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Self-Reliance

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Self-Reliance

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Neighborhood Preservation

Preservation for Whom?

Neighborhood Preservation is the latest catch phrase in urban policy planning. In the past few years, money for Neighborhood Preservation Programs has begun to flow into urban communities across the country. The Urban Reinvestment Task Force, established in 1974, has allotted over $5.5 million for the establishment of Neighborhood Housing Service projects in over twenty-three cities. This year, HUD has divided nearly $5 million between fifteen localities and five states to finance development of "innovative neighborhood preservation projects." The State of New Jersey has parcelled out nearly $2 million for a Demonstration Neighborhood Preservation Program consisting of twelve separate projects; countless other localities are employing Community Development funds for Neighborhood Preservation projects. Legislation is being drafted in several states. Neighborhood Preservation is fast becoming the urban vogue.

Promising Rhetoric

Much of the relevant literature rings with promising rhetoric. "(This Department) hereby adopts as its principal community development policy a program of neighborhood preservation and revitalization. The purpose is to prevent the physical, economic and social deterioration of neighborhoods." This policy statement from the State of Pennsylvania continues with a commitment to "stemming of physical decline by focussing resources on those factors causing prolonged neighborhood deterioration and decay," to the "re-use of existing resources, beginning with the neighborhood's housing stock," and to the mobilization of "an all-too-often overlooked resource—the *social fabric of the neighborhood*" (their emphasis).

The theory sounds promising, indeed. In part, this new concern with scale and preservation is not a matter of choice. Policy planners (especially in the Northeast and Midwest) are faced with large scale urban decline: their options are more limited than they once were. Gone are the days of mass urban renewal, for new construction costs are prohibitive. Furthermore, the massive scale of previous renewal projects proved disastrous. On the other hand, a sincere reorientation in the conceptualization of cities is apparent. As Art Naparstak and Gail Cincotta explain in their publication, *Urban Disinvestment:*

> *If we are to speak realistically of preconditions required for effective change, it must be recognized that the neighborhood—not the sprawling, anonymous metropolis is the key. In real terms, people live in neighborhoods, not cities. In real terms, their investments, emotional as well as economic, are in neighborhoods, not cities.*

Moreover, it is becoming more and more apparent to urban policy makers that local community organizations are the key element in any successful Neighborhood Preservation program. In recent Congressional Hearings, one expert in community relations observed:

> *On the basis of our experience working on community development projects in more than twenty neighborhoods, we are convinced that it is essential that any neighborhood revitalization program build on the determination of a neighborhood's own residents to stay and make the community livable . . . it is essential that government make the development of truly independent, activist, even angry neighborhood groups a priority.*

Disappointing Development

Though the potential impact of Neighborhood Preservation programs is exciting, promising an opportunity for community residents to exert control over many of the forces which shape

the destiny of their neighborhoods, the initial direction taken by many of the projects is extremely disappointing. The programs evidence a striking narrowness of vision and a real inability to identify the root causes of neighborhood decline and to deal with them in an effective manner.

For example, of the twelve New Jersey Demonstration Neighborhood Preservation Program projects, all but one are primarily housing rehabilitation efforts. Five incorporate systematic code inspection into the rehabilitation procedure. Only two have as a specific program objective substantial home improvement *without* the displacement of local tenants. The New Jersey program shares with many efforts across the country a singular emphasis on repair and renovation of housing units, a fixation on the upgrading of physical hardware. Many local Neighborhood Preservation projects appear to be little more than glorified rehab financing schemes all too reminiscent of HUD 312 programs.

Neighborhood Preservation programs reveal a striking narrowness of vision, a failure to identify and address the root causes of neighborhood decline

To focus exclusively on the physical condition of buildings is to treat an effect of urban decay rather than a cause. Such strategies may well improve conditions of the specific target neighborhood. As houses are rehabilitated, city services upgraded, crime reduced and schools improved, the neighborhood will invariably attract wealthier residents. The percentage of homeownership will most likely increase and the process of deterioration will be reversed. This orientation, however, attempts to increase the wealth of the neighborhood not by attacking those factors which contribute to the declining assessed value of the community but rather by attracting higher income residents to the neighborhood. This will not solve the problem of urban decay. In such a form, Neighborhood Preservation is no more than another version of urban renewal, accomplishing the same thing: the displacement of low and moderate income residents into even more seriously deteriorating sections of the city.

This is not to say that housing rehabilitation should not be an integral part of an innovative Neighborhood Preservation program; it must. What is clear, though—from past as well as present experience—is that a conceptual framework which sees improved housing stock as the solution to neighborhood decay overlooks the "social fabric" in favor of the physical neighborhood. The only fruitful conceptual framework, if we don't want to continue making the mistakes of the past, must be one which defines a neighborhood in terms of its people rather than its properties.

The Current Model of Neighborhood Change

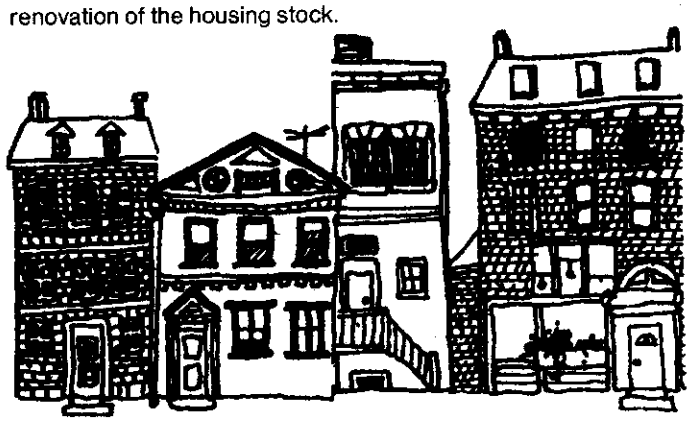
The current model of urban neighborhood development is most clearly presented in a HUD publication, *The Dynamics of Neighborhood Change,* which proposes to provide "a comprehensive understanding of how neighborhoods change." Written by members of Real Estate Research Corporation (the firm of Anthony Downs, a key member of Carter's housing task force), the report identifies five stages in the cycle of neighborhood change: 1) Healthy, 2) Incipient Decline, 3) Clearly Declining, 4) Accelerating Decline, 5) Abandoned. The description of each stage is exhaustive; but any conclusive discussion of causality is lacking. Broad macroeconomic issues such as the "overall decline in the metropolitan area" are mentioned; but when reasons for decline are discussed on the level of neighborhood dynamics, the responsibility is attributed to the "household decision":

> *The real force behind neighborhood change is the impact of people moving in, moving out, deciding to stay or deciding to look elsewhere for housing. The dynamics of the neighborhood change process revolve around* the household decision. *Other people (bankers, brokers) make decisions, and they are important and often critical, but it is the change in resident population and the decisions behind that, that fuel the neighborhood change process.*

In effect, the report tells neighborhood residents that they are the problem, that their individual decisions are the key to neighborhood change.

The problem with this approach is a serious one. The descriptive analysis is accurate; but the theory is unusable in terms of devising strategies for the stemming of neighborhood decline. The perspective does not allow for significant points of intervention other than a change in the income level of the residents (i.e. a change of residents). The institutional structures are taken as given (tax laws, financial practices, zoning regulations, code enforcement practices, etc.); the residents are the variables. By focussing on the importance of household decisions, the authors avoid any serious discussion of strategies for changing institutional structures, practices, and alliances.

City planners and neighborhood residents do not need to be told that neighborhoods deteriorate because lower income people move in. They need to know what can be done, what institutional arrangements must be changed in order to keep savings within the community, in order to generate greater income for local residents, in order to reduce housing and consumption costs. What is needed is a theory of Neighborhood Preservation which is truly committed to the preservation of the "social fabric" of the neighborhood and not simply to the preservation and renovation of the housing stock.



"Declining" neighborhoods are not without resources and wealth. The main obstacle to the more efficient utilization of resources seems to be the role of institutional intermediaries. As Robert Bish, the Director of Research at the Institute for Urban Studies of the University of Maryland has noted:

> *Low-income families have savings, not only in local savings and loans, but in life insurance and retirement funds. Even partial studies of these financial flows indicate that neighborhoods are not poor, and that locally generated funds, if channeled into neighborhood economies, would be more than sufficient to end neighborhood disinvestment. It is necessary to look more closely at the institutional arrangements through which neighborhood resources are utilized to identify why neighborhood resources are not mobilized for economic development and stability.*

An Example: South Shore National Bank

The concept of Neighborhood Preservation must be broadened to mean Community Revitalization. The experience of the South Shore National Bank in Chicago is a good example of what such a program *should* encompass. In 1972, owners of the bank attempted to move the bank from the older, residential South Shore to a more profitable downtown location. They pointed out that, since 1967, the bank's total assets had declined from $80 million to $45 million as a result of lost deposits. They were also armed (as Dr. Calvin Bradford of the University of Illinois at Chicago has recently pointed out at HUD hearings) with a study by Real Estate Research Corporation on the potential deposit base of the community as low and moderate income Blacks moved in. Using their urban cycle model, the consultants concluded that only $40.2 million in savings would be generated by the new population. Given this estimate, the bank managers and owners felt that they would have to look elsewhere for depositors.

