

***INVESTING IN THE KEWEENAW'S FUTURE–
MOVING TOWARD SUSTAINABLE
DEVELOPMENT***

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Executive Summary

In the Keweenaw, more than in most places, the quality of the environment is synonymous with the quality of life. Living close to nature is by far the most important thing the people of our area share. The environment binds us together and gives us a common identity. It makes us a community. This means economic development in the Keweenaw must not be at odds with environmental protection.

Unfortunately, conventional economic thinking devalues community well being by not accounting for the environmental impacts of development. "Progress" is narrowly defined as unlimited, ever-expanding growth and physical development. This report takes an entirely different approach. FOLK advocates *sustainable development*, which measures progress by how well prosperity and environmental protection support each other. Prosperity means much more than just money. One way to define it is "a clean and healthy environment supporting local biodiversity and a diverse, stable, sustainable economy, which in turn provides members of the community with satisfying worklives and a decent, dependable income."

Sustainable development encourages economic activity which is designed to meet current needs without compromising the ability of future inhabitants of Earth to meet theirs. It means recognizing that our local decisions have global impacts. As a practical

matter, sustainable development in the Keweenaw will emphasize expanded job opportunities and employment security derived from small and medium-sized businesses, energy and re-source efficiency, and ecosystem health.

FOLK believes sustainable development is particularly suited to the unique social conditions of the Keweenaw, because here people from all walks of life and all income levels are on a fairly equal social footing. We contend that conventional prescriptions for economic development erode this uniqueness, and serve to make the Keweenaw look and feel like everywhere else.

There are three steps a community must take to achieve sustainable development. Step One is to stop needless outflows of money and talent. To stem the "innovation drain" caused by out-migration of youths from the Keweenaw, we endorse an "alumni reunion" program to try to bring successful people back here. Various "buy local" programs can keep dollars circulating in our communities rather than leaking to the outside. More efficient services also prevent wastage of money. Step Two is to support existing businesses and local control of business. Through surveys, "business incubators," and other support programs, we can bolster our existing economy rather than "chase smoke-stacks." Step Three is to encourage responsible enterprise. The Keweenaw is in an excellent position to capitalize on the burgeoning environmental consciousness in the U.S. We also need to do a better job of educating entrepreneurs and recruiting appropriate new businesses to the Keweenaw.

The third part of the report begins with a discussion of the complex problem of un-employment and job creation. Then we present alternative economic options for various sectors of the economy.

In Forestry and Forest Products, FOLK is calling for the completion of a Comprehensive Forest Assessment before any new pulpwood industry is located in the Keweenaw. In addition to a realistic inventory of harvestable timber, such an assessment would include a poletimber management strategy and analyses of the environmental, economic, and policy factors affecting forestry and forest products. Some of the alternatives we think deserve more attention include a System 6 mill, a small-diameter integrated sawmill complex, a veneer mill, and a mail-order modular furniture operation.

In Tourism, FOLK thinks we need to promote a more balanced mix of fossil-fueled and human-powered recreation. One way would be to develop an inn-to-inn cross-country ski resort system in the Keweenaw. We also support more hiking trails, the Calumet-Quincy National Historical Park proposal, underwater preserves, Ojibwa heritage activities, and other actions.

In Education, FOLK believes the Keweenaw needs better lifelong learning and vo-tech opportunities. A Keweenaw Learning Center (at the former Calumet Air Force Station) and a junior college are among the possibilities. In Telebusiness, we need to do more to attract telemarketers, teleservices, and mail-order companies which could benefit greatly from the rich local talent pool in computers and electronic communication. In Energy and Recycling, FOLK would like to see an audit and retrofit program and phased-in mandatory recycling to keep energy dollars from being wasted. In Agriculture, we advocate using part-time activities such as maple sugaring and apple cidring as a "bridge" to a possible agricultural renaissance in the Keweenaw.

A broad consensus in favor of sustainable development has begun to gather momentum. The most powerful financial institution in the world, the World Bank, recently adopted sustainable development as one of its guiding policies. So have several

European governments and many more in the Third World. Canada has created sustainable development "roundtables" to coordinate environmental protection and economic advancement. A growing number of forward-thinking American politicians are embracing the philosophy. The final report of the prestigious United Nations Commission on Environment and Development, titled *Our Common Future*, has become the "bible" of sustainable development and finds wide acceptance among policymakers worldwide. Many citizen's groups here and all around the world are working for sustainable development. All of them are saying it's time for a fundamental change in how we define "progress."

FOLK agrees. We think the yardstick of progress should be how well the economy and the environment harmonize with each other. By embracing sustainable development, the Keweenaw would be on the cutting edge of relating local development action to a global environmental perspective.

The report is extensively documented. A list of possible funding sources, with pros and cons for each, forms an appendix. There is also a glossary of key terms.

Investing in the Keweenaw's Future— Moving Toward Sustainable Development

Our Unique Quality of Life

In the Keweenaw, more than in most places, the quality of the environment is synonymous with the quality of life. Living close to nature is by far the most important thing the people of our area share. The environment binds us together and gives us a common identity. It makes the Keweenaw a community. It is both our heritage and our best hope for the future.

We believe many people who were born and raised here, and who have chosen to continue living here despite better monetary opportunities elsewhere, have made that choice specifically because they don't want to give up our communities and their environmental setting. Similarly, those who have chosen to come here and make the Keweenaw their home almost always make financial sacrifices to do so because they also know that the quality of life cannot be measured in dollars alone.

This means that economic development in the Keweenaw cannot be at odds with environmental protection. In fact, sustainable economic development in our area will never happen unless we maintain a high-quality environment. As more and more of the United States becomes built-up, a relatively pristine, clean environment like ours becomes rarer and rarer. We have seriously undervalued this scarce resource. We are fortunate to have a high-quality environment, and an unwavering commitment to keep it that way is the Keweenaw's most valuable asset.

Just as important, we will not be able to maintain our high-quality environment unless we encourage responsible, sustainable economic development. People with no prospect of a stable economic future have no incentive not to abuse the environment for

short-term gain. Our goal should be to create an economy where no one who really wants to live in the Keweenaw will ever have to leave, either because of a deteriorating environment or because they can't find a job whose income will sustain them and their families.

What is Sustainable Development?

The conventional view of "progress" is based upon the assumption that we can and must have ever-increasing levels of consumption. By this view, the main yardstick of progress is money, and the sole route to prosperity is unbridled growth. The fallacy of this sort of thinking becomes immediately apparent when one considers the massive environmental problems facing the world, many of which can be traced to excessive or inefficient modes of growth.

Of course, growth and money are important parts of prosperity, but by no means the most important. As Paul Wachtel has written:

The growth approach to our national and personal problems has failed. It has failed to end the shame of poverty and homelessness in a nation of enormous wealth. It has failed to bring promised satisfaction and contentment. It has failed to bring us full employment and meaningful, challenging work. Most of all it has failed to yield us a world we can live in safely and healthily (1).

The foundations of true long-term prosperity are community well-being and a sound environment. One way to define "prosperity" is "a clean and healthy environment supporting both local biodiversity and a diverse, stable, and sustainable economy, which in turn provides members of the community with satisfying worklives and a decent, dependable income."

Many people believe the world is now entering a critical period in which the demands of a rapidly growing global population, combined with disproportionately heavy energy use in affluent countries, are straining Earth's natural resources to the breaking point. Under these conditions, standard economic measures of progress—housing starts, consumer price indexes, and so on—have become grossly outdated. By considering only the flow of economic activity, they utterly fail to measure how much that flow is eroding the natural-resource base on which it is founded. Nor do they address the notion of community well-being. For example, do reported increases in the gross national product signify real gains, or do they actually mask net losses in our stocks of soil, forests, water, air, fisheries, natural areas and parks, and so on? What affect would such losses have on a community? Conventional economic analysis can't tell us because there are no columns marked "resource depletion," "environmental damage," or "community disruption" on its balance sheets (2).

Similarly, conventional economic plans do not discuss the environmental effects of development. A case in point is the recently published *Keweenaw Jobs 2000* report (3). *Jobs 2000* contains a number of excellent suggestions, some of which we will discuss later on. But its overall concept is seriously flawed because there is not one word in it about the Keweenaw's environment or what effect any of the proposals will have on the condition of our natural-resource base—the most important prerequisites for nourishing a healthy economy over the long haul.

This report takes a completely different view than *Jobs 2000*. We think the avenue to long-term prosperity in the Keweenaw is *sustainable development*. Simply put, sustainable development encourages economic activity which is designed to meet current

needs without compromising the ability of future inhabitants of Earth to meet theirs. It is an egalitarian philosophy, requiring that all forms of life get a fair share of resources and that those people who can financially afford to live beyond the world's environmental means moderate their habits. It is global, calling for the planet's population to return to a harmony with the potential carrying capacity of its ecosystems. And it is dynamic, a process of change in which future needs are valued equally with those of the present (4).

The Keweenaw's economic history is perhaps one of the best examples of unsustainable development in the United States. Cycles of economic activity have been characterized by boom and bust, resource depletion, and profit exportation. The world's richest copper deposit was extensively depleted, leaving towns full of unemployed workers and most of the profits gone to distant investors. One of America's finest hardwood forests was overharvested—a fact which will greatly reduce the forest's timber productivity for years to come. Many believe these days of resource depletion are past, but in reality overharvesting of timber lands still exists today.

Sustainable development discourages this sort of abuse and encourages conservation and sound management of our resources to benefit both present and future residents. As a practical matter, sustainable development in the Keweenaw will emphasize expanded job opportunities and employment security based on small-to-medium-sized businesses, energy and resource efficiency, and ecosystem health. It does not mean unstinting self-denial. It does not mean freezing in the dark or going back to the days of the horse and buggy. It means living according to a reasonable standard of moderation—which is really the same thing as making a lifelong series of small investments in the future viability of the planet. And it means recognizing that our local decisions have global impacts.

Why Sustainable Development Makes Sense for the Keweenaw

The Keweenaw is a unique place. Here, people from all walks of life and all income levels are on a fairly equal social footing. Someone who doesn't have a great deal of money can still afford to live on 40 acres. A working person from Detroit, living on a modest fixed income, can still hope to retire here. The public still has access to the vast majority of the local Great Lakes shoreline, rather than being blocked off by high-priced condos and hotels and housing developments.

This sort of environment-focused, equity-based, self-reliant culture was once common throughout rural America. Now it is almost gone. Wendell Berry, the noted writer on agricultural affairs, has spent a lifetime watching it disintegrate in the face of a tide of homogenizing, urbanizing development. Berry believes that "a culture is not a collection of relics or ornaments, but a practical necessity, and its corruption invokes calamity."

A healthy culture is a communal order of memory, insight, value, work, conviviality, reverence, aspiration. It reveals the human necessities and the human limits. It clarifies our inescapable bonds to the earth, and to each other. It assures that the necessary restraints are observed, that the necessary work is done, and that it is done well (5).

Sometimes it seems our elected officials and "business leaders" regard the Keweenaw's culture as some sort of relic that needs to be gotten rid of as quickly as possible. They tell us we need heavy industries, huge resorts, fancier houses, giant discount stores, a parade of fast-food joints, four-lane highways, and so on. Their

standard prescription for economic development is to make the Keweenaw look and feel like everywhere else.

This view makes no distinction between human necessities and the frivolous consumerism that Madison Avenue has so successfully foisted upon most of America. Nor does the conventional wisdom on development recognize our inescapable bond with the earth, that there must be some restraints to our actions if we are to not break that bond. Sustainable development makes these distinctions. The Keweenaw's culture will be healthy only if it grows from a people soundly established upon the land, nourishing and safeguarding a human intelligence of Earth rather than deluding ourselves into thinking that new and better technology will save us, just in the nick of time, from our own worst tendencies.

We have chosen to subtitle this report "economic renewal options" rather than calling it an "economic development plan" because it is not meant to be the end-all and be-all in the continuing debate over the paper mill. Rather, we see it as a starting point for further grassroots discussion of the Keweenaw's future.

Three Steps to Sustainable Development

Bottom-Up Development: The "2% Solution"

Unlike conventional development efforts, which emphasize outside resources for growth ("chasing smokestacks"), the economic renewal that comes with sustainable development focuses on resources already existing in our community. The conventional wisdom tells us to try to solve our economic problems with one big solution—a "100% solution." Sustainable development looks for fifty "2% solutions" (6). It stresses local, participatory, bottom-up economic activity.

A 1988 survey of new businesses in the U.P. demonstrates that bottom-up development—the 2% solution—does work. New businesses (those started since 1980) here are almost entirely home-grown, the result of efforts by long-time residents. These firms represent every major economic sector, with retail and services dominating. They start small, but on average double their initial employment to 5.7 workers apiece. These new companies employ many displaced workers. One-third are seasonal; new-business profits are not the sole source of income for most U.P. entrepreneurs. Most are not cottage industries being operated out of someone's house, and only 10% of new owners fall below the poverty line after all sources of income are taken into account (7).

One-half of the new U.P. businesses in the survey required \$26,000 or less to get started; one-quarter needed \$175,000 or more. Capital is widely available for start-ups in the Upper Peninsula. Only 18% of the entrepreneurs were turned down when they went to ask for a loan, and of those, 76% eventually obtained bank financing. Most important of all, owners of new U.P. businesses generally doing well and expect to prosper in the future. Sixty-three percent say they are doing better now than five years ago; only 18% are worse off. Eighty-four percent expect to do even better in the next five years (8).

Strengthening local resources and fostering new smaller businesses makes sound economic sense. Over half of all new jobs created in the U.S. economy come from new businesses, and the majority of America's net new jobs are created in firms less than four years old. Fifty-two percent of all new jobs are generated by small business people (9).

