



APPALACHIA - SCIENCE
IN THE PUBLIC INTEREST

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Appropriate Technology Information Systems

ASPI Technical Series

INTRODUCTION

Appropriate Technology provides for the people's needs through methods that are suitable for the task at hand and environmentally benign. All tools and devices used have low acquisition costs, require minimal maintenance and are easy to operate. The basic philosophy of Appropriate Technology (AT) is that the fundamental needs of life (food, shelter, water, and fuel) should be met using local resources. Ideas and information, however can and should have no bounds. It costs very little to transport a good idea across the globe. E.F. Shumacher contended that AT does not lack good ideas. Rather, it is impeded by their lack of exchange. We at ASPI agree. Thus, a refinement of "Think globally and act locally" could be, "Exchange globally and change locally."

INFORMATION SOURCES

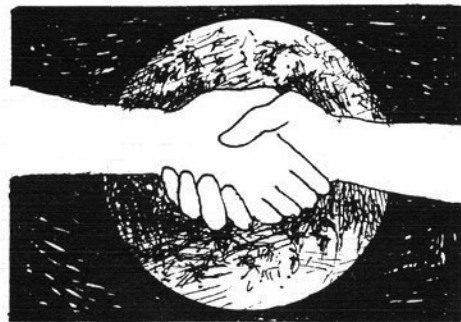
Seeking out information on Appropriate Technology requires equal measures of creativity and perseverance. Much of the material is unavailable at local libraries due to its specific nature. This will also be the case for most bookstores. But, don't count these sources out without checking. There will probably be a small number of materials in many places. There are organizations which have as one of their basic functions the collection and distribution of AT information. Many of these offer free or relatively inexpensive handouts as well as more substantial publications. Organizations which are involved in experimental or demonstration AT work will also have information available about their particular projects. A good Directory of environmental organizations will have a section on AT which will list many of these groups. Who is Who in Service to the Earth, published by Vision-Link Education Foundation, Shelton Cove Road, #185 Waynesville, NC 28786 and Macrocosm USA, Sandi Brockway, Ed., 1992 Macrocosm USA, Inc. Box 969 Cambria, CA 93428 are good places to start. We suggest the following as possible sources of AT information:

- * Organizations and AT data collection centers
- * Academic institutions and research stations
- * Local well managed farms, businesses and homesteads
- * Extension agencies and farm co-ops
- * Libraries and training centers
- * Markets for AT derived produce or products
- * Publishers of AT periodicals or literature
- * Museums and repositories
- * Individuals with AT experience

There is a great deal of high quality practical AT information out there for anyone with the time and energy to find it.

NETWORKING

An extremely valuable tool in the encouragement of Appropriate Technology or any "system" is networking. The fundamental reason for the existence of a network is information exchange. It consists of a group of interconnected or cooperating individuals. These can be persons, organizations, computers, etc. A network's participants are self-reliant and autonomous functioning simultaneously as independent wholes and interdependent parts. Power and responsibility are decentralized with each member of the network accountable for the success of the whole.



For centuries in rural areas it was common practice for farming people who gathered after church, at stores, livestock yards, post offices, or on market day to form an information exchange. At these meeting places local folks could share insights into techniques for planting, growing, harvesting and storage of crops, as well as construction, raising livestock and advice on all aspects of farm life. This type of informal adult education can be very beneficial as it is specific to climate, soil type, bioregion and culture. Unfortunately, in recent years the opportunities for this type of exchange have become rare, and in

Networking cont...

the case of Appropriate Technology almost non-existent. Conferences and workshops held by grassroots environmental and appropriate technology practitioners are helping change this. Watch for announcements of such events in newsletters and periodicals. Gatherings which bypass purely academic or government experts to seek out those with life experience in AT techniques and tools can offer valuable insight, assistance, and encouragement to other appropriate technologists. Part of the value of workshops is the opportunity to begin lasting associations with people involved in similar work.

Remember, an appropriate technologist is anyone who lives by the simple philosophy of using resources from the local region while employing the best ideas from around the world, for the purpose of meeting their basic needs in harmony with the environment.

THE AT LIBRARY

The potential of a good (e.g. appropriate) idea depends upon the creativity of the individual and the accessibility of information. It is imperative that the rural poor have access to appropriate technology through pertinent, up-to-date information. This is the function of small organizational and individual libraries. Libraries of this sort, while usually limited in space and variety of materials often are focused with a good base of information about particular subjects. These libraries offer access to individuals who may be quite far from a public library or who need very specific information within a small range of topics, e.g. appropriate technology.