As Raymond Davis, president of the South Shore Commission, has explained: "The bank is the symbol of the beginning of recovery."

South Shore residents refused to let the bank move. They argued that, without the bank, the further deterioration of their community was guaranteed. Residents knew that the substantial resources of the bank were necessary to rebuild the community, and they also realized that it was essential that the ownership and overall approach of the institution be significantly changed. Once the bank's application to relocate was denied, a consortium of foundations, churches and individuals was able to purchase the bank. Since the transfer of ownership, the bank has pursued an aggressive course of community development. Area residents have a voice in bank decisions through an advisory council to the Board of Directors. Over 60% of the bank's loans go directly into the community it serves. Last year, the bank granted over $1.5 million in mortgage loans, more loans than had been granted by the bank's old management in its previous six years combined. South Shore is generating half of all mortgage loans in the South Shore area despite the fact that it holds only 20% of the deposits of area residents. The effect? As Raymond Davis, president of the South Shore Commission, has explained: "The bank is the symbol of the beginning of recovery." And that recovery became a possibility because local residents did not take the institutional structures and actions for granted but fought and actively reshaped the bank to fit their own needs.

South Shore National Bank is only one part of a larger concept of community development. South Shore is owned by a community-based bank holding company, Illinois Neighborhood Development Corporation. The corporation, through the bank and its two development subsidiaries, has greatly increased the amount of credit available for education, small businesses, community organizations, and housing. INDC has conducted door-to-door surveys to assess the financial needs of the community and has begun publication of a newsletter which keeps neighborhood residents informed of finance-related issues.

And what of Real Estate Research's contention that only $40 million in savings could be generated by South Shore residents? Dr. Bradford's recent work has shown that over $72 million in savings are being generated from community households; and those figures only reflect statistics from that portion of Chicago banks which disclosed their deposit and loan information. Further, disclosure information revealed that five large downtown banks hold at least $53 million in deposits from South Shore residents. Had Real Estate Research's advice been heeded in 1972, the bank would have moved out, the neighborhood would have been starved for credit and would have slipped down through Real Estate Research's various stages in the cycle of decline. Instead, a community is being turned around. Not simply because hardware is being improved or because people have decided to stay, but because an institution whose policies are too often considered as given is being made accountable and has begun to aggressively pursue a policy of community development.

A community-owned bank may not be the solution for every community; but any real solution to the problems of urban decay, any significant program of Neighborhood Preservation must address itself to institutional change. A change in residents is not a solution; rehab alone is also insufficient. The revitalization of our communities requires institutional changes which will reduce the outflow of community resources, be they capital, labor or consumer expenditures. Only when the resources of neighborhoods are fully utilized to support their own development will we be able to halt the urban cycle and the dislocation which accompanies it.

—Jeff Zinsmeyer

One Strategy: The Bank Holding Company

It is ironic that a device initially created to serve the interest of Multinational Banks—the One Bank Holding Company—is being employed to serve the needs of a Chicago community. Ronald Grzywinski, chairperson of South Shore National Bank, has argued that neighborhood-based banks are especially qualified to pull together various economic resources and to forge them into a coordinated thrust for community revitalization. The neighborhood bank knows more about the local economy than any other institution, since so many businesses and residents use its services. Furthermore, it is usually the most highly capitalized institution in a neighborhood.

Through the use of the bank holding company device, a bank can exploit its vantage point and resources to extend itself into many areas of community economic development for which commercial bank involvement is not allowed. A community-based bank holding company can initiate development projects, invest in CDC's, help establish community social service centers and coordinate commercial strip revitalization. Through a non-profit subsidiary, tax-exempt grant money can be raised to help improve local social services.

Of course, the key question is that of ownership and control. Too often, savings institutions run by uninvolved, profit-fixated bankers would rather redline a community and help destroy it than explore innovative means of community development. Since these banks are cushioned from competition by federal regulations and deposit insurance, they are free to ignore the needs of the neighborhood from which their deposits come. However, when community residents struggle to attack this type of institutionalized inequity, as in the case of South Shore, new strategies become possible.

How Does your Garden Grow?

Vacant lot gardening is becoming increasingly popular in all parts of the country; more and more unused urban acreage is being reclaimed each year for use by community gardeners. This trend will continue, but if urban agriculture is to make a significant contribution to the food supply of a city, a series of vacant and backyard lots given over to raising summer vegetables will never be sufficient. In order to develop a viable urban food production system, we must utilize limited available space both efficiently and creatively. We must explore new methods of food production, expand our notions of what can and what cannot be produced in the cities, and creatively utilize rooftop and basement space as well as vacant lots. This two-part article will present a plan for a comprehensive, integrated urban food production system. In this issue, we will deal with the somewhat theoretical question of just how much food can be produced in our cities and will look at the potential contribution of vacant lot gardening. In the next issue of SELF-RELIANCE, we will examine the various auxiliary food production systems which can be used in urban areas.

Just how much space is needed for significant urban food production? Estimates vary with gardening practices and dietary habits. The USDA estimates that 800 square feet per person are required in order to grow a year's supply of fresh vegetables (360 pounds). This figure is conservative from the standpoint of good intensive gardening practices: most intensive gardeners can achieve the same yield from half the space. Based on the USDA figures, though, one acre can comfortably provide vegetables for fifty-four people. Gil Friend of ILSR has estimated that between forty and seventy people can be supplied with all their vegetables from an acre of urban space and that as many as 150 people can be provided fresh summer vegetables from that acre.*

How much space do we have? Urban densities vary significantly from region to region and from city to city within a given region. Generally, the New England and Middle Atlantic states have the least available vacant land (though they do have good rooftop space). According to a report by David Morris of this Institute, New England cities with populations of over 100,000 have 540 square feet of vacant land per capita and the Middle Atlantic states have 360, while large cities in the South Atlantic states have 2923, in the East South Central states 3129, and in the Mountain states 4055 square feet of vacant land per resident. Much of this land, though, is undoubtedly of no use for food production. The example of the Adams-Morgan neighborhood of Washington DC will help us determine just what kind of optimum production is possible from rooftops and vacant lots.

Any attempt to grow food in the city must be a serious, well-coordinated effort if it is to be significant

Adams-Morgan, with 32,205 people residing within an area of three-quarters of a mile, is one of the most densely populated communities in any American city. Susan Stone collected data on the population and usable space in the community and came up with some interesting statistics. The average block in Adams-Morgan is composed of 468 people; the total rooftop area is 82,175 square feet; and the inner block area (backyards and alleys) is 44,059 square feet. The figures did not include vacant land because the amount of vacant land in Adams-Morgan is quite small. Using the USDA figures of 800 square feet as the amount of space needed to provide fresh vegetables for each individual, it was estimated that if all rooftop and inner block space were used for vegetable production, 33% of the block's fresh vegetable needs could be met. Were rooftops used not only to grow food but also to house solar collectors and solar cells, then 22% of the vegetable needs could be met.

Most urban-dwelling Americans do not live in areas as densely populated as Adams-Morgan. Only eighteen of the 153 largest cities have population densities of over 10,000 people per square mile (fifteen per acre). The average city dweller lives in a city with a population density closer to four people per acre. From these statistics, it would appear that a quite sizeable percentage of our vegetable needs could be produced on our vacant land and rooftops. A closer look at the realities of vacant urban land will temper that initial conclusion. Much vacant land in cities is parkland; most of that land cannot be used for food production. Many vacant lots, squeezed between tall buildings, never receive enough sunlight to be good garden land. In most cities, the problem of lead contamination in garden produce is serious enough that farming land which is close to heavily traf-

*These estimates do not assume that all one's nutrient needs will be provided by vegetables, but several people have estimated the amount of growing area needed to supply a year's food for a vegetarian. Estimates range from 1/4 acre (Dr. Michael Connor) to 1/8 acre (John Jeavons in *How to Grow More Vegetables*) to 1/18 acre (Helen and Scott Nearing). Even using the Nearings' figure of 1/18 acre per person, an estimate which emerges from their ingenious labor-intensive techniques and the use of greenhouse production, three times more square footage would be needed to provide each individual with vegetables. It is safe to assume, since not all urban farmers will have the skill of the Nearings and not all urban farms will be so productive, that a more conservative estimate is more realistic.

ficked roads could be hazardous to the health of the community. Other lots may be lying vacant only until already slated development begins. The actual percentage of vacant land space which can be used for food production is probably quite low. Similarly, although 20-25% of the area of a city like Washington DC is rooftop space, not all of that space is suitable for food production.

Given these limitations, any attempt to grow food in the city must be a serious, well-coordinated effort if it is to be significant. A few vacant lot gardens will be of economic, physical and psychological benefit to those involved; but a few isolated lot gardens will not affect the food dependency of city dwellers. An urban food production system must be viewed as an integrated system; and steps must be taken to ensure the maximization of production so that urban agriculture can become a significant part of the community's economic and productive base.