The following are three steps a community must take to get sustainable development off the ground (10).

Step 1. Stop Needless Outflows of Money and Talent

Think of the local economy as a bucket full of "liquid money." Every time someone in the Keweenaw spends money on anything that could just as well be provided from local sources—whether it be contract labor, durable goods, or services—it's like punching a hole in the side of the bucket. There are two ways to approach the problem. You can keep pouring money into the bucket—until the money runs out. Or, you can plug the leaks. Plugging the leaks not only saves money. It helps retain business and creates a community characteristic that can help attract desirable new businesses.

Build and Maintain a Skill-Matched Workforce

The availability of skilled labor is critical to sustainable development. One of the most common complaints in the Keweenaw is that we are exporting our young people, especially the most promising. This "brain drain" is repeatedly touted as a threat to the

vitality of our area. There is no question that many young people left the Keweenaw after the mines closed; that memory lingers on. On the other hand, it is not clear whether the current out-migration of youths from the Keweenaw is any worse than it is from other rural areas. This is a nationwide trend. Of the 1 million Americans who did so during 1986-87, fully one-third were young adults 18-24 years of age. We should recognize that a certain proportion of young people will always want to leave in search of unique work opportunities and cultural offerings that only large cities can provide (11). Nonetheless, whenever young people leave the Keweenaw against their wishes, we forfeit the investment we've made in their education and the promise they hold for innovative enterprise.

The essential problem is matching skills to business needs. We need to survey local businesses who have had to go outside of the Keweenaw to hire skilled labor to find out what skills they are looking for. Then we have to begin teaching local people those skills. We also need to work with the Michigan Employment Security Commission (MESC) and Jobs Training Partnership Act (JTPA) to find out what kind of skills current residents do have, how many are underemployed or working involuntarily outside their field, and what opportunities for advancement are in area business hierarchies.

One powerful strategy for building a skilled workforce is to plug into the alumni network of Suomi and Michigan Tech. How many times have you heard of Suomi and Tech grads who say they would like to stay in the area, but leave for better monetary opportunities elsewhere? No doubt many of these highly talented graduates now have their own successful businesses. If we had a "Keweenaw Reunion" business-development program specifically designed to reach out to these entrepreneurs, who knows how many might be induced to finally fulfill their dream of returning to the Keweenaw—and bring along a going business? Once back, they might be able to hire new local grads and further stem the brain drain. The Keweenaw is in a rare position to be able to attract clean, high-tech business: there is a large reservoir of successful, highly trained Tech and Suomi graduates out there who have had a positive experience with our area.

One of the bright spots in the *Jobs 2000* report is its emphasis on better workforce training (12). But we need more than just better technical or entrepreneurial courses. Environmental education and business ethics ought to be taught hand-in-glove with them, so young people entering the job market will be aware of ways to lessen the environmental impacts of their career choices and be able to form their own notions of social responsibility.

The big obstacle to building a skill-matched workforce is the Keweenaw's lack of a comprehensive vo-tech and continuing education program aimed at business needs. This is discussed in detail later in this report.

Connect Local Businesses to Local Suppliers

"Buy local" programs are a basic way to plug the dollar-drain out of a community. These strategies can take many forms. Local governments can give a preference (typically about 5%) to local firms bidding on contracts. Oregon has funded a local supplier-buyer matchmaking service. If local suppliers aren't available, the service helps interested firms become viable suppliers. Not only would connecting local suppliers to local buyers cut freight costs—a particular concern to the Keweenaw—but it could help start new businesses as local entrepreneurs recognize unfilled marketing niches.

Reduce Infrastructure Costs

Local governments in the Keweenaw can plug the leaks by being more efficient in the provision of services: any cost reductions here means more money in the taxpayers' pockets, and thus more money available to be pumped into the local economy. This can begin with individual government employees. They can be encouraged to think like a business owner, not a bureaucrat, by earning incentives for innovation. In Visalia, California, if city employees come up with an idea to save or make the city money, they get to keep 15% of the return, with no cap on the total.

Not only the political but the physical infrastructure can be made more efficient as well, with a relatively small capital outlay and quick payback times. Two simple examples: installing low-flow taps in all public washrooms could save hundreds of dollars' worth of water a year. And within government offices, an aggressive re-use and recycling program would save on office paper supplies with no loss in productivity.

Step 2. Support Existing Businesses and Local Control of Business *Visit and Survey Businesses*

Small and medium-sized businesses are left to watch with dismay as governments and quasi-private development groups hand out hundreds of thousands of dollars' worth of tax breaks, employee training subsidies, no-interest "loans," free land, and other enticements to big industry, while throwing a few scraps to them. If all this money and effort were directed at helping existing local businesses expand and solidify, the overall impact on the economy could well be just as dramatic with far less environmental and social disruption.

We need to establish a program where small and medium-sized businesses in our area are regularly surveyed to ascertain their special needs and problems. Teams armed with questionnaires could make regular rounds to ask local business people what is helping or hindering their growth and stability. Business people need help with a wide range of questions: property taxes, skills deficits, transportation, energy needs, affordable financing, zoning, and ever-changing government policies. The community as a whole also needs to know how business people feel about all these issues. In many states, such programs (called "retention and expansion" programs) are administered by the Cooperative Extension Service, and that could be done here as well. Or it could be sponsored by local Chambers of Commerce. It might be an ideal project for business students at Suomi or Michigan Tech. Or retirees with management experience might be used to coordinate business visitations, as has been done in South Carolina.

Start a Small-Business Networking Program

The Keweenaw has an abundance of groups—the Bureau of Industrial Development (BID), the Keweenaw Industrial Council, Operation Action U.P., and the Western U.P. Forest Improvement District, to name a few—that aim to help business. Some of them also provide excellent counseling and other services to prospective small-business owners. What we don't have is a mutual support network run by and exclusively for the existing smaller businesses which form the backbone of our economy. Many non-competitive costs these firms incur—printing, bookkeeping, legal matters, and so on—could be readily shared among network members. Such a network could be paid for by membership dues and user fees. A network coordinator could help arrange meetings

where business people would share experiences. By stressing cooperation in areas of mutual interest, all businesses benefit. Members of a small-business network in San Francisco suffered only a 5% failure rate over its first three years, compared with a 24% rate for area small businesses in general and a 38.5% overall rate (13).

Create Small-Business Incubators

Without some combination of outside mentoring and organized self-help, the failure rate of small businesses is, typically, quite high: nationwide, 80-90% become defunct within five years (14). Conventional lenders may not want to risk loans to unproven firms, so entrepreneurs pour their personal funds into the business in a make-or-break effort. Yet this is just when they are most prone to failure because they lack the business experience needed to make their vision work. One way to dramatically increase the success rate of small businesses is for the community to start a "business incubator."

A business incubator is a multi-tenant facility which offers rents below market rates, flexible space arrangements and leases, centralized services (such as shared secretaries) and equipment (such as photocopying and fax machines) at low cost, business assistance and training programs, and access to up-to-date business information. Tenants occupy the incubator only temporarily, during the critical first few years when high overhead and a lack of business experience do in many small firms. As they grow, they leave the incubator for their own quarters, and new firms replace them. Businesses nurtured in an incubator have an 85% success rate, rather than an 85% failure rate. Local development groups and universities have sponsored successful incubators from Vermont to Oklahoma (15).

Adapt Old Buildings to New Uses

Large vacant buildings, such as old schools, would be fine places for business incubators. An incubator would make an excellent adaptive use for a historic building in Calumet, providing the impetus for its restoration as well as helping revitalize the downtown. The Keweenaw has no shortage of structures that can be put to imaginative use. Adapting old buildings can often save entrepreneurs money in the start-up phase of their business. We agree with *Jobs 2000* that one of the prime tools of economic development in the Keweenaw is to re-inhabit many of the vacant, but still sound, old buildings scattered around the four-county area (16).

Revitalize Downtowns

Keweenaw residents need look no further than Sheldon Avenue and the Canal waterfront in Houghton to see a textbook example of downtown revitalization. Even though the M-26 strip has drawn off a few businesses, there are only a couple of vacant storefronts left, and the downtown is vibrant. City development projects should favor downtown areas over strip development. Incentives should be given to walk-in retail businesses, rather than offices, to fill Main Street storefronts. Strips should be discouraged in those towns which have none. The recently unveiled plans for the restoration of historic districts in downtown Calumet and Ontonagon should be pursued vigorously. Comprehensive management schemes for potential mushroom-growth areas, such as the US-41 corridor in Baraga, should be developed. Strict business zoning and sign ordinances need to be adopted and enforced. Market studies should be done to identify who shops local downtowns and why, and what they buy elsewhere and why.

Some village downtowns located far from the Houghton regional shopping center, such as L'Anse's and Mohawk's, may be able to add one or two key stores to fill local needs based on these studies.

Attract Businesses with a Stake in the Community

A key issue in economic development is ownership, since the owners have the ultimate power over whether the company stays or goes. Absentee operations are less likely to show community loyalty than locally owned firms. The latter tend to respond more to community needs and to reinvest more of their profits locally. In companies that are owned and run from afar, top management has little idea how corporate decisions affect local communities. Research shows that such firms are more likely to cut back the workforce during recessions than locally owned companies. They are also less likely to buy local services and goods (17).

The Keweenaw should aim for businesses that will be locally owned or controlled. The ultimate solution to this has been found by the community of Chippewa Falls, Wisconsin (population 12,000). There, 30 medium-level local investors got together to form a general partnership whose purpose is to invest in economic growth in the town. The partnership's first project was to buy a 55-person manufacturing company and move it to Chippewa Falls. The manufacturer has since expanded twice, using low-cost capital generated by the partnership. This ensures the business will have a continuing stake in the community (18).

Encourage Employee Ownership and Cooperatives

Employee-owned businesses are an increasing segment of the national total. According to *Business Week* magazine, by 1990 20% of all firms with over 500 workers will be fully or partly owned by employees; by 2000, some 25% of the workforce will be working in employee-owned companies (19). We in the Keweenaw have seen that employee ownership is not some pipe dream: the employee stock option plan (ESOP) at White Pine not only helped save the mine but turned out to be a good deal for many workers. If the occasion arises again where a company threatens to leave the Keweenaw or is faced with bankruptcy, assisting an employee buy-out might be a good strategy. Assistance can be obtained from the non-profit Industrial Cooperative Association in Massachusetts and the National Cooperative Bank in Washington (20).

A related form of business, the member-owned retail or producer co-op, has a strong tradition in the Keweenaw. Retail cooperative societies such as Settler's Co-op in Bruce Crossing and Pelkie Co-op in Pelkie are focal points for their immediate communities; other successful examples are Keweenaw Co-op in Hancock (whole foods) and Northern Cooperatives in Chassell (fuel oil). Producer co-ops could be reorganized to market agricultural commodities. Forming co-ops to deliver benefit packages to workers is also a good way to fill a need many small-business employees face.

Let Neighbors Exercise the "Right of First Refusal"

FOLK believes that neighbors should have the "right of first refusal" whenever a new industry or a significant change in land use is proposed for their locality. If people in the immediate area do not want such changes, promoters should not continue to pursue them. If people in the immediate area are in favor, then the debate should be broadened to take into account the interests of the wider community, since environmental impacts of land-

use change or new industry are never strictly localized, especially in the Great Lakes watershed. Neighborhood self-determination can be used as an initial screen-out for development ideas that may be inappropriate for the Keweenaw. In the current debate over the proposed pulp and paper mill, the residents of Arnheim–Keweenaw Bay have become the forgotten people. Their feelings about the attempt to turn their community into an industrial zone have been lost in the larger swirl of controversy. FOLK believes that the so-called Arnheim site should not be promoted for any industry, no matter how "clean," unless the community of Arnheim–Keweenaw Bay first gives its approval. If that were to happen, then the wider impacts of the conversion can be put to the test of obtaining approval from the regional community.

Step 3. Encourage Responsible Enterprise and Recruit Appropriate New Businesses

Capitalize on Green Consumerism

Green consumerism—that is, the purchase of environmentally benign products and the support of "eco-responsible" companies—is predicted to be a burgeoning trend in the environment-conscious '90s. According to a recent cover story in *Fortune* magazine, 77% of Americans say a company's environmental reputation affects what they buy. And forward-looking companies recognize that environmental regulations are only going to get tougher in the years to come because 79% of Americans want them regardless of their cost. So more and more companies are expected to embrace environmentalism, not as a cynical retailing ploy but as a philosophy that will be part and parcel of doing business. It's simply a matter of giving customers what they want (21).

The Keweenaw is a good position to capitalize on green consumerism. People throughout the country have a positive image of the "great North Woods": vast forests, clean lakes, and fresh air. They certainly do not associate paper mills and other heavy industry with this image. We have not yet begun to explore the potentially huge market for Keweenaw products that can be exported using our commitment to a clean environment as a conscious marketing strategy. Nor have we encouraged the development of locally owned value-added businesses that are compatible with environmental protection and thus can market their products using the positive image people have of the North Woods.

One way to do this might be to create a marketing consortium of local environmentally sound businesses. This "Clean Consortium" could develop its own product line and mail-order catalogue, selling everything from maple syrup to furniture to art and crafts. Similar marketing groups have successfully formed in the Hilltown region of western Massachusetts and in Carbondale, Colorado. The key thing would be to develop a logo and marketing campaign which emphasizes the image of the Keweenaw and its products as coming from a community committed to a clean environment. The very word "Keweenaw," which already enjoys a fair amount of name recognition in the Midwest, is a natural for marketing. The efforts of a Clean Consortium would dovetail nicely with current efforts to collectively market U.P. agricultural products and the "Say Yes to Michigan" campaign.