Space and Siting

Use of an AT library depends to some degree on location. Is it accessible to the readership via public transportation and/or adequate nearby parking? Is the study space adequate for those who wish to spend time there? Is the space properly heated and/or cooled and protected from excessive humidity? Does it have proper lighting? Is the floor strong enough to support the added weight of books and accumulated materials? Is the environment quiet and conducive to study and concentration? Is it rodent-free? Does it have rest room facilities? Is it available for sufficient time to launch a library program? Can the facilities double for community activities? Is there adequate security?

Funding and Support

With any endeavor it is necessary to determine the costs and obtain funding prior to beginning the project. Besides the principle building costs, a library must be maintained which requires a somewhat steady flow of income. There are foundations that award grants for various community and environment oriented projects. Funding or in-kind contributions and sources include:

- help from local community and business leaders, especially AT businesses,
- bake sales,
- car washes,
- walkathons,
- literature exchanges,
- solicitation from retired individuals wishing to house their literature elsewhere,
- support groups,
- fees for use of the building for other meetings,
- subscriber dues,
- grants for obtaining literature and specific materials,
- sales of literature and green products on given days,
- and volunteers to operate the library.

Keep accurate records of expenses and let potential donors know that you are accountable.

Cataloging and Organization

Every library to be used by the public should have some type of catalog system, whether that is a hand-written list taped to the wall, a card file box or a computer system. The type and complexity depends to a large degree on the number of items in the library. A shelf of 50 books may not require the cross referencing of 5,000 volumes. Just keep in mind that the user needs to know what resources are in the library and how to most efficiently use the materials and their time. Decide in the beginning what cataloging system will work the most effectively. As new materials come in catalog and shelve them. This avoids the hassle of having a large number of unreferenced materials on-hand. Keep things as orderly as possible. Frequently used and new items should be in the most prominent spots, with less popular items relegated to the back shelves. All shelves and filedrawers should be well marked.

Care and Maintenance of the Materials

Keep dust to a minimum and if necessary provide for temperature and humidity control. Dampness can severely damage materials.

Access Policies

The purpose of a library is to make information available to the public. Of course, there is no natural law requiring that it be available 24 hours a day. Decide what days and hours are acceptable for those working in the library as well as for the public. The best times usually fall between regular working hours on weekdays, with the possible addition of one night or Saturday to accommodate those who have jobs which prohibit using the usual hours.

To lend or not to lend -- This depends on the value of materials and responsibility of the user. If the library has a good cataloging system and the major portion of users are from the community, it may be beneficial to allow books to be taken home. It is always unwise to allow this for reports and periodicals as they are easily lost, often mishandled and not returned. ASPI's policy does not permit any books to be removed from the premises. This was because even the best of friends saw little need to return items in a reasonable time. It may be wise to invest in a photocopier so individuals can copy all or portions of items which cannot be removed. Don't hesitate to charge a modest fee for expenses.



COMPUTER NETWORKING

Many feel that computers are not "appropriate technology". However, we at ASPI argue that despite the drawbacks of computer technology (environmental costs of production [e.g. toxic by-products], purchase cost, lack of availability) it can be a valuable tool in expanding the range and efficiency of communication between groups and individuals. The implications for the sharing of AT information are very promising.

Computer networking requires a computer and a modem. A modem allows two computers to link up through a phone line. It is possible to call a specific computer directly but that requires the other user to know when the call is being made and wait with the computer turned on. Most find it more helpful to belong to a network which stores the files until the other user requests them. Most networks require a sign up fee and a small monthly fee for using their service.

There are three primary elements of computer networking: electronic mail (E-mail), databases and teleconferencing.

E-mail -- When using E-mail each computer has an address and an electronic mailbox. The user accesses the mailbox through a password. E-mail allows messages or files to be transferred at a fraction of the time and cost of lengthy phone calls, faxes or standard mail. Faster communication can result in improved dialogue between individuals and/or groups working on a particular issue or project.

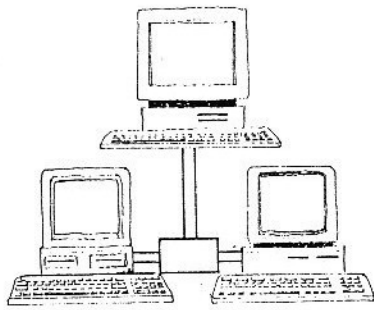
Databases -- These are collections of information. Designed for efficient searching and entry of new items, databases can provide precise timely information. On-line databases allow the user to access a diverse range of sources otherwise unavailable. While most databases charge for connect time and information retrieved, some are free.

