creates the market for nontraditional species in the Fisheries Project. At the same time,

the lack of regulation (e.g., nontraditional species) or the lack of enforcement (e.g., small business compliance with environmental laws) can also undermine those markets over the long run. Regulatory uncertainty (e.g., implementation of new fishing regulations) and policy fickleness (the case of cutbacks of solar subsidies in the 1980s) also deter investment. Finally, unintended consequences of public policy (such as federal financial incentives and subsidies, federal highway subsidies, water subsidies, and property tax policies) have impacted fishing and farming industries.

Clearly, part of sustainable practice is understanding policy, if not influencing it. The tension is that practitioners' credibility in policy comes from tangible work on the ground. Even if practitioners come together to create a policy think tank or share a lobbyist, considerable time and resources are required.

So far, the Green Fund is the only project that has played an active policy role, although the fisheries and farming projects are beginning to move in this direction.²⁹ The Community Food Security Project is starting to build an institutional infrastructure to support policy development for family farms and local food production. Furthermore, the Fisheries Project is looking at financing as a lever to exact more attention for management plans for nontraditional species.

The cases bring us back full circle to the query, "What are the scope and impact of CED practitioners' interventions, given the wider political and economic forces that affect every point of intervention?" Our present economic system is not designed to incorporate social or environmental externalities into resource allocation decisions. Public policy uses carrots and sticks such as incentives, regulations, and sanctions to make the system respond. Without sufficient political will and the desire to incorporate sustainable development values into decision making, it is doubtful these tools are sufficient to meet the challenge. These are the basic structures and institutions that currently frame and limit sustainable practice. The issues of at what level to intervene, whether to focus on short-term basic needs or systemic changes, and whether one sustainability goal compromises another will continually beset us. Sustainable practice is a balancing act of specific projects and involvement in policy.

Within the resource allocation decisions that we can control at CEI, we have discussed trying to implement a more comprehensive screen that includes environmental criteria for all of our work. Even if we agreed organizationally that such a screen was a good idea, we would have to determine how to operationalize it. On the environmental side alone, there are many shades of green, and verifying each one requires access to reliable information. At this stage, we ask companies with whom we work for self-reported data about their environmental practices. It is difficult to imagine an environmental impact study as part of our due diligence process, especially for the many small loans that we review. That said, we are at least having the conversation and may incorporate more aspects of sustainability into our basic screens.

As we strive toward a more sustainable practice, we become more conscious of multiple points of intervention in the production system, the use and disposal of products, and the relationship of production and profits to the sustainability of individuals, communities, and the natural environment. Incrementalism is likely to prevail in our work, but we think that making the linkages among economic, social, and environmental systems more transparent is good and is likely to expose and create synergies for developing complementary sustainable projects.

The conversation concerning sustainable development needs to expand among all CED practitioners and with other interests. The escalating costs of current unsustainable practices to individuals, businesses, and communities will eventually force CED practitioners to redefine the scope of the systems in which they operate. This, in turn, will create a new dialogue within the field and with its partners and will inform a more enlightened theory of practice.

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1. Named after the Norwegian prime minister who chaired the commission.
 2. See World Commission on Environment and Development (1987).
 3. There have been numerous sustainable development conferences (including the 1992 Earth Summit in Rio de Janeiro), visioning and planning processes, community indicators (e.g., Sustainable Seattle), and organizations dedicated to the goals of sustainable development (e.g., the President's Council on Sustainable Development, Sustainable America, and Sustainable Maine).
 4. Ron Shaffer (1994, 5) distinguishes "sustainable community economic development" as the ability to survive and persist in generating outcomes. It is "the capacity of local socio-economic systems to generate employment and income to maintain, if not improve, the community's relative economic position."
 5. See Charles Colgan (1997) for a discussion of implementing goals of the Canadian Roundtables on Environment and Economy.
 6. See Sherry Salway Black (1994), who redefines the framework for measuring success in community development based on a comprehensive model of sustainability.
 7. See *supra* note 2.
 8. The destruction of trees for fuel by impoverished villagers in Third World countries is the classic example.
 9. Gail Cincotta of the National Training and Information Center played the lead role.
 10. See Black, *supra* note 6.
 11. National Congress for Community Economic Development, 1997. Sustainable Community Economic Development. Panel at the 1997 Northeast Regional Conference, 22 March 22, at Wilmington, Delaware.
 12. See, e.g., the EPA's *Sustainability in Action: Profiles of Community Initiatives Across the United States* (1995).
 13. For a description of these targeted development strategies, see Carla Dickstein (1996).
 14. Recent examples include legislative work that promotes employee ownership in Maine and utility deregulation policies that are fair to small businesses and provide a safety net for low-income people.