Educate Entrepreneurs

Any successful business owner will tell you that you need a good idea, hard work, and access to money to get a firm off the ground. Many people have one or two of these

ingredients, but few have all three. That's why the Keweenaw needs a continuing learning facility where prospective business starters can come for entrepreneurial education.

Entrepreneurial education should include much more than finance, marketing, and administration skills. It should bolster the ability to judge business risk and analyze opportunity. It should teach people where to go for help and to listen to constructive criticism.

And every entrepreneur's schooling should include environmental education and business ethics. We can no longer afford to train people to conduct their careers as if the bottom line were the only thing that matters. It is essential that the next generation of business owners be aware of the environmental impacts of their enterprise. Moreover, they need an ethical grounding to be able to make responsible decisions that will serve the greater good without sacrificing all profitability.

The unemployed and seasonally laid-off can also benefit from this sort of education because it teaches dislocated workers to rethink their abilities, career expectations, and self-image. It has been said that a true entrepreneur sees unemployment as an opportunity rather than an encumbrance. Many people in the Keweenaw have already adopted such an entrepreneurial outlook, using time off to engage in other work or subsistence activities (e.g., hunting, fishing, gardening) that do not provide income per se but do contribute materially to their families' welfare. We should not naively think that everyone's quality of life will automatically be improved by switching to an economy which relies exclusively on full-time, year-round employment. A realistic initial goal would be to use entrepreneurial education help people "fill in the edges" of our seasonal economy by extending on-season employment a few weeks at either end. Then they can pursue wage-paying off-season employment, if they so choose.

Recruit Appropriate New Businesses

The key word here, of course, is "appropriate." FOLK's position on what constitutes an appropriate new business is straightforward: it must be one whose impact on the environment is minimal and controllable, and one which is not so large as to be entirely out of scale with the small-business backbone of the Keweenaw economy. In other words, it must fit into our environmental, economic, and social parameters—not threaten them and disrupt the community.

Successful recruiting means attracting an appropriate new company that uses local resources, will fill its job rolls locally, doesn't involve major costs to entice, and is a viable business venture. To do this, a community first needs to identify what it has to offer that is better than its competition. As we've said before, the Keweenaw's greatest asset is its environment and the quality of life it provides. We must target companies more interested in this than in, say, a central geographic location or mild weather.

Certainly a central recruitment goal is to obtain more jobs. But merely chasing jobs is not enough. Will the work provided be challenging or menial? High- or low-paying? Safe or dangerous? Will the jobs be taken by local people or outsiders? If split between the two, will locals get the lowest-paying, most hazardous jobs, while outsiders get hired for the high-tech, big-pay positions? Do the jobs offer advancement or are they dead-ends? Will the jobs diversify the economy or tie it to a boom-and-bust cycle? Such questions are not addressed in standard development plans.

A second recruitment goal is attracting companies that will spin off new businesses

yet not eliminate other business opportunities. It is apparent that a huge pulp and paper mill on Keweenaw Bay would create secondary businesses in terms of new logging contractors, truckers, and the like. But it is also obvious that a mill would damage or destroy many existing businesses, especially in tourism, and would compete for trees with existing wood-product companies like sawmills, Horner Flooring, Northern Hardwoods, and so on. Beyond this, a Keweenaw pulp mill would preclude countless other business opportunities: every veneer-quality tree that goes to a pulp mill before it matures is one that is lost to an entrepreneur who wants to, for example, start a custom cabinetry shop. And of course, tourism could well be adversely affected by a mill (22). When judging possible recruits, it is paramount to weigh the net gains or losses in existing businesses and in business opportunities created or foreclosed.

A third, and in our view the most important, recruitment goal is environmental compatibility. As Barbara Cole of the Rocky Mountain Institute puts it:

A recruitment strategy needs to develop environmental goals. Most communities are looking for "clean" industry. Yet as local economies decline, some communities have considered attracting a new business that harms the environment. Civic leaders, facing revenue shortfalls, reason that attracting such firms may be permissible in the short run because the trade-off is high-paying jobs for community residents. The question that every community leader must address when they enter the recruitment game is, What are you willing to give up in order to attract a new business? . . . Will you allow hazardous or polluting industries as long as they meet state and federal regulations? Environmental change is long-term. How long-term is the economic recession in the community? (23)

To 2000 and Beyond—Building an Environmentally Sound Economic Future

In this section we look at some specific economic renewal options designed to maintain the capacity of the Keweenaw's natural resources to support diverse economic endeavors (24). In no respect are the following ideas all-inclusive; with some innovative, entrepreneurial thinking, the list could be extended almost indefinitely. Nor do we claim that any one of them is a panacea for the Keweenaw's economic situation.

Unemployment and Job Creation

The options we outline need to be set against the larger background of Upper Peninsula economic trends. Since 1983 the Upper Peninsula has been recovering from the recession of the early 1980s. It is important to note, as one analyst has put it, that the Upper Peninsula's economic problems of 1979-83 "do not reflect any relative weakness of its workforce, businesses, or business environment" (25).

Even though U.P. unemployment is currently declining, it remains a major concern to many area residents. Yet the Keweenaw is by no means the worst-off area in Upper Michigan. The annual average unemployment rates for 1988 and 1989 were (from highest to lowest):

1988	1989
(1) Mackinac, 18.0%	(1) Mackinac, 17.4%
(2) Schoolcraft, 13.4%	(2) Schoolcraft, 12.5%
(3) Luce, 10.9%	(3) Luce, 10.9%
(4) Iron, 10.2%	(4) Chippewa, 9.7%
(5) Baraga, 10.1%	(5) Baraga, 9.3%
Chippewa, 10.1%	(6) Delta, 8.1%
(7) Delta, 9.0%	(7) Gogebic, 7.9%
(8) Gogebic, 8.5%	(8) Iron, 7.7%
(9) Ontonagon, 8.4%	(9) Alger, 7.6%
(10) Alger, 8.3%	(10) Ontonagon, 7.5%
(11) Dickinson, 7.8%	(11) Houghton-Keweenaw, 7.0%
(12) Houghton-Keweenaw, 7.4%	(12) Marquette, 6.8%
(13) Marquette, 6.9%	(13) Dickinson, 6.5%
(14) Menominee, 6.6%	Menominee, 6.5%
All Upper Peninsula, 8.8%	All Upper Peninsula, 8.2%
Statewide, 7.7%	Statewide, 7.1%

At the end of 1989, there were 1,675 people on the unemployment rolls in the Keweenaw: 275 in Ontonagon County, 1,175 in Houghton-Keweenaw, and 225 in Baraga (26).

It is difficult to interpret these figures without getting hopelessly caught up in political rhetoric. In an absolute sense, of course, the numbers are far too high—everyone would like to see full employment. On the other hand, how many of these 1,675 have the qualifications or desire to work in a paper mill or ancillary jobs? Or would local hires at a mill be job switchers? If so, would currently unemployed people be able to fill those

newly vacated jobs? We need to get a picture of exactly who is unemployed, what skills they have, and what skills they need. What percentage of people on the rolls have steady seasonal work? Is this their preference? How many are chronically unemployed? We need to make multiple comparisons to get a true reading on how the Keweenaw is faring, not just relative to the rest of the Upper Peninsula or the state, but to (1) the Upper Great Lakes regional average, (2) the national average, (3) rural areas in general, and (4) those rural areas which have a well developed forest-products sector. The last two comparisons might well be the most meaningful.

Politicians traditionally characterize unemployment as *the* problem in the Upper Peninsula. But unemployment could be thought of as just a single facet of the larger issue of economic development. As Roger Vaughan has written:

Economic development is not just about jobs and income. It is about opportunity, and only a small part of the opportunities that matter to us are measured in economic statistics. Quality of life, safety, security, and choice are important to us all. Development in the U.P., therefore, means managing resources—natural, human, and capital—to balance commercial demands with demands for an improved quality of life and with demands for broader opportunity to participate (27).

From this perspective, unemployment is not *the* problem, but *one* symptom of a larger failure to provide people with choices in determining their worklives, and a failure to provide them with the skills needed to participate in meaningful employment—whether it be a salaried full-time job or some other wage-earning alternative. It is worth noting that there are employment opportunities with heavy industry in countless places around the country; people who want to pursue that choice are free to do so. But there are getting to be fewer and fewer places where people can fashion a worklife in an environment free from the environmental degradation associated with heavy industry. We feel this choice—though largely ignored or belittled by politicians and economic development officials—is every bit as valid as the jobs-at-any-cost mentality. It is a choice which needs to be preserved in the Keweenaw.

Perhaps it's better to talk about job creation trends rather than unemployment—to look at solutions rather than satisfying ourselves by oversimplifying the problem. Over the period 1983-88, there were 12,700 jobs created in the Upper Peninsula. The retail sector added 3,700; services, 2,800; government, 1,800; mining, 900; construction, 600; finance, 500; pulp and paper, 200; and wholesale, 200, with the balance scattered among other categories. The trend is that almost all new jobs in the Upper Peninsula will be created by local residents. Many of these jobs will be in new businesses. In 1988, 15% of the Upper Peninsula workforce (15,303 people) were employed in firms created since 1982. Since total job growth during this period was only 12,700, that means that new businesses accounted for 120% of the net jobs created. The U.P.'s ongoing economic recovery would not be occurring without this surge in new business employment—most of it in small and medium-sized firms (28). Many of the options outlined in this report are aimed at strengthening appropriate new business activity.

Economic Renewal Options: Forestry and Forest Products

The time involved in the growth and maturation of forests transcends human generations, so understanding them demands a historical perspective. To sensibly manage a woodlot, one must look further into the future than the next quarterly report.

Like most of the Upper Midwest, the Keweenaw's virgin forests were thoroughly cut-over during the 19th century. And, as the well-known Jaakko Poyry study points out, private forest owners in Michigan have yet to really manage our forests for sawtimber: our ancestors liquidated the virgin growth, and, after a hiatus, we for the most part have been engaged in liquidating the highest-quality second growth (29). Of course, some tracts have been well managed; one woodlot near Camp Seven off the Tapiola Grade remains a beautiful hardwood stand in conjunction with having been logged several times over the past 70 years. The state has managed for hardwood sawtimber for many years, and there are some beautiful stands on state land that produce very little pulpwood.

The forestry problems seen in the Keweenaw have also been felt all over the world as more and more previously inaccessible virgin growth is being cut. For example, the Forest Service has allowed extensive felling in Alaska's Tongass National Forest, which is distinguished by old-growth yellow cedar. This wood, which is free of knots and has a remarkable resistance to rot, is coveted by boat builders. Yet the Forest Service's logging permits are such that they encourage pulp companies to log the cedars for paper (30). Similarly, in the Keweenaw we have to ask ourselves whether it is intrinsically better for our northern hardwoods to be devoted to durable goods or to paper—especially when it is becoming more and more difficult for American cabinetmakers and other fine-woodworking outfits to find suitable stock.

The Keweenaw is at the center of one of the better northern hardwoods forests in the world. Yet we have known since at least 1977 (the year the Jaakko Poyry study was published) that the condition of the Keweenaw's production forests, with respect to hardwood sawtimber, is in decline. In fact, much of the conventional wisdom about forestry in our area was first articulated in that study: that there are too many trees per acre; that their quality is low and their diameter generally too small; that investment in forestry and forest-products development is not high enough; that tree removals are too few; and that there is an over-utilization of high-quality hardwood coupled with an under-utilization of small-diameter hardwood. This led Jaakko Poyry to conclude that the area's forests are "deteriorating" (31).

Is this conventional wisdom, which we hear over and over again, accurate? Two observations can be made. First, the Jaakko Poyry study is extremely thorough and thoughtful. It is also, however, strictly utilitarian in its analysis. There is no discussion of the ecological value of *in situ* forests. Forests are considered as a standing crop of fiber rather than as a complex ecosystem endowed with many values other than the capacity to produce timber and other wood products.

Second, the study is now very much out-of-date, if for no other reasons than the building of the Champion pulp and paper mill at Quinnesec and the James River chipping mill at Amasa, the expansion of Mead in Escanaba and Stone Container in Ontonagon, the increased sales to pulp mills in Wisconsin and Minnesota, and the new waferboard plant at Sagola. These developments have dramatically changed the forestry equation in the western Upper Peninsula, but no one—either in the government, industry, or the environmental community—really knows how much. The last ground survey of the western U.P.'s forests was in 1978-79. (The U.S. Forest Service 1987 update is a computer-based estimate.) Between 1980 and 1987 industrial use of pulpwood in the western U.P. doubled (32). This is reflected in much higher stumpage prices. The increased level of demand will still need to be met for decades ahead. Its effect on current annual growth has yet to be assessed. The public's desire for more multiple-use of

state and national forestland also increased tremendously in the 1980s, and shows no signs of letting up. Sawlog and veneer log prices are escalating because of the emergence of an international export market. This trend seems likely to continue too.