The land must be built up and improved. The gardens must be functional and productive. In fact, if urban agriculture is to be more than a hobby or a social service project, it is important that small commercial enterprises be developed. Many aspects of urban food production lend themselves to being run as small businesses; and the imperatives of a business operation would provide the incentive for a rational and farsighted approach to urban agriculture. Greenhouses can be successful community businesses; but expertise is required for maximum greenhouse production. The Institute for Local Self-Reliance set up a sprouting operation as a demonstration project and the 180 pound a week business generated a salary and a surplus. Malcolm Beck of San Antonio, Texas, has been composting as a part-time business since June 1975. In a little over a year, he has produced 800 cubic yards of compost. Mushroom cultivation is a possibility; so are earthworms, whose castings make good potting soil and are a possible hydroponic nutrient source. Viable canning facilities have been established in a number of communities. Dried fruits and vegetables are another possibility. The advantages are many: the generation of income, the creation of jobs, and the evolution of urban agriculture as a permanent social and economic force in the community.

The Vacant Lot Garden

The backbone of the typical urban agriculture system is the vacant lot garden. While in an area with the density of Adams-Morgan, rooftop food production (and greenhouse production in particular) is most useful, the lower densities of most urban communities makes vacant lot gardening both practical and efficient. Ideally, these gardens should be more than empty lots with a few rows of vegetables planted each spring and harvested each summer. Provision should be made for tool storage, for adequate watering equipment and for composting bins. Grow holes and cold frames should be used on the lot to extend the growing season.

Good urban gardeners will take care to improve the quality of the soil and to ensure the garden's permanence. Crop rotation is a necessity in order to prevent soil depletion and to increase soil fertility. Composting is also crucial for successful urban food production. Much city soil is, practically speaking, inert and contains few microorganisms. As a result, the benefits of the nutrient cycles, which are continuous processes in fertile soil, are lost. In many neighborhoods, vacant lots exist, but are unarable simply because of their soil quality. Each vacant lot garden should have room, therefore, for composting bins. A three foot by twelve foot area, large enough for three boxes or cinderblock enclosures, will provide more than enough compost to service the average urban house lot once the soil has been rebuilt. (Good plans for a composting box can be found in Helga and William Olkowski's *The City People's Book of Raising Food.*) Gardeners can compost their own household wastes and can also obtain the garbage of local food stores and restaurants.

Though this small-scale approach to composting is important, providing inexpensive and convenient compost to each lot, it is far more practical to compost on a large, city-wide scale. Only such a large system will be able to provide enough compost to recondition significant amounts of urban soil. Several cities, Berkeley being one, have already instituted municipal composting operations for use on city parks and green space. Large scale composting, though it requires a significant initial capital outlay, can increase the amount of usable land so dramatically that it is difficult to envision urban agriculture without it.

Once the lot is ready, with fertile soil and facilities for watering and tool storage, it is important to consider ways to increase the growing season, the diversity and the economic viability of the garden. One possibility is the introduction of perennial crops into the garden. Most community gardens plant only annuals. The introduction of perennials, such as berry bushes, asparagus and rhubarb patches, would add a feeling of permanence and development to a community lot. Fruit and nut trees could be used not only as crops, but also as barriers to some of the pollution from nearby roads. Generally, the fruits of perennials command good prices.

Cold Frames and Grow Holes

The well-conceived lot should also be equipped with cold frames and/or grow holes. Both operate as starting structures in the spring and season extenders in the fall and early winter. A cold frame is simply a box, set on the ground, which has a transparent glass or fiberglass covering. The grow hole is a pit, filled to a level about six inches below soil surface with a bottom layer of manure and a top layer of soil (which makes it a hot hole) or filled only with soil. A frame surrounds the pit, extending below ground level, and a transparent cover is placed over the hole. Both cold frames and grow holes can be designed on solar principles, with an extended north wall painted white and a sloping fiber-

continued on page 15

Puffed Mice?

A few of our readers noticed a typographical error in last issue's article on Organic Hydroponics. Vermiculite, needless to say, is not made from mice but rather from mica. Lee Schilling, of the Folk Life Center of the Smokies, was puzzled: "We have set all our mouse traps and will save the mice as we catch them. But how do we go about expanding them?"

Two other corrections, less obvious but more important, must be made. The suggested nutrient solution consisted of one tablespoon fish emulsion, one tablespoon liquid seaweed and one teaspoon bloodmeal per gallon of water. The correct solution is only 1½ teaspoons fish emulsion, 1½ teaspoons seaweed and one teaspoon bloodmeal.

Helga Olkowski of the Farallones Institute in Berkeley has been raising aphids and has told us that they require a high nitrogen content in their diet. She suggests that the increased resistance to aphid attack of the hydroponically grown tomatoes in Montreal could be as much a function of the low nitrogen content of the nutrient solution (kept purposely low so that the tomatoes would flower better) as of the excellent nutritional benefits of the solution.

Resources

No one journal can keep track of current developments in the field of solar energy: it is a field in which too much is happening too quickly. A good number of new magazines and newsletters are trying to keep the public informed; and many of these are local or regional in scope. This makes sense, for bioregional variations in sunlight and resources are crucial determinants of the design and cost of solar systems.

AERO Sun-Times

Published monthly by the Alternative Energy Resources Organization
435 Stapleton Bldg., Billings MT 59101.
$10/year.

We recommended *AERO* in a previous issue of this newsletter; we repeat the recommendation because *AERO Sun Times* is such an excellent example of a regional solar energy publication. Focusing on the development and potential of renewable sources of energy in Montana, the magazine keeps track of innovative technology, the politics of solar energy and related news, and how it all relates to Montana.

Bulletin of the New Mexico Solar Energy Association

Published monthly at PO Box 2004, Santa Fe NM 87501. $10/year.

Another fine regional publication, the sixteen page *Bulletin* examines the progress of solar technology in New Mexico. Past issues have included articles on such topics as the problems to be encountered in amending New Mexico's building code to fit the requirements of solar technologies and the plans for an energy conserving apartment complex and community center in Santa Fe.

Energy Report to the States

Published bi-weekly by the National Conference of State Legislators,
1150 17th Street NW, Room 702, Washington DC 20016. Free.

This straightforward report contains much helpful material on state energy activities and on federal energy policy as it relates to the states. Although the report does not emphasize renewable energy sources, it does cover them when appropriate; and its coverage of other energy issues is invaluable. An informative article dealing specifically with solar energy, entitled "Electric Utilities and Solar Energy," appeared in the issue published March 26, 1976.

Energy to Date

Published monthly by the Oregon State Department of Energy, 528 Cottage Street NE, Salem OR 97310. Free.

This short newsletter keeps track of all energy developments in Oregon. It includes reports on legal battles, energy-related public meetings and state-initiated programs. The newsletter conducts periodic surveys of energy prices for Oregon, noting substantial increases when they occur. Although past issues have not been strong on solar, that will probably change as more local solar projects are established around the state.

High Country News

Published bi-monthly at Box K, Lander WY 82520. $10/year.

High Country News has been around for seven years, covering environmental and energy issues in the Rockies and the Northern Great Plains. Referred to by *Not Man Apart* as "our most reliable source for well-researched and extensive articles on the true cost of energy in the West," the paper includes excellent short information items as well as more substantial feature articles.

Maine Energy

Published monthly by the Office of Energy Resources, 55 Capitol Street, Augusta ME 04330. Free.

Maine Energy is the State's own newsletter on energy affairs. Though it covers all aspects of energy in Maine, it emphasizes developments in alternative energy sources, noting innovative solar studies and projects. Past issues have included articles on energy research and development, on reflective solar control film for windows, and lists of distributors and manufacturers of alternative energy equipment in Maine.

The Ray of Sunlight

Published by and for members of Missouri Solar Energy Associates, c/o Gordon Moore, 2008 Engineering Bldg., University of Missouri-Columbia, Columbia MO 65201. Write for membership information.

Meant to be a guide for "doers, not armchair scientists," *The Ray of Sunlight* is one of the more technical of these energy magazines and newsletters. One past issue contained a discussion on building a simple pyrheliometer using a silicon solar cell and a volt-ohm meter to measure milliamp and another article on measuring the solar transmittance of glass or plastics. A helpful, no-frills publication.

The State of Energy

Published by the Governor's Energy Council, Payne-Shoemaker Bldg., Harrisburg PA 17101. Free.

Like the Oregon and Maine state energy newsletters, this one from Pennsylvania covers all aspects of energy developments in the state. It does a good job of covering solar developments. The Governor's Energy Council has set up a Solar Energy mailing list; you can have your name added to the list simply by writing to the Council at the above address.

Solar Utilization News

Published monthly by the Alternative Energy Institute, PO Box 3100, Estes Park CO 80517. $8/year.

Solar Utilization News sees itself as a national publication. The appealing aspect of this publication, though, is its reporting on solar energy by geographic region: Southwest; Western and Pacific; Middle Western; Southern; Middle Atlantic; and New England. *SUN* includes reports on products, patents, projects, studies, federal policy and relevant publications. A new magazine, it is already a valuable resource in the field.

Virginia Solar Energy Association Newsletter

Published by VSEA, 314 Locke Lane, Richmond VA 23226.

The Virginia Solar Energy Association sees its newsletter as "user-oriented." It offers a wide range of material from technical explanations and decision rationale to locations of Virginia projects one might visit. The newsletter reports on both state and national news and policy, contains a calendar of events, publicizes manufacturer news and is specially concerned with applications of solar energy in agriculture.