15. Our flagship project in 1979 was to rebuild the Boothbay Region Fish and Cold Storage, a community-based fish processing and marketing cooperative venture that had burned down. In the 1980s, CEI invested in the Portland Fish Exchange, the country's first open-display fresh fish auction. It created a direct market in Maine so that fishermen could get better prices for their products.

16. Industry data is limited and unreliable. There is difficulty relying on landings and employment information. Many owner/operators are self-employed.

17. It is common practice for fishermen to move from harvesting one species of fish to another depending on availability of the resource and what the market is demanding. This is especially true of the smaller boats that work out of rural ports. These are generally owner-operated vessels, the crews of which can switch gear and make decisions on where and what they fish depending on their personal preference, skill, and adaptability of their gear.

18. Declining groundfisheries have already resulted in reorganization and downsizing in both fisheries and support industries. Thirty-eight Maine vessels recently submitted a bid for the federal buyout program. Two hundred forty displaced fisheries workers have enrolled in the statewide retraining programs. Larger fish-processing plants have shifted away from a reliance on local harvesters and currently import 60 to 90 percent of the fish they process.

19. In 1994, new regulations in the form of amendments were made to the New England scallop and multispecies management plan. These amendments authorized major controls to be applied on the groundfish and scallop fisheries through a reduction in fishing days and seasonal closures.

20. This criterion is integral to what CEI calls Maine's first "Social Investment Fund" and is one of the reasons the Ford Foundation invested \$1 million through a program-related investment to CEI.

21. Coastal Ventures has made three investments since June 1996. Only Coast of Maine Organic Products has explicit positive environmental impacts.

22. Organizations endorsing the project include Maine Gillnetters Association, Groundfish Group, Associated Fisheries of Maine, Downeast Druggers Association, Maine Lobstermen Association, Maine Fishermen's Wives Association, Island Fishermen's Wives (Deer Isle), and Maine Department of Marine Resources.

23. Our survey shows that processing in the Portland area alone generates up to 10,000 pounds of haddock waste a day, of which we project that 2,500 pounds could be recovered as high-quality mince. Currently, these racks are disposed to a Massachusetts pet food supplier at no profit (or cost) to the processor.

24. Consider, for example, why more dairy farmers do not enter the growing market for organic milk production. To do so, they need either to buy organic grain, which is hard to come by, or to rely entirely on their own silage, which will probably involve reducing herd size when they have already invested in facilities for a large herd.

25. See <http://www.Maine.com/downeast>.

26. The GreenTag is modeled after ETAG, which asks companies receiving CEI financing to hire qualified low-income people for job openings.

27. Since this paper was originally published, Maine Yankee has permanently ceased operations. CEI is presently considering how it can contribute to regional adjustment strategies.

28. These networks included former contacts CEI had from previous work we had done in the field of recycling.

29. CEI's former sector initiative in aquaculture had a strong focus on leasing and siting policies and planning for infrastructure needs such as insurance, marketing, and financing. Our initial Family Farms Project also undertook policy initiatives, including passage of an institutional buying bill for purchasing local produce.

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APPENDIX 1

Coast of Maine Organic Products, Inc.

This start-up is focused on converting the seafood industry's costly waste disposal problem into a revenue-generating by-product. The company is processing marine waste into a premium-priced 100 percent organic soil amendment. The revolving loan fund provided the working capital used to open new regional markets for Maine's processed seafood waste. In the first selling season (Spring 1996), the company directly sold 12,000 forty-pound bags to seventy-seven upscale garden centers in the Northeast. The business will substantially solve a major disposal problem for Maine's marine industries and help suburban gardeners replace chemical fertilizers with organic ones. The company recently hired its first employee, who came directly from the fishing industry. It plans to employ twenty individuals by year five. Coast of Maine Organic has committed itself (through CEI's employment and training agreement) to hiring low-income people for at least 50 percent of the jobs it creates.