A Comprehensive Forest Assessment

Before any significant new industry based on pulpwood is established in the Keweenaw, there needs to be a comprehensive forest assessment done for the western Upper Peninsula. The assessment would include an updated, realistic inventory of the volume of wood annually available for harvest. Supply estimates made to support a large Keweenaw pulp and paper mill (demanding 750,000 cords per year) grossly overstate actual timber availability in our region. These estimates are based on U.S. Forest Service inventories which essentially include all trees in all stands. But by no means is 100% of the standing tree stock available to be cut. In reality, there are many limiting factors on cutting, and the volume suitable for responsible, sustainable harvesting is far lower. In a realistic inventory, these limiting factors would be accounted for, quantified, and deducted from the overall estimate. They include:

- Recent industrial expansion (e.g., Quinnesec, Sagola, etc.) and projected future demand for pulpwood from these factories.
- Increased sales to pulp-and-paper mills in Wisconsin and northern Minnesota.
- Potential increases in residential and industrial use of wood as fuel. (Higher demand for pulpwood may also mean local people will have to pay higher prices for firewood.)
- Stand marketability.
- Critical habitat areas, including wetlands, game and nongame habitat, and endangered or threatened species habitat.
- Land where logging is limited because of steep slopes, small stand size, or soil constraints.
- Adjustments based on a survey of the attitudes of small nonindustrial private forest owners. Many are averse to timber harvesting, particularly clearcutting for pulpwood.
- Riparian and lakeside buffer restrictions. Logging adjacent to streams and other bodies of water is restricted to reduce the amount of unacceptable environmental damage.
- Multiple-use set-asides in public forests (e.g., wildlife openings in National Forests). Some areas have been made off-limits to logging to preserve other forest values.
- Minimally operable tract sizes. Twenty to forty acres is the minimum needed to make modern mechanized pulpwood logging profitable.
- Limitations to timber harvesting posed by recreational uses such as campgrounds; ORV, hiking, skiing, and snowmobiling trails; and other recreational developments.
- Timber land that is nonstocked or poorly stocked.

FOLK believes a realistic inventory would show that the western Upper Peninsula is closer to having a fully utilized market for pulpwood than is generally conceded. Pulpwood stumpage prices are now rising for stock in easily operable stands. This reflects a greater demand and lower supply of pulpwood than those figures which have been generated to support the siting of a pulp and paper mill in the Keweenaw. If there

were such a large surplus of pulpwood in operable stands, we would not be seeing rising prices even in the face of increases in demand from existing industrial users in the region.

Poletimber Management Strategy

Central to any discussion of western Upper Michigan forestry issues should be a comprehensive strategy for better management of hardwood poletimber forests. To assume, as some have, that an increased market demand for pulpwood would by itself inherently result in better management of hardwood poletimber is both overly simplistic and naive. Relying solely on rising prices to promote improved poletimber management could very well result in mismanagement and liquidation on many of these lands.

A comprehensive strategy for sound poletimber management should have numerous initiatives and incentives for promoting the development of healthy sawtimber forests from our presently undermanaged poletimber lands. Possible tax incentives that might be employed to encourage poletimber renovation could be patterned after the federal government's amortization program for reforestation. Amendments to the Commercial Forest Act could contain special tax reductions in return for managing these woodlots. The local Forest Improvement District might establish a tax incentive program to promote desired practices, as they are empowered to do under the Forest Improvement Act. A supply-balanced increase in demand for poletimber woodlot products could have a beneficial effect if new utilization facilities establish a concrete procurement policy. Such a policy should support selective management of hardwood stands. Procurement policies might best be implemented and administered if they were made part of any government grant or tax abatement program.

Also, different governmental administrative programs have been successful in poletimber management. In the 1970s, the Ottawa National Forest carried out (on a contract basis) a very successful timber stand improvement program for its smallest-diameter forests. For many years the Department of Agriculture has had the Forest Improvement Program. It has been beneficial to private woodlots that qualify.

FOLK does not feel that these suggestions for poletimber stand management are all-inclusive. These are but suggestions for dealing with a complex situation that has no simple answer. Hardwood timber lands are one of the region's greatest resources and they are worth every effort to ensure good management. There are very few resources that are more sustainable and have such a promising economic future as well-managed hardwood forests.

Environmental and Policy Issues

The comprehensive forest assessment FOLK is calling for would be more than just an inventory and poletimber strategy, however. It would also contain environmental evaluations of current forestry practices, including:

- An analysis of pulpwood clearcutting vs. selection management as they relate to multiple-use demands on public and private forests.
- A thorough comparison of future product value and job creation between selective harvesting and clearcutting on hardwood timber lands.
- A thorough analysis of the environmental consequences of converting natural hardwood stands to softwood monocultures.
- The potential depletion of soil nutrients caused by clearcutting and whole-tree

harvesting.

- The need to reinstate and expand the Cooperative Extension Service's Forestry Extension Agent program.
- A discussion of the likely effects of global warming, acid rain, and continuing land-use change on the U.P.'s forests.

Finally, the assessment would look at two policy questions which are vital to determining the future of forestry in the western U.P. One is the need for a Forest Practices Act in Michigan. The Michigan Society of American Foresters recently published a set of voluntary forest management guidelines which would make an excellent starting point for framing a Forest Practices Act (33). The other is the effect the Commercial Forest Act (CFA) is having on our tax base, including a critical inquiry into whether harvest taxes are being effectively collected. The most recent figures show that the four-county area loses \$1,749,000 in tax revenues each year (compared with the *ad valorem* rate) because of tax reductions given under the CFA (34). Given the CFA's current structure, it is an open question whether the forestry benefits it is supposed to be encouraging are worth this large drain on our tax base. The intent of the CFA is to promote sound timber management, but despite this we continue to see CFA-subsidized lands abused and mismanaged.

Obviously, the questions of forest management and tax breaks are closely linked in the marketplace, and therefore should be in the law as well. Under Wisconsin's new Managed Forest Law, for example, to qualify for tax breaks one's lands must be managed according to a long-term plan which embraces sound forest practices. This plan is jointly formulated and agreed to by the landowner and the Wisconsin DNR, and includes management not only for timber but for other forest resources. Current considerations for amending the CFA should reflect some of the concepts in Wisconsin's law.

To summarize, a comprehensive forest assessment would recognize that: (1) conventional "sustained-yield" forest practices employed in the U.P. over the past several decades may not, in fact, be sustainable over the long run; (2) industrial use patterns in the western U.P.'s forests have changed dramatically over the past decade and are likely to continue to change; (3) the region's forests must be considered not merely as a crop of fiber, but as a complex ecosystem providing a multitude of resources to an increasingly diverse group of users; (4) inventories of harvestable stock must account for this increased industrial and multiple-use demand; and (5) economic, environmental, and policy factors must all be considered together when deciding the course of future forest-products development in the Keweenaw. FOLK thinks a comprehensive forest assessment should be carried out by a partnership of the DNR, U.S. Forest Service, other pertinent agencies, independent scientists, environmental groups, private industry, and concerned individual citizens.

Specialty Products or Commodities?

We agree with the Jaakko Poyry report that, insofar as managing for wood production goes, the emphasis should be on developing stands of high-quality hardwood sawtimber. Jaakko Poyry emphasized durable-goods mill complexes as the way to achieve this, rather than pulp and paper making (35). Ironically, despite the widespread respect accorded their study, few of their recommendations seem to have been followed.

If the forestry emphasis is to be on hardwood sawtimber, then the forest products emphasis should be on quality specialty products, not just commodity products. The risk

of forest ecosystem degradation is far lower when production stands are selectively managed for sawtimber. This means that ecosystem services (e.g., erosion control, watershed and stream-flow maintenance, etc.), recreational amenities, biodiversity protection, and other forest values will be intact continuously. In a global forest-products marketplace, pulp can be obtained from any number of sources. But we in the Keweenaw are the stewards of a scarce resource—our northern hardwood forest, which is a relatively rare forest type. This makes us uniquely positioned to produce high-quality lumber and veneer. The problem with looking for a quick fix to liquidate any excess small-diameter growth in our forests is that once demand for pulpwood is created, it can't be turned off like water from a tap. In short, if we adopt a pulpwood mentality, we'll end up growing pulpwood in our forests, not sawtimber.

Assuming the comprehensive forest assessment is carried out, FOLK believes the best short-term course for forest-products development in the Keweenaw is to encourage three things: (1) the siting of a veneer mill, which will help establish a sawtimber mentality; (2) the creation of environmentally sound industries which use smaller-diameter timber to produce specialty products; and (3) the pursuit of a sound poletimber management strategy.

Spotlight Idea: The System 6 Mill

This sawmill is a low-cost opportunity for small-scale manufacture of wood blanks that can be used in the laminate process. The System 6 will cut, grade, and sort timber in one pass. It can process poletimber as small as four to six inches in diameter. This means that much of what is now classified as fiber can be put to a much higher and more valuable use as a laminated product. The System 6 can also gang-saw a total tree length using the top short peices for valuable #1 lumber to laminate. These capabilities make the System 6 one of the most economical mills to operate today's marketplace. It could operate as a stand-alone or be integrated into a forest products complex, as described in the next option.

Spotlight Idea: A Small-Diameter Integrated Forest Products Complex

This option hinges on integrating a moderately sized sawmill, kiln-drying facility, and an array of small or medium-sized independent (yet consolidated) business ventures. These businesses would market a variety of forest products (see diagram, next page). The sawmill would be designed to utilize small-diameter logs commensurate with the need to use forest improvement by-products; a System 6 mill may be appropriate. It would also need the capability to saw large-diameter logs as availability increases, as well as solid logs referred to as "culls" which are now often left in the woods because few mills will buy them.

A moderately sized veneer mill could eventually be added to the complex to complete the base line of raw material transformation into products usable by the independent business structure. The consolidated raw material storage and wholesaling yard would serve as an outlet for such things as logs suitable only for pulp and veneer logs before installation of a veneer mill.

Many of the problems associated with operating a small business in the Keweenaw would be addressed by the consolidated approach which this system provides. These include materials procurement, product painting and finishing, warehousing, display,

marketing, and transportation. This type of system eliminates the major vulnerability of large, single-product industries through its built-in diversity.

Spotlight Idea: A Veneer Mill

Michigan Technological University's Institute of Wood Research (IWR) recently completed a preliminary study of the feasibility of building a veneer processing plant in the Keweenaw. IWR found a small but unsatisfied demand for high-quality sliced veneers for doorskins, furniture, architectural woodwork, and export. The main species harvested would be hard maple, yellow birch, and basswood.

IWR surveyed veneer log producers and brokers and asked them to estimate the annual volume of veneer logs that could be produced sustainably from the western U.P.'s forests. Their estimate was 18 million board feet, a significant increase over the Forest Service's 1984 estimate of 11.5 million board feet. According to IWR, the main reason for the increase has been the strengthening of the veneer market, embodied in higher selling prices, more cutting, and a broadening of standards as to what constitutes veneer quality.

FOLK agrees with the recommendations of this preliminary report. A detailed feasibility study should be undertaken to look at the possibility of siting either a slicing operation (capital costs of less than \$2 million) or a full-blown veneer mill, which would cost \$7-10 million (36). We believe that shipping made-in-the-Keweenaw value-added veneer products is a much more responsible course than allowing whole logs to be exported overseas or to mills elsewhere. Moreover, building a veneer mill would help establish a "sawtimber mentality" for production forests in our region.

Spotlight Idea: Mail-Order Modular Furniture

The Jaakko Poyry study touts furniture as an excellent value-added specialty product that the Upper Peninsula is in good position to capitalize on (37). In the U.P., 100 new furniture-making jobs have been added to the workforce since 1983, many in new small companies meeting the growing demand for handcrafted household furniture. We need to train more local people for this skilled opportunity. One U.P. manufacturer has had to contract out work to Illinois because it could not hire enough people locally (38).

One possibility to diversify this segment of the forest products industry would be to establish an integrated hardwood-plywood mill complex and use it to feed a network of small modular furniture assembly shops scattered around the Keweenaw. The phenomenal success of the IKEA modular furniture company in Canada, where every piece is Scandinavian-designed and screws together, is a testament to the mass market for low-cost furnishings that can be disassembled and moved easily as families become more mobile.

Since the local market for furniture will always be small, the entire operation could be geared toward mail order. IKEA does not currently do mail orders, but a much pricier American company, Conran's of New York, does. A Keweenaw-based operation could wed the two ideas: modularity and mail-order. A wide variety of styles (such as Early American and Country) could be developed. The furniture line could target several market niches and be sold either as part of a Clean Consortium or on its own, with a separate logo and advertising. If a Keweenaw Learning Center, vo-tech school, or community college is established, it could be used to feed designers, woodworkers, and assembly crew into the network.

Other Options

In addition to the ideas spotlighted in this section, FOLK's Forest Products Subcommittee is currently involved in feasibility and environmental studies of several other forest products industries. They include composite board manufacturing (medium-density fiberboard, or MDF; oriented strandboard, or OSB; chipboard, flakeboard, etc.) and the DAPROMA "compact particleboard" system. One problem that has surfaced with regard to siting a large-scale composite board project in the Keweenaw proper is that these industries require an extensive adjacent procurement zone. The fact that the Keweenaw is surrounded by Lake Superior greatly reduces our adjacent procurement zone. This suggests that more economically feasible site locations would be found elsewhere. Nonetheless, the Forest Products Subcommittee's investigative research into these options is an ongoing process. FOLK is against the siting of a pulp and paper mill, but will neither endorse nor oppose any other new forest products industry in the Keweenaw unless and until a concrete proposal is presented.

Economic Renewal Options: Tourism

Current Trends in U.P. Summer Tourism

According to Northern Michigan University's (NMU's) 1989 survey of summer tourism in the Upper Peninsula, 82% of the people visiting the U.P. are coming for pleasure only. About 40% of the total number of tourists are repeat visitors who are returning because they enjoyed a previous trip to the U.P. By contrast, advertising in and of itself influences relatively few people to visit—less than 10 percent. In the summer of 1989, tourists to the western Upper Peninsula spent an average of \$68 per day on their trip. Since the average length of a stay in the Upper Peninsula was 6.6 days, every tourist party to our area spends about \$450 on their trip. These tourists average 3.8 trips per year to the Upper Peninsula; therefore, they spend roughly \$1,700 apiece in our area every year (39).