Appropriate Technology Comes Home

In 1969, E. F. Schumacher established a London-based consulting organization, Intermediate Technology Development Group Ltd., oriented toward helping developing countries to create and utilize technologies compatible with the needs of their local economies. Traditionally, developing nations have had to import production technologies and consumer goods from the industrialized countries. These imported technologies are usually capital intensive, even though poor countries have scarce capital resources; and they generally require a small labor force, though poor countries are abundantly rich in human capital. The complexity of the technology requires the importation of technicians and technical assistance. Schumacher, understanding the problems inherent in the direct importation of inappropriate technologies, formulated the concept of "intermediate technology . . . a technology to which everyone can gain admittance and which is not reserved to those already rich and powerful."

By 1973, the combined impact of the oil embargo, the new ecological awareness, the increased sensitivity to the wastefulness of energy-intensive technological systems, and the increasingly sophisticated analysis of the impact of technology on employment patterns worked to make the concept of humanly scaled technology attractive to in dustrialized nations as well. Last year, Schumacher's group opened an office in England in order to develop new technologies at home. Here in the United States, government agencies and local organizations have also begun to make efforts in this area.

In America, the name which has caught on is "appropriate technology." It is a name which, in a typically American way, tries to satisfy all and alienate none. Everyone can think of technologies which are "appropriate" to given situations. The importance of the movement, though, lies less in its development of innovative hardware than in its social and economic implications. Who will benefit? Who will use it? How will it be used? The positive impact of appropriate technology depends upon the way these questions will be answered.

Office of Appropriate Technology (OAT): California is the only state with an appropriate technology (AT) agency. Established by Governor Brown through an executive order which mandated the office to "assist and advise the Governor and all state agencies in developing and implementing less costly and less energy intensive technologies of recycling, waste disposal, transportation, agriculture, energy, and building design," OAT sees itself as an educational vehicle within the state and within the state government itself. Working groups have been established consisting of people from the various state departments who have expressed interest in incorporating AT into state planning priorities. With an annual budget of $100,000, OAT has held seminars for state government personnel, and for the public, on such subjects as *Water Use and Corporate Land Ownership, Alternate Household Waste Management Systems,* and *Passive Systems for the Natural Cooling of Buildings.* One current project (noted in SELF-RELIANCE #4) is the establishment of a solar technician training program. The program will allow 15-20 CETA-funded workers to learn how to manufacture and install solar collectors for hot water; forty state-owned apartment units and residences in Sacramento will be retrofitted. Contact: Judy Michalowski, OAT, PO Box 1677, Sacramento CA 95808.

A. T. International: The Agency for International Development has been appropriated up to $20 million to establish an organization dealing with appropriate technology in the international sector. Currently in the planning stages. A. T. International is expected to spend $5-10 million each year. Contact: Ted Owens, A. T. International, AID, Room 200, State Annex 2, 515 22nd Street NW, Washington DC 20523.

National Center for Appropriate Technology (NCAT): The National Center for Appropriate Technology, in Butte, Montana, is trying to aid community economic development and improve the situation of low-income segments of the population through the introduction of appropriate technologies. The introduction to the original proposal for the Center provides the rationale:

> *Technology is a primary determinant of our society. The anti-poverty programs in this country have never had a technological capability. This lack hampers community economic development programs in their mission of making low-income communities and individuals more self-sufficient because they lack familiarity with or access to technological resources.*

NCAT is an independent organization on contract with the Community Services Administration, the successor to the federal Office of Economic Opportunity (OEO). The $3 million contract granted by CSA mandates the National Center to provide Community Action Agencies with technical assistance, information and research and development work in energy-related areas. One third of the $3 million will be sub-contracted to low-income community groups for energy-related field projects. The Board of Directors will be representatives or designees of low income organizations. NCAT is presently accepting proposals in its fields of interest. For guidelines, contact: James Schmidt, NCAT, PO Box 3838, Butte MT 59701.

Americans have always been enthralled by gadgetry, and the hardware aspects of appropriate technology are fascinating; but if the social implications are forgotten (the implications for local economic development based on local production which spurred the movement in the first place), then the appropriate technology movement will not answer the needs of those people it purports to aid. If the concepts of appropriate technology are carried to their logical conclusions, then the changes in institutional structures, in the scale of production, in tax structures and subsidies, in industrial organization and market strategy will be far more profound than the hardware development. The concepts imply decentralization and self-reliant development, both for developing countries and for industrialized nations. It may well be that state or national organizations, dependent on governmental funding and inherently centralizing in terms of knowledge and resources, are incapable of the kind of decentralizing and mobilizing efforts that are integral to the development of a genuine people's technology. They may not be able to overcome their basic structural bias to truly promote decentralized development. Only time will tell. The future activities of the organizations discussed here, as well as those of other groups springing up around the country, must be followed closely.

—David Morris

David Morris was recently elected to the Board of Directors of the National Center for Appropriate Technology (NCAT)

Progress Reports

Local Initiative

Low-income and unemployed residents of Hartford, Connecticut, will be able to pay part of this year's property or motor vehicle taxes in services rather than cash. The optional program, open to qualified Hartford taxpayers who are either unemployed or have incomes below the Labor Department poverty line, is designed both to help the city continue to provide services and also to help taxpayers meet their financial obligations during what the City Council has labelled these "extraordinary times." Low-income employed residents can pay any tax increase above $30 either in cash or in services. Anyone unemployed for six months or longer and any recipient of welfare or Social Security may elect to work off all or part of current motor vehicle or property taxes above $30, to a $1000 maximum. Work projects are allocated on the basis of job skills and occupational interests; work is computed at $2.50 an hour. This novel "sweat equity" program opens the way for innovative in-kind payment programs across the country.

Resource Recovery Cooperative may well be the first garbage cooperative in the country. Located in rural Durango, Colorado, the co-op recycled between 5-10% of the area's solid waste stream in its first year and was able to break even. Old appliances and junk cars were the bread and butter of the operation. Art Emery, one of the founders of the co-op, expects the company to double its volume this year and believes that with more labor help and machinery they could salvage and recycle 30% of the local solid waste stream. Membership fees can be paid in cash or, over time, in solid waste brought for recycling; and members share in the year's profits according to their shares in the co-op and the amount of garbage they contribute. A storage facility was built next to the county dump (to which all solid waste not brought to the co-op must be taken) financed through the sale of five year, 7% notes to the members. The convenient location has been a crucial element of the co-op's success. For more information, contact: Art Emery, Resource Recovery Cooperative, Durango CO 81370.

People Against Redlining, a citizen's group in Salt Lake City, won a pledge last June from Utah State Treasurer David Duncan that the state would deposit over $5 million in state funds with lending institutions that make mortgages in "high risk" neighborhoods. It was assumed that banks would be encouraged either to improve their lending pattern or maintain it if it was good. Not one bank, though, took the state up on the offer; only one bank even asked for more information. Since then, People Against Redlining has moved in other areas. They obtained a commitment from the Treasurer of Salt Lake County that would require each financial institution hoping to hold any of the County's $91 million to first sign an anti-redlining pledge and then to disclose loan information semi-annually, by census tract, with a breakout of interest rate, down-payment and period of loan. The group has also been actively pushing a new, tough state anti-redlining law which should be enacted this year. For information, contact: Richard Male, Crossroads Urban Center, 347 South 400 East, Salt Lake City UT 84111.

Economic Development

The New England regional office of the Community Services Administration has announced a program of equity grants for capital acquisition and working capital, which it is jointly funding with the New England Regional Commission. Twelve community groups associated with Community Action Agencies have received awards to start business ventures which will create permanent jobs for CETA employees. The recipient programs, most of which are innovative in terms of product as well as funding, include: Technical Development Corporation of Boston, which will produce several products related to energy conservation and alternate technology; Norwalk Economic Opportunity Now, which will open a storefront food cooperative; Cambridge Economic Opportunity, Inc., which will begin a project to profitably recycle solid wastes from public housing developments; Cranston (RI) Community Action Program Committee, which will begin an operation to assemble and install low-cost solar hot water systems; and Southeastern Vermont Community Action, which will open a grain mill and warehousing operation for local farmers and will produce and install low-cost woodburning stoves. For a full listing of the recipient programs, see the *Center for Community Economic Development Newsletter,* August-September 1976.

The Alaska State Legislature has recently enacted legislation which authorizes the State's Commissioner of Revenue to invest State funds into tenant controlled housing co-ops, making direct mortgages for up to 95% of the value of the property. The legislation, lobbied for by the Alaska Public Interest Research Group, will result in the financing of demonstration projects by next winter. Should the co-ops prove to be a marketable way to provide reasonably priced housing to Alaska's hard hit lower and middle income persons, the State will continue much broader commitments in the co-op housing field, which would be authorized by the present legislation. For more information, contact the Alaska PIRG Lobby, Box 1093, Anchorage, Alaska, 99510. *National Conference Newsletter,* October 1976.

The Opportunity Funding Corporation, a private, non-profit organization established in June 1970, has helped launch two new investment vehicles which will foster the creation and transfer of wealth into minority and low-income communities. One is Syndicated Communications, Inc., a non-profit corporation established to facilitate minority ownership of electronic communications media. SYNCOM hopes to leverage $20 million and facilitate at least 10 acquisitions in its first five years. The second venture, The Southern Agriculture Corporation, was launched last year to advance the development of profitable minority and community-owned agricultural operations in the South.