APPENDIX 2

Cape Shark Project

The Cape Shark Project tested whether spiny dogfish, now called "cape shark," offered a viable, alternative fishing strategy to Maine's groundfish harvesters, who face the new regulatory restrictions. With the endorsement and support of a coalition of statewide fishing organizations,²² we tested the feasibility of onboard processing of spiny dogfish and the opportunities for developing a local market for fresh fillets. The pilot project achieved the following: (1) developed a set of safety and quality control protocols for on-board processing; (2) introduced cape shark product into the market with strict quality standards; (3) educated the restaurants and residents with promotional materials, site visits, and press coverage; and (4) tapped into two target markets: high-end restaurants and midwestern consumers. The second stage will provide additional harvester training in onboard

processing, market development, and contributions to a spiny dogfish management plan.

Live Fish Project

CEI staff conducted a review and scan of existing fisheries and market opportunities for live fish products. We sponsored a live fish tank display and orientation for interested fishermen at the 1997 Maine Fishermen's Forum. The marketing information gathered has been folded into a more generously funded project involving the Maine Gillnetters Association and the Washington County Technical College. This spring, four or five groundfish harvesters from Hancock County will participate in forty-five hours of training in the basic biology of targeted species and the husbandry techniques related to the capture, delivery, and holding of live finfish.

Promoting Local Markets for Gulf of Maine Resources

This spring and fall, CEI is working on the Aucocisco Festival and Portland Food Festival to promote buying local seafood and to educate the public on the role and value of Maine's fishing industry. Over the next year, we will be developing Gulf of Maine marketing materials on the value of the industry and benefits of buying locally.

Casco Bay Seafood Processors' Survey

In the fall of 1996, CEI sponsored a survey and report on seafood waste processing written by Susan Goldhor, head of the Center for Applied Regional Studies, which specializes in developing processes (including hydrolysis, fermentation, small-scale meal machinery, composting, and wastewater treatment) for the fuller utilization of seafood wastes. The report focuses on one small area, Casco Bay, from the perspective of local seafood processors. The emphasis is on how to transform waste into a profit opportunity through better information on marine protein and ideas for adding value to fish by-products.

Mincing Haddock Wastes

The first proposed project coming out of CEI's study of seafood wastes is mincing wastes from filleting haddock.²³ Mincing (or deboning) technology is well known and widely accepted, although not yet as widely utilized as it is in the meat and poultry industries. This project is designed to assist small processors in bypassing the problems that have hampered regional mince production in the past (difficulty in entering markets, gaseous reaction, difficulty in choosing an appropriate deboner, and failure to operate it safely and successfully) and to maximize profitability of the mince produced by incorporating it into simple, precooked, market-tested food products. The project goals are to (1) develop new product and product forms that more fully utilize groundfish processed in Maine and (2) test the feasibility of a processing technology that would optimize the

use of marine resources and increase profits to Maine's haddock processors. Partners include the Center for Applied Regional Studies, Nova Seafood's seafood processor, and a food product development company.

APPENDIX 3 Green Fund Investments

Heli Ltd., a manufacturer of custom motorcycle handlebars, received \$17,000 to purchase and install a powder coating system. Not only did this eliminate solvents attributable to their previous spray painting process, it increased production approximately fourfold throughout, eliminating a major bottleneck in the production process. The key sustainability criterion is low environmental impact, although the new system is likely to reduce costs and create more potential for securing jobs and increasing distributional benefits.

Katahdin Analytical Services, Inc., an environmental laboratory outside of Portland, received a \$100,000 expansion loan in 1995. The loan enabled the owners to buy two laboratories in Maine and New Hampshire from a Minnesota firm and consolidate all thirty-eight jobs into one laboratory in Maine. The company projected fifteen new jobs with 50 percent targeted to people with low incomes. The sustainability criteria are lowering environmental impact as part of the process of analyzing and monitoring pollution, local control, and equity impacts from job creation.

The Green Store, located in Belfast, sells a complete selection of recycled, energy-efficient, and environmentally safe products. It also designs, installs, services, and sells components for alternative energy systems, composting, and construction. The Family Wellness Cooperative is the educational arm of the store. CEI invested \$60,000 in 1997. The store currently employs two full-time and one part-time persons but anticipates creating fifteen jobs over a five-year period through its expansion and Internet catalog. Sustainability criteria include lowering environmental impact through pollution prevention by substitution of new products; energy conservation and use of renewable energy products; local control; and long-term equity impacts from local job creation.