Teleconferencing -- These "topical electronic bulletin boards" allow users to post and receive notices. This service can keep users aware of the pertinent changes in the status of an issue as well as information on events, legislation, publicity etc. Teleconferencing can also be used to facilitate interactive computer "discussions" between users.

Environmental Costs of Computers

Those who have reservations about the value of computer technology in AT, simple living or environmental work have reasonable grounds for their arguments. There are several serious environmental costs in the production of the high tech components of computers. These include the use of extremely toxic chemicals (chlorine, arsenic, phosgene), production of CFCs, and groundwater contamination by the manufacturing companies (for instance, in California's "silicon valley", the location of 29 Superfund Sites). Recently several of these companies have relocated to Southeast Asia to escape environmental regulations. Also of issue is the health of workers in the computer manufacturing plants. Higher than normal cancer rates and exposure to unsafe levels of toxic chemicals are two of the many risks faced by these employees.

There has been rising concern over the effects of exposure to low-frequency radiation which is emitted by computer monitors. There is little exact documentation of the effects but companies are creating new monitors with various types of protective coatings on the screens. The actual value of these coatings is still in debate.



Environmental Costs of Computers cont...

We must be aware of the ethical implications of buying into the same technology that enables the military industry and large multinational corporations to operate so efficiently in their business of buying, selling and destroying the Earth. Add to this the inequitable distribution of wealth which makes computers unavailable to many of the poor. Considering pollution, health and social justice concerns, and the increased use of paper involved in the rapid production of information, there is ample reason to think seriously about the necessity of these machines.

It would be hypocritical to welcome the computer culture without considering the environmental and social costs. These must be balanced against the value of the computer in advancing the work of saving the global environment. This technology can empower people through decentralized access to information. It can increase cooperation between groups, in addition to improving by reducing time spent producing documents and distributing materials. There are (at least in the United States) grantors who will donate computers or the funds for them to non-profits and individuals doing environmental and social justice work.

When deciding whether to use computers one needs to be aware of the lure of high technology. It is very easy to obtain a computer suitable for a particular task and then fall prey to advertising messages of "bigger", "faster", "more memory". Of course there are times when updates are desirable or necessary for the effectiveness of the organization, but don't be led to purchase expensive, high-level equipment or software that you don't need. Besides eating up an organization's budget, an addiction to computer technology raises very difficult ethical questions for an organization founded on the ideals of simplicity and environmental conservation.

ASPI has struggled with this question and it truly is a dilemma. The corporate military and governmental forces which work against the public interest move so rapidly with their computer technology, that we are compelled to move at their pace as we struggle for justice.

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Computer Networks

EarthNet P.O. Box 330072 Kahului, Maui, HI 96733.

PeaceNet/EcoNet, 3226 Sacramento St., San Francisco, CA 94115 (415) 923-0900.

The Wind Information Network, through PeaceNet/EcoNet.

Compu-Serve, For information call 800-848-8199. Outside U.S. call 614-457-0802.

SOURCES

American Wind Energy Association, 777 N. Capital St., NE Suite 805, Washington, DC 20002

Appropriate Technology Project, Volunteers in Asia P.O. Box 4543, Stanford, CA 94305

Appropriate Technology Sourcebook, and microfiche library. Brace Research Institute, MacDonald College McGill University, Ste Anne de Bellevue, PQ HOA 1CO CANADA. (development technology publications)

BOSTID, 2101 Constitution Ave. NW Washington, DC 20418. (development technology publications)

EARS, P.O. Box 514, La Veta, CO 81055. (AT Publications)

ITDG-NA, P.O. Box 337, Croton-on-Hudson, NY 10520. (development technology publications)

National Appropriate Technology Assistance Service U.S. Department of Energy, P.O. Box 2525 Butte, MT 59702-2525.

National Center for Appropriate Technology, P.O. Box 4000, Butte, MT 59702.

Satis, P.O. Box 803, 3500 AV Utrecht, NETHERLANDS

TRANET, P.O. Box 567, Rangeley, ME 04970. (AT information from around the world)

VITA, 1815 N. Lynn St. Suite 200, Arlington, VA 22209. (development technology publications)

REFERENCES

"Environmental Computer Networking", James W. Newton and W.J. Rohwedder, in E The Environmental Magazine, March/April 1990 vol. 1, no. 2 pp. 45-47.

In the Absence of the Sacred: The Failure of Technology and The Survival of Indian Nations, Jerry Mander, 1991 Sierra Club, San Francisco, CA.

Networking, Jessica Lipnack and Jeffrey Stamps, 1982, Doubleday and Co., Inc. Garden City, NY.

Small is Beautiful: Economics as if People Mattered, E.F. Schumacher, 1973 Blondie & Briggs Ltd., London.

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