In the four-county Keweenaw area, tourism spending amounted to \$65.3 million in 1986—about 11% of the Upper Peninsula total (40). These expenditures created 1,358 jobs with an overall payroll of \$12.2 million, or an average of \$8,984 per job. These jobs account for 3.2% of the total employment in Baraga County, 8.4% in Houghton and Keweenaw counties, and 9.2% in Ontonagon County (the Upper Peninsula average is 14.6%, and the statewide average is 3.7%). In the Keweenaw, tourism generated \$570,000 in local taxes in 1986 (41). In the Upper Peninsula as a whole, tourism is becoming very important, supporting one job out of every seven and payrolls of \$158 million (42).

There is no question that the vast majority of the repeat visitors to the Keweenaw return to our area specifically because they enjoy our natural environment. A 1988 survey taken at the Mackinac Bridge found that 81% of tourists come to the Upper Peninsula to enjoy a natural attraction (43). NMU's 1989 summer tourism survey determined that "these findings are further supported by this year's study, as the scenic beauty of the Upper Peninsula lakes, shoreline, forests, and other natural attractions accounted for most general attraction responses." Ultimately, the survey concluded, "the quality of the environment is the basis of the healthy and growing tourist industry" (44). Though winter tourism has not been surveyed, it seems likely that this conclusion holds true for it as well.

Future Directions in Tourism Marketing

The Keweenaw should take a two-pronged tourism marketing approach. Our number one asset is our natural attractions: Keweenaw Bay, the Sturgeon River Gorge, Silver Mountain, the Porkies, the Superior shoreline—the list could go on and on. So the dominant marketing theme, one which should be driven home in every advertisement, is that the Keweenaw is one of the last places in the Midwest with a clean environment—and that we are working to keep it that way. The secondary theme is our area's history. Attractions such as the proposed Calumet-Quincy National Historical Park and Copper Country Heritage Reserve would sway some people who are looking for a more diverse package than just the standard North Woods camp-out vacation. They might be the things that make these people choose the Keweenaw over, say, the Boundary Waters or Tahquamenon Falls.

Although people heading for the western Upper Peninsula tend to spend a little more time on their trip than those going to the eastern end, nearly two-thirds of the tourists coming to the Upper Peninsula are spending a week or less on their entire trip, including travel time to get here. It seems likely that people are planning fewer "destination" vacations—that is, making trips to a single place and staying there the whole time. Consider also that downstate residents make up by far the largest class of tourists to the Upper Peninsula, yet most of them get no farther than central and eastern destinations (45). The Keweenaw should adopt a "Stay an Extra Day" strategy in its downstate marketing, perhaps something along the lines of "Don't come all the way up to the U.P. without taking an extra day to come to the very top—the Keweenaw" etc.

Tourism marketing should also focus on Chicago. Wisconsin has marketed itself very successfully in the greater Chicago area with the theme "Escape to Wisconsin." But Illinoisians have begun to saturate Wisconsin destinations. Now, picture a billboard along an expressway going into the Loop: a stunning scenery shot, perhaps the Lake of the Clouds, or a view across Keweenaw Bay to the Hurons, or maybe looking down from Brockway over Copper Harbor. The sign says "Michigan's Keweenaw—The Ultimate Escape. . . Give us a little of your time, and we'll set you free. . . ." followed by a toll-free information number.

The power of a successfully targeted ad campaign should not be underestimated. Marquette County has experienced a phenomenal 264% increase in tourism spending between 1983 and 1986—a growth rate exactly eight times higher than the statewide average. Almost \$150 million was spent on tourism in Marquette in 1986, more than twice as much as was spent in the entire four-county Keweenaw area (46). Some of this is attributable to Marquette's being a regionwide shopping center, but we need to study how Marquette has targeted its "Come on Up to Marquette Country" theme.

Managing Tourism's Growth

The flip side of tourism is what has happened to Traverse City. Twenty-five years ago Traverse City was a delightful mid-sized town. Surrounded by cherry orchards and small farms, it served as a regional shopping center. Its people made a satisfying living from this business, along with catering to a moderate influx of "summer people" and a few skiers and snowmobilers in the winter. Over the past two decades, Traverse City has been discovered—in a big way. Now the main thoroughfares into town are disfigured by a series of fast-food restaurants, chain motels, "goony golf" emporiums, and a giant hotel-

resort complex completely out of scale with everything around it. Not one of these "advances" has anything to do with the natural bayside environment which was Traverse City's greatest charm. Instead, what this unmanaged growth has done is to turn Traverse City into an upscale, congested, overpriced tourist town whose former charm and character is gone.

As far-fetched as it may seem now, there is the potential for this to happen in the Keweenaw. Few towns are more picturesquely situated than L'Anse-Baraga, Houghton-Hancock, and Ontonagon. We need comprehensive and consistent zoning regulations that will channel tourism growth in such a way so the Keweenaw retains its equity-based culture and not become another Traverse City.

Transportation and Tourism

There is another reason why we cannot sanguinely sit back and think that tourism is the "clean answer" to all our economic dreams. The Keweenaw is far enough away from major population centers to make our tourism industry vulnerable to sharp rises in the price of gas. There seems little doubt that the price of oil will inevitably rise. And the likelihood is that it will rise dramatically, perhaps soon—possibly within the next decade. We must be ready for this "new energy world" when it arrives, or our tourist industry will be in serious trouble. We need to push for better mass transit to the Upper Peninsula, and to get the state tourism hierarchy to at least start thinking about how to market tourist destinations using mass transit.

The Keweenaw has traditionally relied heavily on promoting fossil-fueled tourist activities: power boating, hydroplane races, the POR, snowmobiling, dirt-biking and ORV use, mud-bog rallies, automobile-based sightseeing, and so on. These activities are undeniably popular, and they will no doubt continue to compose a very important segment of our tourist industry. But their environmental impact has for the most part gone undebated. At the very least, we should make more of an effort to diversify tourism by striving for a more balanced mix of fossil-fueled and human-powered recreation. Activities such as hiking, mountain biking, cross-country skiing, nature study, and so on have enormous economic potential. In fact, "eco-tourism" is one of the fastest-growing segments of the industry.

Wildlife, Forest Cutting, and Recreation

We hear the common refrain that forest cutting is "good for wildlife" because it creates more edge habitat. This may be true for a few favored game species. But several recent studies have shown the breakup of contiguous forests in North America has seriously hurt some songbird populations (47). A 1989 study of 62 migrating songbird species conducted by the U.S. Fish and Wildlife Service found population decreases in 44 species (71%), of which 20 (or 32% of the overall total) were significant. The populations of remaining 18 species (29%) rose, but only 4 of these (6%) were significant. The study concluded that forest fragmentation in North America, combined with deforestation and pesticide poisoning in the birds' wintering grounds in Mexico and the Caribbean, caused the changes in population (48). Other studies have shown that forest fragmentation in the U.S. provides access for predators and parasites and thus is an important cause of declining songbird populations (49).

The point is that there is much more to wildlife than just deer and other game animals. The whole wildlife issue as it relates to forestry needs to be re-examined in light of

concerns about declining biodiversity. Many landowners might manage their property to enhance biodiversity if they had advice on how to do it. We would like to see the newly formed Upper Great Lakes Biodiversity Committee become involved in this issue. The committee is an independent entity made up of 16 people who represent a cross-section of state and federal natural resource agencies, the forest products industry, and conservation groups. It is charged with encouraging landowners to manage for biodiversity, identifying pertinent biodiversity issues, and fostering research and teaching (50).

The economic value of a maintaining a diversity of wildlife in a healthy forest ecosystem is enormous (51). The forest itself provides myriad "ecosystem services" whose economic value is incalculable—and thus, ironically, undervalued. Standing natural forests regulate rainfall run-off, ameliorate drought, prevent soil erosion, control sedimentation of waterways and reservoirs, ensure drinking water supplies by conserving precipitation in the hydrological cycle, and play a vital role in regulating and offsetting human-caused pollution such as industrial toxics and greenhouse-gas emissions (52).

Wildlife diversity is the basis for a multibillion-dollar industry based on nonconsumptive recreation such as backpacking, birdwatching, nature study, and photography. Over the period 1976 to 1980, nonconsumptive wildlife-based recreation in the U.S. and Canada was worth \$6.6 billion. This was far less than the \$23.5 billion spent on hunting and fishing, but participation in nonconsumptive recreation is growing whereas the number of hunters and anglers is leveling off (53). Keweenaw tourism promotions have catered heavily to hunters and anglers, an undeniably lucrative market. But can we afford to keep giving short shrift to 22% of the total wildlife recreation market? And since nonconsumptive participation is growing, that 22% is getting larger, even if per-capita spending remains less than in the consumptive sector.

Spotlight Idea: Making the Keweenaw the Midwest's Premier Cross-Country Ski Destination

We think the thrust of ski development in the Keweenaw should be toward cross-country. We have the finest cross-country skiing conditions in the Midwest, yet nothing like the extremely popular inn-to-inn ski trails that bring thousands of visitors to Vermont and New Hampshire each winter. We advocate winterizing the Keweenaw Mountain Lodge and making it the centerpiece of a cross-country ski resort complex in Keweenaw County. The Lodge's magnificent setting would be a major drawing card for the Midwestern cross-country ski market. The golf course could be laid out for beginner trails, with more difficult day loops leading out from there. Guests could ski down to Copper Harbor for lunch at one of the restaurants, and then back in a day; or they could stay overnight at one of the motels there. An inn could also be established at Bete Grise or Lac La Belle. The key to making this plan work is to establish a chain of "satellite hostelries," preferably small inns or bed-and-breakfasts, stretching all the way from, say, Calumet-Laurium up to Copper Harbor. There is a strong appeal about staying in a different place each night, and this is what makes New England skiing unique.

These satellite hostelries could also serve snowmobilers, though it is vitally important to develop an entirely separate cross-country trail network and segregate it from snowmobile trails as much as practicable. Cross-country skiers prefer quiet and solitude, which are difficult to obtain when trails are shared. Furthermore, the cross-country trails would have to be groomed, which is another reason to keep the two networks separate. On the other hand, it makes sense to establish a common distance-

and-direction signage system for both networks, and, in addition, difficulty signage for the cross-country trails.

One possibility for marketing cross-country skiing at the Keweenaw Mountain Lodge would be to issue a "snow guarantee": between December 15 and March 15, guests at the Lodge would get a percentage of their room charge refunded if there were no skiable snow. The guarantee period could be extended, with a sliding scale of lower discounts for the "iffy" early and late snow season. The Lodge could also offer related activities such as snowshoeing and ice skating.

The dual trails network could be marketed in the summer as a trail system for mountain biking. Off-road bicycles are the fastest growing segment of this industry, and again, the vast array of old logging roads, railroad grades, and snowmobile trails make conditions in the Keweenaw as fine as any in the Midwest.

Other Tourism Priorities

- Establishing the Calumet-Quincy National Historical Park and Copper Country Regional Heritage Reserve (54).
- Public acquisition of key waterfalls.
- Developing more hiking trails on public land.
- Promoting wildlife viewing through an environmental education center.
- Supporting Ojibwa heritage activities (under KBIC control).
- Designating underwater preserves for sport diving.
- Creating better opportunities for canoeing, sea kayaking, sailboating, and sailboarding.
- Establishing Outward Bound-type programs.

Economic Renewal Options: Education

Gaps in Lifelong Learning and Vo-Tech

There are two significant gaps in the schooling available to Keweenaw residents. One is the lack of a facility devoted specifically to lifelong learning, a place where the adult public and school groups can go for environmental education, studio classes in the arts and crafts, and other enrichment offerings. The Keweenaw already has good continuing education programs, but it is scattered among school districts. There is no physical focus. The second gap is the lack of a vo-tech and entrepreneurial school whose curriculum is tied in with business opportunities in the Keweenaw so that graduates have a better chance of being able to find a job in the area. Again, there are some vo-tech offerings geared toward local residents and locally needed skills, particularly at Suomi (nursing, law enforcement, hotel and restaurant management), but the lack of a separate vo-tech school imposes some limitations on education delivery.

Average education attainment in the U.P. is fairly high (55). Yet we still need to attack certain core problems (such as functional illiteracy and low mathematics ability) that plague some of those who hold diplomas. The economic returns we would reap from these basic investments in education are incalculable. As a recent report commissioned for the Michigan Department of Commerce points out, in the U.P. and all across the country we are seeing the emergence of a two-tiered labor market. In one—the market for skill-matched, flexible workers—opportunities abound, unemployment is low, and real incomes are rising. In the other—the market for unskilled labor—jobs are dwindling, unemployment is chronic and ineradicable, and poverty is growing. "Investments in

people," the report says, "in their ability to read, reason, and solve problems, are becoming more important than investments in plant and equipment" (56).

Spotlight Idea: The Keweenaw Learning Center

It has been proposed to turn the former Calumet Air Force Station into a Keweenaw Learning Center (KLC). The KLC's programs are designed to help fill the need for meaningful, permanent employment for residents of the Keweenaw by helping foster new jobs in a wide variety of areas, jobs that require a range of expertise. As it is now envisioned, the primary goal of the KLC is to educate people in a range of skills that will better equip them for meaningful work and will enhance their confidence and self-worth. The KLC would use local residents who are currently un- or under-employed as educators in the older sense of the word: as masters passing on skills to apprentices, who in turn would educate others. There is no shortage of such people in the Keweenaw—many of them are retirees.