The Opportunity Funding Corporation was established with a $7.4 million federal grant. Its objective is to demonstrate that innovative applications of risk-reduction and other secondary financing techniques can increase the flow of private capital into low-income communities. Business and economic development organizations such as CDC's and LDC's are eligible for participation in OFC's Flexible Guaranty Program. For more information, contact: Opportunity Funding Corporation, 2021 K Street NW, Suite 701, Washington DC 20006.

Neighborhood Planning

The East Texas Council of Governments (ETCOG) has developed and implemented a program to provide technical planning assistance to its fifty member communities which, with populations under 5,000, are smaller than many urban neighborhoods. The program provides an interesting model for the relationship between a neighborhood and the city staff which may provide it with planning assistance. ETCOG initiated the program by distributing a booklet to the fifty city councils outlining the benefits of planning and explaining what kinds of assistance were available. To participate in the program, towns contract for the planning services which cost $2,000 for all technical assistance, including preparation of seven maps, ongoing help in plan development, publication, implementation, updating, and revision. A five-member planning Committee made up of townspeople is selected by each town to work with the COG planning staff in determining community needs and priorities. Each participating town provides the direction for its own plan's content. The ETCOG staff provides only technical assistance and education in planning. ETCOG goes into each town with a simplified general plan in mind. But, "Our purpose is to help the small communities to plan and implement the goals they themselves establish . . . we are entirely flexible." With staff guidance, the citizen committee does some of the actual planning work, such as surveying existing conditions. The result is a ten year comprehensive plan and a group of citizens with an intimate understanding of the planning process and the community plan. For further information, contact: Stewart E. Rohner, Regional Planner-Physical Environment, East Texas Council of Governments, Citizens Bank Building, 5th Floor, Kilgore TX 75662.

Arlington, Virginia, across the Potomac River from Washington, D.C., is one of the innovators in neighborhood preservation. A citizen-initiated program of planning for neighborhood conservation and improvement was formally adopted by the County Board in 1964. Since then, 10 neighborhood groups have completed plans for their communities and have had them approved and published by the County; four more are near completion and another three are in the early stages. To initiate a planning program, a neighborhood group contacts Arlington's Neighborhood Conservation staff. The staff then provides a packet of informational material and arranges a meeting of the Neighborhood Conservation Committee, an official subcommittee of the Planning Commission composed of two members from each of the existing conservation planning neighborhoods. With the approval of the Committee, the neighborhood group and the staff formally agree to develop a plan. They hold a joint meeting to outline the objectives and procedures of the process. The staff provides the residents with technical assistance, maps and other materials. The neighborhood group forms issue sub-committees; prepares, distributes and evaluates a survey questionnaire of resident concerns; inventories existing conditions to identify problems; and, based on all its information, either develops solution proposals which are consistent with the Comprehensive Plan or recommends specific amendments to the Plan. The staff estimates the costs of the proposed solutions; the neighborhood completes the plan by establishing and approving project priorities. Final approval of the plan rests with the Neighborhood Conservation Committee, the Planning Commission and the County Board. For further information contact: Michael Foti, Coordinator, Neighborhood Conservation Program, Planning Division, Department of Environmental Affairs, 2100 14th Street, Arlington VA 22201.

The Workplace

Swedish glass workers, faced with the threat of plant closure and the sack, are demanding the right to work on socially useful and environmentally appropriate products. In Surte, where the bottleworks is located, glassmaking is the backbone of the economy. The townspeople cannot afford to lose the jobs provided by the factory. Workers have refused to accept management's claim that bottles are "uneconomical." With the help of professors from the local university, they have countered with arguments based on the analysis of the environmental merits of glass as compared to the alternatives of plastic or aluminum. The campaign has reached the stage of meetings with government officials; the outcome of the struggle, though, remains uncertain. The Surte workers are setting an example for workers in Sweden, much the way Lukas Aerospace Workers have in England (cf. SELF-RELIANCE, November 1976, p. 8). Recently, representatives from the glass workers attended the ARARAT Appropriate Technology exhibition and conference in Stockholm where they met with representatives from the Lukas Aerospace Shop Stewards. *Undercurrents* 18, p. 22.

New York City will soon join San Francisco and other municipalities in experimenting with the restructuring of municipal garbage collection as "producer co-ops." Subject to the consent of the sanitation workers' union, the plan will be tested in two New York City districts this year. The proposed plan calls for worker-owned cooperatives to take over garbage collection and cleaning as well as municipal equipment and facilities. The workers, as equal shareholders, will control all operations but will be subject to city-imposed profit restrictions and Sanitation Department monitoring. *Comp News*, August 12, 1976.

Recycling: A Report from California

Two hundred and fifty recyclers, environmentalists and community activists gathered in Santa Barbara from November 4-6 for a Recycling Conference sponsored by the California Resource Recovery Association. From the reports and presentations at the Conference, it became clear that the organizing and the struggles of the past few years in California have resulted in an impressive array of successful collection/recycling operations and recycling centers across the state. One reason for the spread of local efforts in California is State Bill #5, passed in 1973, which established the State Solid Waste Management Board to supervise the implementation of formal county plans for solid waste management. By requiring solid waste management plans on the county level, the state has enabled community groups and community-based recycling efforts to have a significant voice in the shaping of state policy.

The following are some of the many promising developments reported on at the Recycling Conference. Some were presented in the form of official reports; others came out of audience participation in the workshops. Although most of the operations reported on are located in California, there are signs of progress across the country. Especially encouraging is the recently passed Federal Resource Conservation and Recovery Act, a law which, like the California state law, will provide a stimulus for community participation in the design and implementation of comprehensive state and local solid waste plans.

Santa Barbara: Two years ago, Santa Barbara initiated a recycling system utilizing drop-off bin sites around the city. The program was established by the Resource Recovery Committee appointed by the City Council; but responsibility for the day-to-day operations was given to the Community Environmental Council (CEC). The system quickly grew to include a credit system for organized groups wishing to make some money from delivering the recycled paper: over 170 different organizations now participate. The program has begun an experimental pick up system in flat areas of the city. The group is able to collect 55 tons of the 110 tons of newsprint delivered to the city each week. That makes their newspaper recycling program the second largest in California. CEC has been so successful that the group acts as a broker for all paper recycling marketed to Los Angeles, over 100 miles away. For more information, contact: Hal Conklin, CEC, 109 East de la Guerra, Santa Barbara CA 93101.

Modesto: Today, over 7000 families are taking part in Ecology Action's Recycling program. In 1970, the program began with a borrowed truck, a few donated barrels and much enthusiasm. Now, approximately 6000 homes participate in the curbside pick-up of glass, cans and newspapers, 500 use the drop-off center for glass, cans, newspaper, cardboard, magazines and motor oil, and another 500 take part in the purchase program for glass, aluminum and newspaper. The program has reached the point where the sale of recovered materials can maintain the present level of operation. An $18,000 grant for publicity from EPA will, however, enable a further broadening of the scale of the operation. It is expected that apartments and mobile home parks will be added to to the routes in 1977 and that the goal of 50% participation will be achieved by next June. For information, contact: Cliff Humphrey, Ecology Action Educational Institute, Box 3895, Modesto CA 95352.

Arcata: The Arcata Community Recycling Center is one of the best organized rural recycling systems in the country. Servicing part of Northern California, the group maintains drop-off facilities, picks up from sixty businesses and sends mobile trucks to outlying areas as far as seventy miles away. The City Council franchise law allows for a source separation service to households and the Center is planning to provide this service in cooperation with a private hauler. In recognition of its services in reducing land-fill expenses (currently $40/ton), the Center has received $35,000 in revenue-sharing funds. Using television, radio ads and flyers for publicity, the Center has been able to build an operation which nets $20,000 a year; but it could not have done so without the creative use of CETA, work study and senior citizen employees. A conflict is currently developing in the area; a resource recovery plan proposed for Humboldt County may need all the area's garbage, including some from out of state. If this is true, Arcata's recycling center may be forced to close down. For more information, contact: Karen Nardi, Arcata Community Recycling Center, 1380 9th Street, Arcata CA 95521.

Orange Coast College: Lee Johnson, program coordinator of the Orange Coast College recycling program (and not related to RAIN's Lee Johnson in Portland), called a meeting of the California college-based recycling groups attending the conference. Representatives from seventeen different groups have responded and the California College Recycling Coalition has been formed. College-based recycling programs have some advantages: the vehicles, the space, the labor-power are already available. At Orange Coast College, there is a waiting list of students who want to work in the recycling program for college credit. Johnson sees a trend of campus-based programs moving beyond the campus to serve the surrounding communities. He feels that a campus-based service, with its effective subsidies, makes curbside source separation in the community a feasible project. For more information, contact: Lee Johnson, Recycling Program, Orange Coast College, Costa Mesa CA 92626.

Sacramento and elsewhere: A joint project of the state Department of General Services and the Board of Solid Waste Management is recycling office paper in state office buildings in Sacramento, San Francisco, Los Angeles, Fresno and San Diego. Figures point to a potential annual savings of from $480,000 in state buildings alone to over $10 million if all general office workers recycled ordinary white office paper. In June and July of this year, the program recovered 76 tons of paper, reducing by 40% the quantity of solid waste generated as trash.