The KLC could offer vo-tech training in many areas, such as auto mechanics, boat and canoe building, cabinetry, carpentry, cement work, clerical skills, computers, electrical work, food prep, health care assistance, house painting, plumbing, sheet metal work, and welding. It could offer enrichment programs in child care, housekeeping, interpersonal relations and self-help, sewing, woodworking, furniture design, and so on, as well as studio programs in batik, craftwork, creative writing, dance, music, painting, pottery, sculpture, and theater. Perhaps most important, it could function as a much-needed environmental education center, offering, for example, a hands-on museum, interpretive trail, and course and field work in astronomy, ecology, and weather lore.

Later on, the KLC could expand into becoming an "innovation center" where local people and experts-in-residence would work together to find alternative, environmentally sound solutions to regional resource issues. Since the Keweenaw is one of the coldest and snowiest places in the continental United States, the KLC could become a center for research into, say, more efficient wood stoves; cheaper methods of snow removal; solar energy solutions for a cold, cloudy climate; and environmentally compatible housing keyed to conditions in the Upper Midwest (57). Since forests are so important to the western U.P., FOLK believes it is imperative for the public to receive better education about forest ecology and timber management. This could be carried out through the KLC or in public schools. The Cooperative Extension Service's forestry education program, which was ended a few years ago, should be reinstated.

We agree with the *Jobs 2000* report that a community or junior college is needed in the Keweenaw (58). The KLC could perform some of the functions of such a school, but other options ought to be considered as well. The vocational education committee of the Copper Country Intermediate School District is considering calling for a junior college. Or Suomi's Baraga extension service, which already provides valuable education to the Keweenaw Bay Indian Community, might be used as the nucleus of a community college. Whatever type is chosen, we think priority should go to Baraga County or Ontonagon County since they are far from current educational facilities.

Economic Renewal Options: Telebusiness

Fax machines, modems, WATS lines, teleconferencing, and E-mail are just a few of the technologies behind the revolution in telecommunications. Add to this the explosion in overnight delivery service, express mail, and expedited package shipping. All this is

making it possible for certain service companies and retailers to locate their operations anywhere they choose, including small towns in remote rural areas. In Breda, Iowa (pop. 502), 43 people work for an insurance company selling credit cards by phone. A major travel agency uses 40 agents to run its computer reservations system out of Linton, North Dakota (pop. 1,561). Warranties for home appliances are processed in Carroll, Iowa (pop. 9,705) (59). Magazine subscriptions are tracked out of Marion, Ohio (pop. 37,040). One of the largest mail-order retailers is L.L. Bean, whose outdoors equipment is sold out of Freeport, Maine (pop. 1,822). Land's End, a very successful mail-order clothing merchant, is headquartered in Dodgeville, Wisconsin (pop. 3,458).

We need to aggressively recruit telemarketing, teleservicing, and mail-order companies. The Keweenaw can offer everything that makes locating in a small town attractive to a business, such as low overhead and relatively low labor costs (which, of course, are offset by a lower cost of living). But we can also offer many things the average remote town cannot. We have a large base of computer-literate professionals already in the community who could serve as a safety net of expertise for a company's computer hardware and software "lifelines" to the market. We also have a comparatively rich cultural calendar, a better-than-average workforce, and boundless outdoor recreation opportunities. Telebusiness employment could conceivably range up into the hundreds, yet the environmental impact would be small.

Economic Renewal Options: Energy and Recycling

Energy Efficiency

We in the industrialized countries make up 25% of the world's population, but consume 80% of its goods (60). This glaring imbalance—which is currently growing worse, not better—is not carved in stone like some immutable law. We can reduce our energy consumption without sacrificing our standard of living by investing in a broad range of energy-efficient technologies and retrofits. Buying into energy efficiency reduces demand for fossil fuels without halting economic activity (61).

Switching to new techniques and materials can save massive amounts of energy. In 1985, buildings in the industrialized countries consumed enough energy to equal OPEC's annual production. Changing over to new condensing furnaces would cut this consumption by 28%. More efficient lighting fixtures can cut consumption by 75%. New building techniques, such as superinsulation, can cut consumption further. Better machine controls can decrease energy use by industry (62). There are dozens of other examples. And the key point is that these savings entail no loss in comfort or productivity. They simply do the same job with less wastage.

This is important to the Keweenaw because energy wastage saps our local economy of money that otherwise could be discretionary income. Typically, 80 to 90 cents of every dollar spent by local people on energy leaves the community. It enriches outsiders and thus can't be reinvested locally (63). But even small towns and rural areas can switch over to least-cost energy efficiency. Through a variety of actions, Osage, Iowa (pop. 3,800), did just that. Osage was able to totally eliminate system demand growth from 1976 through 1984, even though new customers hooked into the local utility's electric-power grid (64).

From Efficiency to Productivity

When industry uses each unit of energy more efficiently, it is able to run through its

production cycle more cheaply. This net gain is "energy productivity," and it manifests itself in reduced generation of waste, lower consumption and less pollution of water, less air pollution, decreased deforestation, and diminished erosion. Moreover, "increased energy productivity of from 1 to 2 percent a year could give a reprieve on global warming and bring about major reductions in acid rain," according to Jim MacNeill of the U.N.'s World Commission on Environment and Development.

Nations could easily achieve such gains in energy productivity if they would pursue pricing and other policies to encourage [energy] efficiency with the same vigor they display in developing conventional sources of [energy] supply. And they could do it without sacrificing macroeconomic performance. In fact, the countries that have already made considerable progress in this direction are at the top of the international list of economic performers. Between 1973 and 1984, the energy and raw-material content of a unit of Japanese production dropped by some 40 percent. Sweden, West Germany, and some other countries did as well or better. Increasing the energy and resource efficiency of industrial plants or communities adds up to increasing the efficiency and competitiveness of the national economy (65).

According to MacNeill, federal and state governments will have to make some tough political choices to promote energy productivity. First, they will have to consider "conservation pricing": taxing energy during periods of low real prices to encourage productivity. Second, they will have to impose stricter regulations that demand improvement in the efficiency of appliances, industrial designs, cars and other forms of transportation, and buildings. Third, they will have to lead a reorganization of the energy sector so that services can be sold on a competitive, least-cost basis. Fourth, they must transform environmental agencies into guardians against unsustainable development, and give economic, trade, and sectoral agencies the duty of promoting sustainable development (66).

Recycling

Recycling will play a big part in encouraging energy efficiency and productivity. The heightened public consciousness about our nation's solid-waste disposal crisis means that recycling will be one of the growth industries of the 1990s. Even without government prodding, public participation in recycling has literally outstripped the capacity to handle the materials in several Michigan communities and elsewhere in the Midwest. The recent move by Los Angeles making recycling mandatory is just the tip of the iceberg. We can expect to see more and more proposals such as Governor Blanchard's recent call to make private industry use more recycled products.

Several promising recycling efforts are already underway in the Keweenaw. The TASCOS curbside pick-up in the L'Anse-Baraga area is a pioneering effort in a rural area which demonstrates that no community is too small or too remote to benefit from diverting recyclables from the solid waste stream. TASCOS also serves Houghton County through the Transfer Station drop-off, and there are now proposals to extend drop-off sites to south and west Houghton County and Keweenaw County. This effort needs to be extended to Ontonagon County, where the owner of the local landfill has made a good start by planning a plastics recycling operation. The continuing landfill closure problems in the Keweenaw are a good reason for our local governments to pursue ordinances restricting (and eventually banning) the sale of non-recyclable packaging in the

Keweenaw. They should also phase in mandatory source separation and recycling to prolong the life of any landfills built to replace those now facing closure.

Spotlight Idea: A Keweenaw Energy Program

If we are to make progress toward energy efficiency, a comprehensive, analytical program is called for so we get the most out of the "changeover investment." A Keweenaw Energy Program would begin with a detailed survey of how much people are spending on energy, how much of that money is staying within the community, whether past home-heating retrofits have really helped lower bills, and so on. Relatively inexpensive hand-held infrared scanners can greatly increase the number of households surveyed.

The next step is to decide how to attack the problem based on the results of the survey. One approach that worked well in one rural area was a "weatherization blitz." In Calloway County, Missouri, a brief (six-week) campaign of community-based weatherization workshops, combined with the formation of a weatherization buying club co-op, brought \$7,000 in energy savings to the participants in the first year alone, with a \$40,000 savings projected over the life of the conservation materials. The total cost for the blitz was just \$3,600 (67). This concentrated, short-schedule approach seems well adapted to the Keweenaw, where distances are great and a large one-shot deal prone to failure. Blitzes could be scheduled on a rotating basis, going from community to community, aiming for simple solutions (like weatherstripping, caulking, and outlet gaskets) combined with education so that participants will understand energy wastage and how it can be stopped.

We need to look into how the latest generation of efficiency technology can be applied to home heating in the Keweenaw. Luckily, many houses here lend themselves to retrofitting: they have compact floor layouts built on two stories, instead of the inefficient ranch designs that proliferate elsewhere. New house designs, such as the "Northern Energy Home," have space heating requirements up to 90% lower than the average American house (68).

Part of the program would be the development of a model "energy-sensitive" uniform building code, along with retrofit ordinances that code-enforcing local units of government would be encouraged to adopt. The code would specify an energy check of building plans and mandate some combination of superinsulation, passive or active solar design, efficient solid waste and greywater disposal, energy-efficient windows and doors, and so on. Of course, there should be some flexibility provided for in the code to allow builders and remodelers to try new ideas for saving energy.

A similar Energy Program was undertaken in 1977 by citizens in Franklin County, Massachusetts, an area of depressed mill towns and high unemployment—in fact, the poorest county in the state. They found that \$23 million in energy spending was leaving the county each year. This leakage of energy dollars was equal to the combined payrolls of the county's ten largest employers. With energy prices going up, the citizen group projected that the single largest employer would have to duplicate itself every two years just to create enough extra money to pay the higher bills. In other words, energy wastage was creating a situation where the community would have to chase jobs at a furious pace just to keep its head above water.

The group pushed for "import substitution"—getting people to begin using locally abundant wood for heat instead of buying fuel oil or natural gas that comes from outside

the community. (It is worth noting that any large pulpwood industry in the Keweenaw would compete for those trees which are now being used for fuelwood by local residents. This could well drive firewood prices up, adding substantially to the heating bills of residents who cannot cut their own wood.) They spearheaded weatherization for some 500 homes. People switched to passive and active solar heat as a supplement. Electricity supply was rounded out by judicious use of wind power and minihydro dams. Local machine shops, hiring unemployed workers, made all the equipment. The total cost was the same as the leakage—\$23 million—but money and jobs stayed in Franklin County. One mistake the group made was depending entirely on federal and state monies to implement their ideas. When these dried up in the early 1980s, the effort tapered off. But the net benefits are still being felt throughout the county (69).

Other Options

- Fund a collaboration of local designers and contractors to build a model Energy Efficient House particularly adapted to our climate and snow conditions, and then use it as a centerpiece of an ongoing energy awareness program in conjunction with the Keweenaw Learning Center.
- Hold workshops aimed at businesspeople to help them audit their energy use and reduce costs.
- Set up a facility to test high-efficiency, low-pollution new woodstove installations.
- Establish community woodlots to ensure access to reasonably priced solid fuel to seniors and low-income people.
- Encourage builders to "energy-guarantee" their houses. One contractor in Butte, Montana, got 60% of the local market by building simple, superinsulated designs and then guaranteeing that the owners' annual electric heating bills would not exceed the nominal amount of \$100.00. He only had to pick up the tab twice—for a total of \$20.00 (70).
- Investigate the possibilities for reintroducing windmills to rural households and farms.
- Subsidize purchases of energy-efficient appliances (71).

Economic Renewal Options: Agriculture

Is There an Agricultural Renaissance in Our Future?

Our soils and climate are such that many people believe the Keweenaw is no good for agriculture. It is true that one of the ubiquitous sights in the Keweenaw is abandoned farmland. And it may be that our capacity to grow food will inherently be limited to producing for local or regional markets. But it is obvious we are far from reaching that capacity. The proof is the general lack of locally grown produce for sale, even during the summer. We need to promote the local marketing of crops suited to our short growing season. Not only would the quality and freshness be better, but we would realize an energy savings since the expense of importing food hundreds of miles would be eliminated. We need to develop and share techniques for farming successfully in the Keweenaw, and do a better job of promoting the marketing of locally grown products. It can be done. The town of Swannanoa, North Carolina, started a program to keep farmers on the land by developing special crops and marketing programs to respond to changing agricultural conditions (72).

The Keweenaw has several advantages that could help launch an agricultural renaissance. Farmland is cheap—a major inducement to a family of small means which is thinking of getting into farming. We also have an abundance of water available for irrigation. Our heavy winter snow cover helps retard windblown soil erosion. We are close enough to metro areas such as Milwaukee, Chicago, and the Twin Cities to be able to sell excess commodities there.

To begin with, the emphasis should be on helping people develop profitable sideline or part-time operations, rather than trying to instantly turn everyone into a full-time farmer. Maple sugaring and apple cidery, for example, are ideally suited to part-time farmers who need or want to extend their income from a non-farm job. For those who want to farm full-time, production of these commodities could be used as a bridge to larger activities well-adapted to our area, such as dairying, berry growing, orcharding, and raising potatoes and cole crops.

Spotlight Idea: Cider and Maple Sugar for Regional Markets

Up and down the Keweenaw there are countless apple trees in people's yards, old farmsteads, and along roadsides. The quality and size of most of the apples is such that they are best suited to being made into cider. Many local people already do this on an informal basis, and while national brands still line the shelves of our groceries each fall, some local cider is being sold there as well. With a little bit of organization, this activity could grow to the point where Keweenaw cider dominates local sales. There might even be a surplus to ship elsewhere.