These projects in California are only a few of the many which were reported on in Santa Barbara. A full review of the formal and informal presentations of both Californian and out-of-state recyclers is available for $1.00 from the Institute for Local Self-Reliance, 1717 18th Street NW, Washington DC 20009. —Neil Seldman

Independent Voices Make Themselves Heard

In 1970, Warner-Reprise merged with Atlantic Records and with Elektra Records to become WEA, Inc., the giant of the recording industry. Understanding that pop and rock music sales had soared in the sixties to constitute more than 50% of all record sales, the corporate management at WEA concentrated almost solely on capturing that ever-growing "contemporary" market. By 1973, the company had control of 25% of the pop music sales in America and was clearing $55 million.

Also in 1970, a group of three people in the Boston area formed Rounder Records, a small, independent record company which was to be run as a worker self-managed firm. In its first year and a half, Rounder produced only two albums; in the following year, they produced three more.

In 1969, CBS Records (which at the time controlled the lion's share of annual record sales and has since dropped to second place behind WEA) bought a chain of eighteen retail outlets called Discount Records. By 1973, the operation had grown from eighteen stores to sixty stores.

One year after CBS bought Discount Records, a few people in Kent, Ohio, opened up a retail record store to be operated as a non-profit self-managed business. The Kent Community Store began with $800 start-up capital; with three-quarters of that money, they bought two hundred and fifty records to stock their shelves.

Six years ago, the Kent Community Store opened with $800 start-up capital; today, the store's volume is close to $750,000

These examples reveal two not unrelated tendencies in the record industry, tendencies which have become more and more pronounced in the past ten years. On the one hand, the industry is becoming more concentrated. The top six companies (WEA, CBS, RCA, Capitol, MCA, and ABC) accounted for 85% of the pop music sales in 1973. Most of these companies own many different, once independent labels. When you buy a record on Warner, Reprise, Atco, Atlantic, Cotillion, Asylum, Countryside, Elektra, Nonesuch or Slipped Disk labels, you buy from the same company. On the other hand, independent "alternative" enterprises in the record industry, starting slowly and with little capitalization, are proving themselves viable and even profitable in retail, distribution and production.

Giants and Independents

The past few years have witnessed the increasing concern of large record companies with profitability. All of the six largest companies are part of massive communications conglomerates involved in films, books, television, radio, computers, etc; and all are subject to the profitability demands of the parent company. The Bottom Line is the only line that really matters: so the companies look for the blockbusters, the supersellers. As far as they are concerned, one album which sells 3,000,000 copies is worth far more than six which sell 500,000 each. As a result, many artists are ignored by the giants; though their work is good and a solid market exists for it, there is not a great enough profit in it for these companies. Vassar Clements, one of the finest fiddlers in the country, recently left Mercury Records to record with a small independent label. The smaller label markets his albums more aggressively than did Mercury and permits him greater artistic freedom. In turn, he provides them with what is, by their standards, a good-selling record.

An indication of the priorities of most small companies is Folkways' policy of never letting any of its 1500 titles go out of print

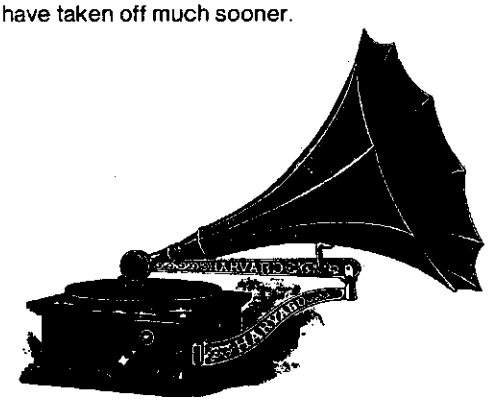
Small labels can provide services to both artists and record buyers which large companies either cannot or will not. Strata East is an artist-owned jazz label which records musicians who could never get contracts with the larger labels. Alligator Records specializes in blues musicians like Hound Dog Taylor. Philo is an excellent folk label which records I.W.W. member Utah Phillips and others. Many artists cannot record for larger companies because of their explicitly political or cultural stance. Paredon Records is one of the few sources of popular and political music from the Third World, music which WEA and the other giants would never touch. Folkways has recorded songs of the Abraham Lincoln Brigade and other politically charged albums. All explicitly feminist music is recorded on small labels, some artist-owned, some self-managed, some not. Olivia is perhaps the best known example; Chris Williamson and Meg Christian record for Olivia. Holly Near has her own record label, Redwood. The small labels are making available whole genres of music which are being ignored by the pop and rock market: they are giving record buyers access to music which both grows out of and encourages new cultural forms. They are ensuring, as well, that "people's music" is not swallowed up in commercial hype. An indication of the priorities of most small companies is Folkway's policy of never letting any of its 1500 titles go out of print. This is quite different from the giants' policy of "cutting out" records if sales are poor. As soon as six months after a record has been released, the record industry may remove it from its catalogue and sell out all remainders at a discount; and the sole criterion for remaindering is poor sales volume.

Marion Leighton of Rounder Records is hopeful as to the future of small labels and of alternatively structured record companies. Ten companies may control the industry: but there are over four hundred record companies in America today. The independents cannot replace WEA et al.; but they can be economically viable and can, if so planned, be important cultural and economic centers of a community. The demand for services not provided by the largest companies extends to the areas of distribution and retail sales as well. Just as food co-ops and worker self-managed collectives have moved into the service gaps left by supermarket chains in their flight from the inner city, so too have retail, whole-

sale and production companies begun to move into the service gaps left by the conglomerate-owned record companies, distributors and retail stores. What is promising about this development is not simply that small companies can survive; what is most exciting is the potential for the development of both a cultural and an economic base at the same time.

Some Examples

Rounder Records, in Somerville, Massachusetts, began six years ago with $500. With that money, they produced a record by an old-timey banjo picker from North Carolina. Now, six years later, they issue around twenty-five albums a year and maintain a catalogue of one hundred and twenty titles. Until 1974, the collective took no salaries; now the three collective members make $300 a month. The group found that a logical extension of their production work was to move into distribution; so they have hired four salaried employees ($3.55 an hour) to handle the New England-wide distribution of over 200 independent labels. Both the distribution business and the production enterprise are independently viable small businesses. Had Rounder been anywhere near adequately capitalized when it began, the business would have taken off much sooner.



The Kent Community Store, also in existence six years and also initially undercapitalized, did pay salaries from the day the store opened. O.C. Cabot of the store explained that the five full-time members of the collective see the function of the store as "to provide jobs and to provide a service." They employ no volunteer help. The volume of the store is close to $750,000—in records alone. The mark-up from wholesale used to be around 20%; as volume has increased, the mark-up has dropped to under 10% on most items. Most $6.98 list albums are sold for between $3.90-$4.00. Though salaries are low, around $2.00 an hour (compared to a starting salary of closer to $3.00 an hour at most retail record stores), this has been the result of staff priorities rather than of economic necessity. The record store has been so successful, drawing customers from Cleveland, Akron, and Youngstown as well as from the student-oriented Kent, that a non-profit natural food store and a non-profit bakery have been spun-off. The record store collective also experimented with a similarly structured gas station, and book store, neither of which proved successful. The gas station had the misfortune of opening during the oil crisis of 1973 and could not survive. They continue to look for viable non-profit, worker self-managed enterprises to finance; they also give loans and grants to local community services, like the city's free clinic. The store makes a conscious effort to stock records from small, independent labels and to offer as many different types of music as possible.

Another experiment in retail record sales is Bread and Roses in Washington DC. The people who started the store three years ago chose the name because of a banner held by a group of striking women textile workers in Lowell, Massachusetts in 1914, a banner which read, "We want Bread, and Roses too." The self-managed collective is concerned with educating as well as with selling records. They offer for sale general radical periodicals and carry an impressive stock of radical journals on art and culture. They want to promote the "music of resistance" and consciously sensitize their customers to new types of music, little known artists and labels, and political commitment. The store is small, though, with an annual volume of $120,000. (The largest retail stores have annual volumes of $2 million; $750,000 is a healthy volume for a mid-sized city.) There are three and a half salaried staff and seven volunteer workers. Salaries are $80 a week for a 35 hour week. Because of Bread and Roses' comparatively low volume, their mark-up is 18%, significantly higher than that of the Kent Community Store. It had been lower initially, but it was decided that the higher mark-up was necessary for economic viability. The store's economic situation is stable, but little surplus is generated. Collective member Brian Dougherty explained that Bread and Roses does not benefit from university student business but rather is trying a new tack, to serve a high density urban neighborhood.

Last year, Co-op Books and Records in Tallahassee parcelled out almost $15,000 in loans and grants to community businesses and services

Perhaps the most successful and significant alternative in the record industry is Co-op Books and Records in Tallahassee, Florida. Begun in March 1971 as a used bookstore, the membership co-op began selling records in the summer of 1973. The record business grew until it needed a larger space. The record store and book store are now at separate locations. The record store, a full-line outlet with rock, jazz, blues, classical and other styles of music, does an annual volume of $650,000 a year. Eight people receive salaries ranging from minimum wage to $3.00 an hour; three people work full time. The general public can currently buy all $6.98 list albums for $3.99; people who volunteer their work can buy records at cost. This past July, the co-op formed a wholesale distributorship, called Looking Forward, a one-stop distribution operation much like Rounder's in New England. Surplus from the co-op business, which is quite sizeable, is used for loans and grants to the community. Last year, Co-op Books and Records parcelled out almost $15,000 for such things as the Feminist Women's Health Clinic, a food co-op, an appearance by film director Emile de Antonio to introduce his film *Underground.* Together with the Leon County Food Co-op, Co-op Books and Records is seriously exploring the possibility of starting a credit union which would service the co-op community and which could make possible the formation of a housing co-op.

The potential is real. In the production, distribution and retail sectors of the record industry, there is room for more cooperatively run or self-managed firms, for more independent companies, for more businesses which can provide both a cultural and an economic base for their communities. With proper capitalization, these businesses could begin generating a surplus fairly quickly. However, just as with the recent development of alternative stores, trucking networks, warehouses and production facilities in the food industry, the question of how significant a contribution these alternatives in the record industry can make to their communities—and how widespread a phenomenon it will be—remains to be answered. In this context, the examples of Kent and Tallahassee seem most encouraging.

—Richard Kazis

Solar Economics

All right. So solar technologies work. But do they pay?

The nature of the discussion on solar energy has changed. People used to question the viability of the technologies. Now, though, the technologies have been proven; so the discussion has shifted to an analysis of the economics of solar energy. The closer one examines the question, though, the sooner one comes to the realization that the emphasis is misplaced. There is no *economics* of solar energy: there is only the *politics* of solar. Since solar technologies have high initial costs but no operating costs, any comparison between solar technologies and conventional energy systems must rely on guesstimates about the future, guesses about inflation rates, energy costs, durability. And most of these variables are far more directly the result of public policy decisions and priorities than of market forces.

Even if it is found to be economical to install solar technologies on one's building, the question of how much of one's energy needs should be met by solar technologies cannot be answered solely in terms of dollars and cents.* The individual's perspective may favor the maximization of dollar savings, but the societal imperative may be to minimize the consumption of nonrenewable fuels or to move toward a policy of local self-reliance. The two goals may conflict, and a non-economic rationale may dominate. As we look to the future, though, to that not so distant future of the exhaustion of nonrenewable fuels, the individual and societal answers to the question, "do solar technologies pay?", begin to converge.

Initial Cost

For the individual, both initial cost and cost over the life of the system must be taken into account. Since the initial cost of the solar system is almost the total cost (only minimal maintenance and some electrical energy to drive pumps and motors will be required after installation), a realistic examination of initial costs is crucial to our analysis. The fixed costs of the solar systems—the cost of the piping, storage, and installation—are relatively constant, ranging from $300 for domestic water heating to perhaps $1000 for space heating (interior house heating). The estimate on space heating is less exact, since costs can vary enormously depending upon the existing heating system, the slope of the roof, and the need for structural changes in the building.

The cost of collectors ranges from $8 to $12 per square foot. They can be built for as little as $3 or $4 per square foot. To estimate the initial cost of any particular solar system, one must have a sense of the number of collectors one needs. Several factors affect this estimate, including climate, end use, and extent of insulation. Variations in any of these factors significantly alter cost estimates.

In cloudy parts of the country, logically, it is usually less economical to use solar energy than in those, like the Southwest, which receive large amounts of direct sunshine. The chart on this page shows just how significant the variation can be and how it can affect solar system costs. To collect one million BTUs of usable energy in January, twice as great an area of solar collectors is required in cloudy Portland, Oregon (76.6 square feet) as in sunny Phoenix, Arizona (37.6 square feet). Climatic variation alone, then, can as much as double the cost of a solar system.

The extent of insulation in a given building is also a significant factor. When gas and oil were very inexpensive fuels, there was little economic incentive to install storm windows or attic insulation. In all-electric homes, because of the high cost per BTU of electricity, not only attic insulation but wall insulation as well are considered mandatory. In solarized homes, even more attic insulation is necessary and careful attention must be paid to heat leakages. It is not economical to use solar energy to heat a house with open windows and no insulation. A recent government publication which purported to educate the public about solar energy used as its "typical" house one that was uninsulated. As a result, the projected size and cost of the system were so great as to be prohibitive. If $1000 or so were initially spent to properly insulate the house, the solar cost would have dropped by over 50%. Similarly, the cost of solar water heating will vary greatly depending upon the diameter of the pipes and the type of shower head used. It is possible, simply by narrowing pipes and installing new shower heads, to cut the hot water cost of showers by as much as 75%.

Solar System Size

This chart compares the number of square feet of collectors required in fifteen different cities to generate one million BTU's of energy, assuming 50% efficiency and south-facing collectors tilted to catch the maximum amount of winter solar energy.

	January	June
Denver	43.6	43.0
Washington DC	53.2	44.6
Atlanta	48.4	44.0
Chicago	56.0	44.0
Indianapolis	57.6	43.6
Portland ME	54.6	46.8
Boston	55.4	45.2
Detroit	68.4	44.8
Portland OR	76.6	51.2
Oklahoma City	45.6	42.0
Milwaukee	60.6	43.2
Birmingham	51.8	44.6
Phoenix	37.6	36.2
San Diego	40.0	48.2
San Francisco	50.8	42.2

*This article will not discuss passive solar systems, i.e. new construction designed to minimize heat loss and maximize heat collection, because these designs cost relatively little more than conventional construction.

The economics of solar also vary with the projected use of the collected energy. Though in many parts of the country solar space heating is quite economical, it is always less economical than domestic water heating. We use hot water all year and space heating only in the cloudier winter months (see the chart for January/June sunshine differentials); as a result, we get more use and value from a given square foot of collector if it is used to heat water.

Life Cycle Costing

The real issue in a comparative analysis of the economics of solar is the concept of life cycle costing. Since initial costs of solar are high while operating costs are low and the exact reverse is true with conventional energy systems, the only way a valid comparison can be made is on the basis of how much both systems cost over the life of the system. Such calculations are determined by an interaction of three major factors: 1) the life of the system before it must be replaced; 2) the projected increase in energy prices in the future; and 3) the discount rate, or the lessening value of money in the future.

The assumptions one makes about these variables will directly affect one's conclusions concerning solar energy's economic viability. If we assume that we are borrowing money at 9% effective interest (i.e., a discount rate of 9%) for a fifteen year life of the system, then we find that merely by increasing the rate of increase of energy costs in the future from 8% a year to 10%, we increase the present value of future fuel costs by 18%. In other words, if we assume that energy costs will increase by 10% each year, rather than 8%, we can spend 18% more on our solar system and still save money.

There is no economics of solar energy: there is only the politics of solar

If we vary the life expectancy of the system, we find even more variation. This makes sense, because the longer the system lasts, the more energy it saves; and since energy costs are already and will continue increasing every year, this savings is compounded. Thus, were we to choose a twenty year life expectancy rather than fifteen, and were the discount rate to remain constant, an 8% increase in future fuel costs would increase the amount we could spent on collector installation, and still save money, by 31%. By substituting a twenty year instead of a fifteen year life for the system, assuming a 12% yearly increase in energy costs, we increase by 44% the amount we save from the solar system.

It becomes obvious from looking at the question of life cycle costing that were we to be realistic about the life expectancy of solar systems or about the probable increase in energy prices in the coming years, solar energy would be competitive for almost any purpose, compared to almost any alternative fuel. There are solar systems which are still going strong after 20 years. Indeed, many solar collector manufacturers now give a 5 to 10 year guarantee for their products; and it can be reliably predicted that the only repair needed after twenty or thirty years will be the relatively inexpensive replacement of the glazing, the covering of the collector.

It is also difficult to believe that energy prices in the next decade will increase only as much as the present inflation rate (8-9%), given that we are running out of nonrenewable fuels. Since our present reserves of natural gas will not last more than twenty years, no accurate prediction of natural gas prices is possible. One government estimate of future natural gas prices assumed that prices would not go above the point where gassification of coal would be competitive. This kind of wishful thinking ignores: 1) that the cost of coal gassification is unknown since the process is still in its primitive research and development stages; 2) that, even if the process works, it will be many years before it comes on-line in sufficient quantities to become a major energy source; 3) that our economy, especially in energy production, does not operate as a competitive market system. It is wise, in judging energy alternatives in general and the economics of solar in particular, to examine the assumptions being made about the future. For it is these public policy assumptions which determine cost and not cost which determines policy.

Public Policy Decisions

Policy decisions by government regulatory agencies and legislative bodies do affect economic decision-making on the part of individuals. In the case of solar energy, there is at present a potential contradiction between the maximization of the individual's dollar savings and the maximization of social benefit. For example, if one designs a domestic water heating system so that 100% of hot water needs are provided for in the summer, perhaps only 40% or less of hot water needs will be provided for in the winter. If, on the other hand, one designs a system to provide 90% of winter hot water needs, substantial excess capacity will lie unused in the summer. A homeowner might find that s/he can achieve the greatest dollar savings over the life of the system by having it provide 50-60% of total energy needs; yet s/he might be able to provide 90% of total energy needs without losing money in comparison to the cost of conventional energy systems. To choose the larger system would reduce the amount of fossil fuel consumed and would increase the independence of the homeowner from external utilities, would increase the number of jobs created by solar production and would decrease the pollution costs of the current energy industries. But it would not maximize individual savings. Public policy decisions—political decisions—could provide greater economic incentive for individuals so that their own goals would be more consonant with broader social goals.