To better develop cidery, two things must be done. First, the location of productive trees must be identified and arrangements made for organized legal access to them. One way this might be done is for the Cooperative Extension Service (CES) to begin an Apple Cidery Registry. Landowners could register themselves with the CES, identifying the type and number of productive trees on their property. At the same time, cidery interested in harvesting these trees would also register with the CES, perhaps posting a small refundable "earnest bond" to demonstrate seriousness. Then the CES would match owners with registered cidery. In exchange for allowing the harvest, the owners would be paid in kind according to a fixed number of gallons of cider per bushel of apples harvested from their property—or they could choose to donate all or part of their cider to local senior meals agencies. The CES might even organize a pruning program among registered cidery to improve yields of currently untended trees.

Second, cidery need access to high-volume cider mills. Hand-pressing apples in small screw-type mills is too time- and labor-intensive for commercial purposes. Some high-volume mills exist in the area, but several more would be needed. Privately run mills could, of course, charge cidery whatever the market will bear for the use of their equipment. But it might be possible to buy or construct high-volume mills with public funds, such as through USDA or state grants and loans. Whether these are privately owned or publicly funded, the key is to make sure registered cidery can use them in a timely fashion. Again, the CES might serve as a clearinghouse for scheduling.

Such a system requires a small capital outlay to get started. Mixing apples to produce different flavors takes some skill, but otherwise becoming a cidery calls for little previous agricultural experience. The only harvesting equipment required are bushel boxes, a stepladder or two, and perhaps a pole picker. Local cider is a proven product which is cost-competitive with national brands and fresher and tastier to boot. Through

the system outlined above, ciderers would be assured access to enough trees to make the venture worthwhile. For no cost or effort, landowners would see their trees harvested efficiently and receive cider in return. And the cider mill owners would realize a profit from the use of their equipment and could sell leftover pulp for animal feed. The CES could cover its administrative costs by charging a small percentage commission to the ciderers.

The production of maple sugar, one of the oldest agricultural commodities known, is a seriously underdeveloped industry in Michigan (73). Our state (primarily the Upper Peninsula) has 20% of the country's maple trees, but has consistently ranked fifth behind much smaller New England states (and even Ohio!) in terms of syrup and other maple products. Only 5% of the tappable trees are being utilized nationwide, and it's highly doubtful if even this low percentage is now being reached in the Keweenaw. There are currently just four producers in all of Baraga and Houghton counties.

One of the big advantages of maple sugar production is that it comes at a time when other farm activities are slow. This makes it ideally suited to "round out" a full-time farmer's income or be the principal on-farm earnings for a part-time farmer.

To develop a good commercial sugarbush an operator needs, at a minimum, 500 tapholes (slightly more than three acres of sugar maples of at least 10 inches dbh). An ideal sugarbush has 30-40 trees at 25 inches dbh. In general, good timber cannot be expected to be gotten from stands devoted to maple syrup production, since sugarbush trees are susceptible to sap stain and diseased wood. Yet overmature trees need to be thinned out of a sugarbush, and they can provide some lumber as an auxiliary benefit to the farmer.

We need to encourage maple sugar production in the Keweenaw. The price for syrup has risen steadily over the past few decades. Value-added products—virtually an untried market locally—include maple cream and maple sugar candies. Machinery has made maple sugar production less labor-intensive, but to become a big operator a significant capital outlay is required. On the other hand, as long as small part-timers pool their production, hand-harvesting techniques are still practicable. The Northern Economics Initiative Center at NMU in Marquette has taken some valuable first steps in this direction by forming a producer's group (74). This could be a way to penetrate Midwestern markets. Again, Keweenaw cider and maple products could be mail-ordered as part of a Clean Consortium strategy.

Other Options

- Investigate canola growing. This crop, which is the basis for an extractive cooking oil, has proven winter-hardy in Minnesota and North Dakota. Canola oil is considered one of the healthier cooking oils and the market future for this commodity looks bright.
- Look into growing ginseng, a highly valuable herb that is adapted to colder climates.
- Continue research into the possibilities for aquaculture in the Keweenaw. A local working group has been investigating pond-raising fish for market.
- Reorganize the Snow Country Producer's Co-op for cole crops (broccoli, cabbage, Brussels sprouts, etc.) but eliminate the income cap for participants so that full-time farmers are encouraged to join. This could raise the volume produced high enough to make the co-op a success.

Conclusion: A New Definition of Progress

A broad consensus in favor of sustainable development has begun to gather momentum (75). In September 1989, the World Bank—the most powerful financial institution in the world, and hardly a bastion of radical thought—adopted sustainable development as one of its guiding policies. So have several European governments and many more in the Third World. Canada has institutionalized sustainable development by creating a series of "roundtables" to coordinate environmental protection and economic advancement. A growing number of forward-thinking American politicians are embracing the philosophy. The final report of the prestigious United Nations Commission on Environment and Development, titled *Our Common Future*, has become the "bible" of sustainable development and has found wide acceptance among policymakers worldwide (76). And of course, many environmental and citizen's-interest groups here and abroad are working for sustainable development. All these people are saying it's time for a fundamental change in how we define "progress."

Most forcefully of all, our planet is saying it. Wild swings in temperature and rainfall, gaping holes in the protective upper ozone layer that grow bigger year by year, lakes stone-dead from acid rain, bloodied syringes washed up on swimming beaches, six of the hottest years of the century falling in the 1980s, a viscous oil-pudding soaking into hundreds of miles of Alaskan coastline, Scandinavian sheep herds contaminated by Soviet nuclear fallout, elephant carcasses with tusks ripped out littering the great plains of East Africa, vast stretches of rainforest being clear-cut and burned, routine advisories against eating Great Lakes fish—all these are fair warnings from Earth to us.

"Sustainability," writes former EPA director William Ruckelshaus, "was the original economy of our species." Preindustrial society had to live within their environmental means, because everything they had came directly from the natural world. As civilization developed, this period of "original sustainability" came to an end. It has now been replaced by an arrogant consciousness which assumes there are no limits to humanity's power over nature (77).

But of course there are limits. The short list of problems above are ample evidence that we are, for the first time in history, beginning to push the absolute limits of livability. We are beginning to try our planet's patience. That means we stand on the verge of one of the greatest transitions in human history. Sometime within the next century or so, humankind will decide, consciously or unconsciously, whether we cross an irrevocable threshold into a world whose environment is permanently degraded, where preoccupation with the unstable present has obliterated any hope for a better future (78).

What propels all of us, collectively, toward this monumental decision are billions of seemingly insignificant choices each of us, individually, make in our daily lives. Do I walk to the corner store or drive? Once there, do I buy my juice in a can or pick the brand in a fancy plastic bottle? When I'm done with the juice, do I save the empty can for recycling or just toss it in the trash?

No one is so foolish as to suggest that we dismantle our modern industrial civilization, with all its incalculable benefits, in some vain attempt to get back to the original sustainability of our deep ancestors. What we have to do is abandon our current ideas of what constitutes "progress" in favor of those whose yardstick of success is how

well the economy and the environment harmonize with each other. According to Ruckelshaus, three beliefs would be at the core of such a renewed consciousness of sustainability:

- The human species is part of nature, not above it. Humankind's existence depends on its ability to draw sustenance from a finite natural world; its continuance depends on its ability to abstain from destroying the natural systems that regenerate this world.
- Economic activity must account for the environmental costs of production.
- The maintenance of a livable global environment depends on the sustainable development of all humankind, not just a part of it (79).

Sustainable development is on the cutting edge of a new, powerful world-view. We in the Keweenaw can be part of the vanguard, or we can fall prey to a proposal that represents the last gasp of obsolete economic thinking. Either our children will look back at the 1990s and praise us for our foresight, or ask themselves why we saddled them with an environmental disaster when we should have known better.

We have to recognize that development doesn't take place in a vacuum. As William Clark has said, "Any significant improvements in our ability to manage planet Earth will require that we learn how to relate local development action to a global environmental perspective" (80). By now it may have the ring of a cliché, but the saying "Think globally, act locally" is one of the most profound thoughts of our century. A whole new world can be made from those four words.

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Appendix:

Financing Sustainable Development

There are many ways of funding the sustainable development projects discussed in this report. The pros and cons of some of them are outlined here (1).

Loans and Equity Investments

Local Bank Loans

Local banks can provide short-term loans to boost inventories or meet seasonal sales peaks. Medium- and long-term loans can be used for start-ups, working capital, or land and equipment purchases.

PROS: Getting loans from local banks keeps money within the community. Local banks are easily reachable by small businesses and are relatively quick to decide on loans.

CONS: Local banks may not have enough money to make large loans or to support marginal projects. New businesses may not get loans because they have no track record or are carrying large debts. The cost of borrowing from local banks is often higher than subsidized loan programs.

Community Development Credit Unions

Like all credit unions, CDCUs are nonprofit financial cooperatives owned by their members. But CDCUs focus on projects that keep money within a community, often supporting them with low-interest loans.

PRO: CDCUs are particularly receptive to community projects which serve primarily low-income people.

CON: CDCU loans are limited to members only.

Small Business Administration Loans

There are several SBA programs which sustainable development projects might tap into. They include forming an SBA 504 Certified Development Company, which ensures long-term fixed-rate financing for land, buildings, and equipment; the 7(A) Bank Loan Guarantee Program, which guarantees 85-90% of

a qualifying bank loan to a small business; and the SBA Direct Loan Program, which serves handicapped people, veterans, and small businesses that have been turned down for conventional loans.

PROS: SBA loans can cover working capital, fixed assets, and real estate. SBA loans and guarantees reduce risk to primary lenders.

CONS: The loan application is complex. One must meet SBA's definition of a "small business."

Revolving Loan Funds

Usually started with some form of grant, revolving loan funds make money available to business at low interest. As loans are repaid, new ones are made to other businesses. There is usually a prerequisite, such as creating a minimum number of jobs, before access to the funds is granted.

PROS: Revolving loan funds are good at linking local lenders to local sustainable development projects. They make low-interest loans available to those who might not otherwise get them. A revolving fund can be used for a variety of projects, such as historic preservation, low-income housing renovation, and small business start-ups. These funds often match the cash flow needs of business better than a bank.

CONS: An experienced staff is needed to run the program. Until the fund gets off the ground, the process of getting money may be slow. The fund is meant only to "fill in the gaps" left by traditional financing.

Equity Financing

This is where businesses obtain money in return for giving the financier a share of ownership. A common source is a venture capital firm, but they are usually looking for a large profit in a fast-rising company whose growth profile may not be compatible with the Keweenaw's. Better types of equity financing are available for sustainable development, such as individual investors, small venture capital clubs, or state officials looking to invest pension funds.

PRO: Equity financing keeps a business from taking on debt.

CON: Venture capitalists tend to tie into existing firms, rather than truly new ventures.

Economic Development Administration Loans

The U.S. Department of Commerce gives EDA loans in areas with high under- and unemployment. To get these loans, an economic strategy has to be filed with the government.

PROS: Once qualifications are met, funding is generally available. EDA guarantees as much as 90% of a private loan.

CON: The future of the EDA loan program is in question.

FmHA Loans

The U.S. Department of Agriculture's Farmer's Home Administration (FmHA) runs a "Big L Program" which makes up to a 90% guarantee of loans to businesses in cities of 50,000 or less. FmHA also has a "Community Facility Program" which makes loans in cities of 20,000 or less for public facilities.

PRO: FmHA is quite active in rural areas and small towns.

CONS: Very little money is available in the Community Facility program. To get into the Big L, a detailed description of jobs to be created is required.

Grants, Donations, and Other Gifts

Foundation Grants

Michigan has several large foundations which might be induced to fund sustainable development projects; the Kellogg and the Mott foundations are two examples. It is likely that grantors would require a serious commitment to the concept of sustainable development in terms of local government support, concrete project plans, etc.

PROS: Grants are gifts that don't have to be repaid. Grants can be used for specific projects, for capital improvements, even for innovative planning. Once good relations are established with a foundation, future grants are possible.

CONS: Grant proposals must be custom-tailored to each foundation--a lengthy task. The demand for grants is high and the awards process extremely competitive. It takes a long time for foundations to make grant decisions. Grants are often limited to nonprofit groups.

Corporate Grants

Private companies throughout the U.S. typically give \$2-4 billion in grants each year. Corporate grantors do fund economic development projects; Michigan Bell helped sponsor the Jobs 2000 report, for instance.

PROS: Corporations are less formal than governments and foundations and may respond faster. It is possible to develop long-term relations with corporate grantors. By using corporate grants, a network of politically influential supporters can be developed.

CONS: Many companies give only to a major grantee such as United Way. Most corporate grants fall into three categories: education, health, and welfare. Those corporations that do grant money for economic development tend to favor projects which will eventually benefit themselves (in terms increased sales of their own products); since sustainable development projects aren't oriented toward boosting sales for big companies, this route may be closed.

Special State-Run Grants

Two recently created programs, both administered by the state, could be tapped. The DNR's Forestry and Mineral Resources Development Fund Board has grants and loans available for the forestry, forest products, mining, and minerals industries (2). This could be a source for furniture making start-up capital, and for writing a Growth Management Plan for copper mining. The governor's office also has \$500,000 available through the Rural Economic Strategy Grants program, the first phase of a projected Rural Business Partnership (3). Some of these monies could be used to fund any number of the projects discussed in this plan.

Fund-raisers

Running fund-raisers for a specific project are a tried-and-true way to get money. They can be very successful since donors know exactly what their money is going toward.

PROS: Fund-raisers demonstrate local commitment to a project, which may serve as a catalyst to attract outside funding. They can be locally organized, and serve as a way to market the project. Little or no follow-up is required. The approach can help bring a community together.

CONS: The amount collected is always unpredictable. Large numbers of volunteers are usually required. Planning can be complicated, no matter how simple the fund-raiser seems.

Membership Fees and Dues

These are paid to existing groups such as service clubs, Chambers of Commerce, and Downtown Business Associations. Conceivably, some of these funds could be used to support sustainable development, or perhaps a new Sustainable Development Association of socially and environmentally committed businesses could be formed.

PROS: Dues can be used for all operating functions. No strings are attached by outside givers. Dues payment is another sign of local commitment.

CONS: Dues and fee monies are usually small. Businesses may be unwilling to join a Sustainable Development Association until it gets a track record.

Community Block Development and UDAG Grants

These programs are run by the Department of Housing and Urban Development. They have been successfully used by various local governments in the Keweenaw. They are aimed at expanding economic opportunities for low- and moderate-income people and to help towns revitalize their economic base.

PROS: Use of the money is flexible, and a wide range of projects are eligible. UDAG grants are good at leveraging private investment.

CONS: The demand for grants is far higher than the supply. The CBD program has been cut drastically in recent years. Detailed applications are required. Each UDAG dollar must result in 2.5 dollars of new private investment.

USDHHS Grants and Funds

Community Service Block Grants and discretionary funding from the U.S. Department of Health and Human Services are distributed according to the percentage of the county's population which is below the poverty line. Funds are used to improve social services, for emergency assistance, and to promote economic self-sufficiency.

PROS: USDHHS funds many different kinds of projects. They favor disadvantaged workers, weatherization programs, and community health care.

CON: USDHHS's poverty-line formula may exclude some counties.

Municipal Bonds

These are government-backed debts usually incurred for capital improvements. There are five kinds.

Assessment Bonds

These are issued for improvements in a specific area, including streets and utilities. The property, rather than the community, guarantees repayment. Retirement period: 3-10 years.

PRO: Assessment bonds are not subject to a community's debt limit.

CONS: They are subject to the approval of property owners, either through petition or election. Improvements that provide a general community benefit cannot be assessed to a limited number of property owners.

Revenue Bonds

These are paid through revenue pledges from sales taxes, user's fees, or property taxes. Retirement period: 10-40 years.

PRO: They can be used to finance any public improvement.

CON: Payback revenue is often unpredictable.

General Obligation Bonds

These require that the issuing government has the power to levy taxes and that it promise to pay back the interest and principal unconditionally. General obligation bonds are used for projects that benefit the whole community. Retirement period: 10-40 years.

PRO: They are the cheapest way for a community to borrow.

CONS: They are limited by a community's debt ceiling. Elections are required.

Tax Increment Bonds

These are used for projects that will boost property or sales taxes. The bonds are repaid out of the increase.

PROS: This a good way to finance large projects. The cost is shared among the entities that will benefit. If the bonds are well-designed, they can eliminate the need for local cash outlays.

CONS: Tax increment bonds must be administered by a redevelopment agency (e.g., Downtown Development Authority). These bonds may hurt the tax base of schools, at least in the short run. Sales tax revenues go up and down without any predictability. Tax reforms may severely limit the use of these bonds.

Private Activity Bonds

PABs are issued by public agencies or units of government to private developers at tax-exempt interest rates. They are often used to entice businesses to relocate to a community.

PROS: Municipalities have no responsibility to use their own funds to retire PAB debt. PABs are not affected by debt ceilings.

CONS: Regulatory controls are strict and must be understood by the issuing and receiving parties. Owners of businesses that do not receive PABs may well feel slighted, especially if their competitors benefit thereby.

Local Government Assessments and Revenues

General Funds

Money from the general fund of local governments could be dedicated to sustainable development. Many local government activities are financed through general funds, which come from property tax revenues, sales tax revenues, fines, and so on.

PROS: Obtaining general funds is (in theory) relatively simple. The timing is predictable. Local governments fund projects that are consistent with community values.

CONS: This source uses tax money and may be politically unpopular. It also means funding one local project at the expense of another, since funds are always very tight.

Dedicated Tax Revenue

Imposing or raising a municipal sales tax and earmarking the money toward sustainable development is another possibility. The recently approved room tax for Upper Peninsula motels and hotels is a non-municipal form of dedicated tax.

PROS: Sales- or room-tax dedication can be appealing because out-of-town visitors contribute to local revenue. Small increases in sales taxes can provide large amounts of revenue.

CONS: To dedicate municipal taxes, an election is required. This is not a practical method for smaller projects. There are often state-imposed limits on municipal tax rates. It is a regressive method; that is, proportionately more tax is paid by those who are least able to.

User Fees

Fees charged for use of a public facility, such as swimming beaches, launching ramps, ski and snowmobile trails, ice rinks, and the like, can be used to fund operations.

PROS: Those who benefit most from the facility pay the most. Fees can be adjusted to meet special circumstances.

CONS: Fees must not be set so high that they discourage use. The revenues are not available until after the costliest step--construction--is completed. Revenues are likely to drop during hard times.

Organizational Mechanisms

Local Development Companies

LDCs are nonprofit organizations founded to stimulate economic development in a given area. They finance debt and equity, organize management seminars, and give technical assistance. They are designated by the Small Business Administration. LDCs can lend applicants the entire capital cost of acquisition, construction, or building rehabilitation, as well the cost of capital equipment for periods up to 25 years at market rates of interest. LDCs can also pay for up to 20% of a project's planning costs.

PROS: LDCs are eligible for money from a number of federal and state programs. Formation of an LDC allows small businesses access to the SBA 502 Program. An LDC can attract new business to the community.

CONS: For an LDC to be effective, it must have a capital pool of at least \$50,000. In the SBA 502 Program, an applicant must be the intended owner of

the building being funded. It takes at least three months to process an SBA 502 application.

Small-Business Investment Companies

SBICs are for-profit companies licensed by the SBA. They make long-term loans, equity, and venture capital available to small businesses. SBICs are geared toward start-up companies marketing new ideas or products. Start-up capital and the attendant risks are assumed by the private sector in exchange for access to SBA loans.

PROS: Private capital can be greatly leveraged. Entrepreneurs can get access to more money within an SBIC.

CONS: Organizers must contribute at least \$150,000 of private capital. SBICs desire a fast return on their loans. Managing an SBIC require considerable financial expertise and knowledge of federal regulations.

Pooled Funds

Several nonprofit groups around the U.S. pool money from foundations to invest in community ventures. The Cooperative Assistance Fund (CAF) and the National Rural Development and Finance Corporation, both out of Washington, are two examples. A central goal of pooled funds is to help low-income and minority communities. CAF, for example, focuses on providing affordable housing, health and banking services, and food. Pooled funds offer equity investments, loans, and loan guarantees.

PROS: Pooled funds are private and so require relatively little regulatory paperwork. A wide variety of projects are eligible, using several forms of financing.

CONS: Pooled funds usually don't provide full financing for a project; some require a leverage ratio. Most require a detailed loan plan. Pooled funds are a last resort--they won't loan on projects where conventional financing is available.

Redevelopment Authorities

These are organizations (such as Downtown Development Authorities) formed solely to redevelop a deteriorating or underused district of a community. They could be used as catalysts for other forms of sustainable development financing.

PROS: In most states, redevelopment authorities are given broad powers to tax, acquire land, and collect fees. They operate pretty autonomously.

CONS: The authority's power is limited to one district. Professional staffers are almost always called for.

Incentives

Enterprise Zones

An enterprise zone is an area designated for aid because of high unemployment, poverty, or other kinds of economic distress. Zone status accords various breaks to developers. Enterprise zones could be an important part of an overall sustainable development plan.

PROS: Enterprise zones address areas where economic needs are greatest. Zone businesses are protected from certain taxes and business regulations. Enterprise zones require no expenditures from local governments.

CONS: Enterprise zones reduce tax revenues. They require special state and local legislation. Enterprise zones may be so successful that they depress economic activity in adjacent areas.

Tax Abatements and Exemptions

Local governments can reduce property taxes for a specific number of years to encourage private development and reinvestment.

PROS: Tax abatements are not too costly to a community compared with other mechanisms. They require no cash outlays.

CONS: Tax revenues are lost for the duration of the abatement. The value of this abatement may be insignificant to the business in relation to its total costs.

Land, Building, and Infrastructure Giveaways

This sort of incentive should be reserved for smaller companies who need it most. For most large corporations (paper companies being, of course, a notable exception), the availability of cheap or free land is not a major consideration for relocation, since thousands of small communities are offering industrial parks as incentives. Infrastructure (adequate roads, railroads, water lines, sewerage systems, etc.) is a major consideration, however.

PROS: Sites and buildings are a definite incentive for smaller start-up companies, as well as for expanding local businesses. Infrastructure is important to companies of any size.

CONS: The awarding of such incentives can be a political nightmare, raising questions of favoritism and inappropriate development. Improvements in infrastructure are very expensive.

Preservation Incentives

These are federal tax benefits given to people who rehabilitate historic buildings.

PROS: There are many historic buildings scattered throughout the Keweenaw that might be eligible. The tax credits reduce the ultimate cost of the project.

CONS: Tax credits are subject to the "Passive Activity Rules" of the 1986 Tax Reform Act. The buildings must be certified by the state historic preservation office.

References

1. Appendix adapted from Barbara A. Cole and Meredith Miller, *Financing Economic Renewal Projects*, Rocky Mountain Institute Workbook No. 9 (Snowmass, CO: RMI, 1988), pp. 13-37.
2. Information on this program is available from the DNR's Geological Survey Division, P. O. Box 30028, Lansing, MI 48909.
3. See Roger J. Vaughan, *A Framework for Economic Development in Michigan's Upper Peninsula* (Portland, ME: Roger Vaughan Associates,

December 1989), pp. 51-52. This report was commissioned for the Michigan Department of Commerce.

Glossary

biodiversity A global resource made up of the variety and variability of life forms on Earth, both wild and domesticated. Biodiversity is diminished whenever a species becomes extinct.

bottom-up development Development in a series of increments rather than attempting to attract a single large employer. Bottom-up development encourages economic diversity, discourages a boom-and-bust economy, fosters grassroots involvement, and promotes more predictable, less disruptive results.

Clean Consortium A group of Keweenaw businesses which uses its commitment to a clean environment as a marketing tool, thereby capitalizing on "green consumerism" (q.v.).

commodities Raw agricultural, forest, or mining products which have not been processed into value-added (q.v.) intermediate or finished products. Cf. "specialty products."

Comprehensive Forest Assessment A study of the western Upper Peninsula's forests which would include an updated production inventory, a poletimber management strategy, an ecological analysis, and an examination of various legal and regulatory factors affecting current forestry practices.

continuing education See "lifelong learning."

dollar drain The purchase of labor, goods, and services outside the community, even though they are available at a competitive price locally. Stemming dollar drain is important because the longer money circulates within a community, the more robust its economy becomes.

energy efficiency Using new technology to achieve the same standard of living while consuming less fossil fuel (such as coal, oil, and natural gas). This is to be distinguished from "energy conservation," which implies a drop in one's standard of living.

energy productivity The net gain in industrial processing when companies switch over to energy-efficient technology. Energy productivity can be measured in the "energy content" of a product: that is, how much energy went into making it.

global warming A worldwide phenomenon in which excessive trace gases (carbon dioxide, methane, etc.) build up in the atmosphere because of human activity. More of the sun's heat is thereby trapped in the atmosphere, which in turn causes

the average air temperature to rise. Global warming has the potential to cause unprecedented changes in the planet's environment, society, and the economy.

green consumerism A growing trend in the American marketplace in which consumers seek out and buy products because they are environmentally benign and their makers respectful to the environment.

incubator, small-business A building occupied by small-business tenants for a period of time after start-up. Tenants share costs and expertise to increase their chances of success during the critical first few years. Cf. "networking, small-business."

lifelong learning Enrichment and career-oriented education aimed primarily at post-school adults. Cf. "vo-tech."

Keweenaw Energy Program An area-wide effort to promote energy efficiency and keep energy dollars circulating within the Keweenaw.

Keweenaw Learning Center A proposal to turn the abandoned Calumet Air Force Station into a lifelong learning (q.v.) and environmental education center.

Keweenaw Reunion Program A program to entice business-owning graduates who have left the Keweenaw to return to the area.

multiple-use A philosophy of forest management in which different values and uses of the ecosystem are taken into account rather than focusing solely on timber production. Some of the additional values and uses are recreation, wildlife habitat, and watershed maintenance.

networking, small-business A mutual support group run by small-business owners to share certain business costs and information. Cf. "incubator, small-business."

nonconsumptive recreation Human-powered leisure activities which stress the contemplative enjoyment of nature.

sawtimber Timber suitable for making into lumber.

specialty products Value-added (q.v.), durable forest products. Cf. "commodities."

skill-matched workforce A labor pool trained to fill local business needs.

sustainable development A concept which encourages economic activity designed to meet current needs without compromising the ability of future inhabitants of Earth to meet theirs.

telebusiness A company which depends on electronic communication with its customers, rather than face-to-face service. Telebusiness products and services are either delivered electronically, through the mail, or by private couriers.

Telemarketing companies concentrate on making sales electronically; teleservicing companies, on providing services.

two-tiered labor market A long-term trend in the global economy in which demand for unskilled labor is going down and that for well-educated, skill-matched labor is going up.

value-added A description of products that have been locally processed. For example, shipping out a hardwood log is selling a commodity; shipping out flooring locally made from that log is selling a value-added product. Adding value is a good way to keep dollars circulating longer within a community. Cf. "commodity" and "specialty product."

vo-tech Vocational-technical training; that is, schooling designed to teach students a specific skill or trade in which they will seek employment. Vo-tech can include job-placement assistance.