For it is these public policy assumptions which determine the cost of solar energy and not cost which determines policy

The precedent already exists. The government regulates interest rates. A generation ago, it became clear that the average American could not purchase a home at the prevailing rate of interest. The government then stepped in and reduced the interest rate for home mortgages. The setting of interest rates on student loans and VA loans at well below the market rate of interest was a matter of public policy and not market forces; the goals achieved by providing such loans were considered more important than the operation of the free market.

Presently, energy prices are significantly affected by public policy decisions. Nuclear energy is heavily subsidized, not only in terms of R&D funding, but also through government-owned fuel reprocessing plants. Coal, gas, and oil companies are granted depletion allowances. Natural gas prices are subsidized. In contrast, the federal government does not treat solar users as energy producers. Solar collectors on one's roof make the building a mini-utility company; yet tax breaks allowed utilities are not provided to solar users. Residential users cannot depreciate their equipment. There is no reverse depletion allowance, which would permit solar users to gain a tax credit for every BTU of fossil fuel energy that they did not use. If the federal government provided equal subsidies to solar technologies, the economic

picture for solar would be even more attractive than it appears now, and its use for a great variety of applications (e.g., process heating, air conditioning, electrical generation) would become economically viable.

Local and state governments have, fortunately, been moving into the vacuum left by federal inaction. Almost twenty-five states now have laws exempting solar technologies from property taxes. Nine states have provided some form of tax incentives to encourage the use of solar energy. New Mexico, California, Hawaii, Idaho, and Kansas have all passed income tax *credits* for both residential and commercial users of solar technology. In New Mexico, for example, a $4000 system will cost only $3000.

Local and state governments have, fortunately, been moving into the vacuum left by federal inaction

This is encouraging; but perhaps the most innovative and positive developments involve plans for the financing of individual solar energy systems. For in the final analysis, it is the size of the monthly payments which will either attract people to or deter them from the use of solar technologies. For people who move every five years, a ten year payback period (even though it may increase the value of the house) may not prove attractive. An immediate savings on the monthly utility bill will. Currently, several city and private utility systems are experimenting with leasing solar collectors to customers. Leasing, especially through utilities, raises the spectre of future market control similar to that occurring now with Ma Bell and our phones. However, one interesting innovation is being tested in Ocala, Florida, where a private company, Wilcon, Inc., has received sufficient financial backing to be able to work out the following arrangement with the municipally-owned utility company. Wilcon installs the solar hot water heating system at no cost and maintains the system free of charge. A BTU meter is installed to measure the amount of energy going into the water heater. The BTU's are converted to kilowatt-hours and charged at the current electricity rate. This total is then reduced by 25%. Thus the customer immediately begins saving money. Some of the remaining payment goes to the city for services rendered, such as billing, meter reading, and accounting; another smaller portion goes to the city as compensation for the loss of revenues to the municipal utility company. The rest goes to the private company. After five years, the customer's charge is reduced to 50% of what the monthly charge would have been if he or she were using electricity at then current prices. After ten years, the customer can purchase the system for $1. The private company believes it can generate a profit after four or five years; the customer saves money immediately; and the city does not lose revenue.

This is only one example; and we can expect more ingenious financing mechanisms in the future. What the Ocala program demonstrates is that innovative and imaginative financing programs can help make the individual's goal, the maximization of dollar savings, more compatible with the social goals of decreased fossil fuel use and increased energy independence. That is important; for only when public policy planners consciously begin to assist the prospective buyer of solar energy equipment to reduce his or her costs over time will the energy decisions of individuals begin to conform with public policy goals. For the individual, the economic question is paramount; in our society, the political decisions of public policy determine the answers.

—David Morris

Additional Reading

George Lof, *Solar Heating and Cooling of Buildings: Background and Economic Factors.* Washington DC: Government Printing Office, May 1974.

Craig Peterson, *The Impact of Tax Incentives and Auxiliary Fuel Prices on the Utilization Rate of Solar Energy Space Conditioning.* Logan UT: Utah State University, January 1976.

Rosalie T. Ruegg, *Solar Heating and Cooling in Buildings: Methods of Economic Evaluation* NBSIR 75-712. Washington DC: National Bureau of Standards, July 1975.

William Schulze et al., *An Economic Analysis of Solar Water and Space Heating.* Albuquerque NM: University of New Mexico, Department of Economics, 1976.

Jerome Scott, *Feasibility, Capture Potential and Incentives.* Newark DE: University of Delaware, School of Business Administration, 1976.

Ali Shams and Rudy Fichtenbaum, *The feasibility of Solar House Heating: A Study in Applied Economics.* Saint Louis: Center for the Biology of Natural Systems, Washington University, April 1976.

Rainer Sobotka, "Economic Aspects of Commercially Produced Solar Water Heaters," *Solar Energy,* Volume 10, No. 1, pp. 9-14.

How Does your Garden Grow?

continued from page 5

glass cover as the south wall. In the coldest climates, the three opaque walls can be insulated and the south wall can be double glazed.

The use of a cold frame or grow hole can extend the growing season year-round in all but the most severe winter climates. In a city like Washington DC, with somewhat cold winters but little snow, a crop of hardy leaf vegetables, sown in the frame in August or September, can provide fresh salads through the winter. Farther north, the growing season can at least be extended extra months with the use of cold frames.

In Montreal last year, the use of cold frames made possible the production of vegetables well into December. Gardeners who would have been forced to stop cultivation with the first frost in September were able to grow and harvest an additional crop in the extra two months. Only after temperatures stayed below 15° for several weeks with cloud cover was food production in the cold frames abandoned. In the very early spring, cold frames can be seeded with hardy vegetables for setting out. In Montreal, hardy vegetables germinated in the cold frames in mid-March and were harvested and eaten before the first lettuce seeds could be planted in the open ground in late May. Cold frames and grow holes also allow gardeners in warmer climates to start tomatoes, peppers and eggplants without having to rely on greenhouse transplants. Eliminating the need to buy transplants from a large commercial greenhouse offers several advantages. Plants grown in your own soil tend to transplant better than those grown in another mixture. Greenhouse plants generally have been sprayed with copious amounts of pesticides and the soil has been treated with fungicides; if you grow your own, you can avoid the poisons. It is also comforting to pick the varieties you want rather than depending upon the greenhouse to have picked the best variety. Needless to say, growing starts is also cheaper than buying them.

Grow holes, cold frames, perennials, compost—all are crucial components of a well-conceived vacant lot garden. In the next issue of SELF-RELIANCE, we will fill in the gaps in this vision of an integrated system of urban food production with a discussion of auxiliary systems such as greenhouses, earthworms, mushrooms, canning and drying.

—Miranda Smith

Notes

Farming is Farming: The Small Farm in America is a film made and distributed by Douglas Miller and Carol Ramsey. The film depicts the plight of the small farmer, but also examines the renewal of interest in the family farm as an alternative to agribusiness. Beautifully photographed, the film contains a wealth of information for people unaware of present trends in American agriculture. People interested in showing the film in their community should write to Ram Films, 200 Lovers Lane, Steubenville OH 43952. The forty-five minute color film rents for $45 and sells for $450. Include an alternate show date with your request.

Toward Tomorrow Fair '77, a follow-up to last year's fair which was attended by over 17,000 people, is currently seeking "future-oriented exhibitors" for its second annual fair to be held June 24-26 at the University of Massachusetts/Amherst campus. For more information, contact Erna Koch or Michael Maguire, Fair Co-ordinators, Toward Tomorrow, 200 Hills House North, University of Massachusetts, Amherst MA 01003.

The Center for Growth Alternatives has closed its doors and has turned over its resources to the Institute for Local Self-Reliance. The following CGA publications will be available from the Institute: *Non-Growth Planning Strategies: The Developing Power of Towns, Cities and Regions* by Earl Finkler and David Peterson (116 pp. $3.95); "Energy Growth Alternatives," a special issue of *Equilibrium* edited by Sam Love (49 pp. $1.00); and *Recreation in the Cities: Who Gains from Federal Aid?* by John Burdick (48 pp., $2.00). Send orders to: ILSR, 1717 18th Street NW, Washington DC 20009.

In the Making is a British "directory of proposed productive projects in Self-Management or Radical Technology." This exciting directory, published annually with periodic supplements since 1973, provides a forum for groups contemplating or already involved in self-managed enterprises and for individuals seeking employment with such groups. The people who work on *In The Making* have begun publishing a bi-monthly column in *Undercurrents*. For subscription information, write: *In The Making*, c/o ACORN, 84 Church Street, Wolverton, Milton Keynes, Bucks. UK.

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Poisoned Cities and Urban Gardens—reprint from THE ELEMENTS 4 pp.	.25
The Role of Solar Energy in the Federal Energy Program 4pp.	.25
How to Research your Local Bank (or Savings and Loan Association) 36 pp.	$2.00
Sewage Treatment Technology and our Urban Communities 10 pp.	.75
Public Banking: A Model for the District of Columbia 30 pp.	$2.00
The Dawning of Solar Cells—revised and expanded	$2.00

All publications are available from ILSR, 1717 18th St. NW, Washington DC 20009. Please include 25¢ with each order for postage and handling (50 cents with orders for garden chart).

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