


 CURA

reporter

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Expert Advice: Can Computers Help Government Find and Use It?

by Robin D. Crickman

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Is the new treatment for Dutch elm disease effective? Can solar panels save money for consumers as manufacturers claim? Has the level of milk contaminants risen too high for long-term human health? Technical questions such as these are now part and parcel of the discussions of governing bodies at local, state, and national levels. Legislators need expert opinions on highly technical subjects ranging across the entire spectrum of science and technology.

Nor is the need limited just to elected representatives. The panels appointed by governors and mayors are equally baffled by the vast array of information they need. They cannot select sites for hazardous waste disposal, determine whether or not public safety is threatened when University research involves hazardous biological substances, or even plan bike trails for maximum enjoyment and safety without specialized information.

While state and federal government agencies usually have scientific specialists among their employees, city and county governments often do not. Moreover, the expansion of scientific and technical knowledge since the end of World War II has meant that no one person can hope to know more than a small fraction of the special knowledge in even one scientific field. Thus, it is very likely that those who know the most about a particular topic may not be government employees. And even if they are, how is a legislator or legislative aide to identify just who the specialists are?

Finding Experts

Fortunately, the same expansion of scientific and technical knowledge that created the problem has brought about the development of tools to solve it. Recent developments in computer technology have made it possible for government agencies to locate the technical specialists they need.

At the University of Michigan the problem of locating specialists was recognized by the University's Division of Research Development and Administration, the central office for all funded research projects. They developed a computer-based system called *Script*, which permits all faculty and researchers in their institution to submit formal descriptions of their research interests. These descriptions are maintained within the university's computer. If a government agency requests assistance, a simple computer search is all that is necessary to provide a list of faculty members with a particular research interest.

Here in Minnesota, the State Planning Agency has undertaken an inventory of people with experience or expertise in environmental resources as part of their developing Information and Data Ex-

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change (INDEX) project. The questions asked of people who wish to be listed in the INDEX file include name, institution, background, current position, accomplishments, and a series of identification words, called *keywords*, which describe the area of experience or expertise. This information is typed into a computer and can later be used to locate all those people who may have experience or expertise in a particular subject area. It is even possible for the INDEX system to identify people located in a particular part of the state who are expert on some specific topic.

Some Experts Are Shy

Some people with specific expertise are well recognized and easy to identify. Others, however, may not realize that they are the only person with important knowledge in some particular area. One suburban matron once worked for a full year to get permission from her city council to have a community garden and then to make the garden project a success. By the following winter she was one of the national experts on community gardens. However, she hardly thought of herself as an expert. And the paper she had written on the development of community gardens was submitted only to the local city government as part of their agreement to allow the community garden project to use public land. It was only through her husband's connections as a university professor that she learned that the U.S. Department of the Interior was seeking to locate people with knowledge of how to start and run community gardens.

The INDEX project here in Minnesota has a much more reliable way to identify expertise. In addition to the information on people, this system also collects a bibliography file which lists both published and unpublished reports prepared for cities, counties, regions, and the entire state of Minnesota. Like the person file, this bibliography file can be searched via computer to identify documents in a given subject area which any community in Minnesota may have prepared for them.

The development of the bibliography file for the INDEX project is one of the many success stories of cooperation between the University and state government. One course in the University's Library School requires that students gain experience in converting a substantial amount of information into computer-compatible form. Library students can thereby learn first-hand what the problems of such an activity are. The State Planning Agency wanted to test the feasibility of the bibliography file by converting the material in their own collection, some one thousand documents, into a preliminary data base. With the assistance of CURA, the Library School class found a project and the State Planning Agency received their data base. The library students not only had the satisfaction of knowing that

the work they were doing was important, they also had the opportunity to practice computer interaction skills to a much greater extent than the University budget would normally permit. The State Planning Agency gained a preliminary data base and the accumulated knowledge about computer coding that accrued from careful consideration by the students and their professor of what the likely result of any given decision on how to list a particular report would be. Such expertise in coding decisions is not commonly available in government offices. The connection of librarians and government workers here, made both the richer.

Research is Needed

Data bases that list experts instead of documents, or books, or magazine articles are still a new development. A great deal of study went into understanding how people use bibliographies. It was necessary so that the kind of information about documents and books and magazines entered into computers is useful for those looking for such information. Far less research has been done so far on how to describe people to the computer. We do not completely understand what makes a person an expert. In fact, INDEX does not refer to their list of people as *experts* because they do not wish to certify that these people are *expert* in the subject. They simply collect names and interests and allow the users of the system to decide who is the best person to contact.

We also know that expertise takes different shapes. Valuable experts are not always the same, even when the same subject may be involved. One group might need someone who is particularly good at explaining the subject to non-technical people while another might need someone who will ask insightful questions about data provided to the committee by a special interest institution seeking to persuade the committee of the wisdom of some particular course of action. Research is still needed to understand how best to describe various types of expertise and how to assess who can best meet these particular needs.

The Right Way to Ask a Busy Person

Another problem with the use of experts in government is that those the government agency most wishes to talk to may have the least free time for additional obligations. People involved in timely and relevant research are exactly those who often have the best grasp of a developing situation. Unfortunately, the work they are doing is also likely to be demanding and not amenable to disruption for any length of time. Thus, even when the experts are fully aware of the need to share their expertise, they may be unwilling to set aside their research and travel across the country to

give their testimony to government decision makers. Others may find the frequent interruptions and questions asked by legislators or decision makers distasteful and thus be reluctant to offer their expertise.

Once again computers can facilitate this process. Computer conferencing is a communication technique that began in 1971. It was originally designed to allow government officials to discuss the implementation of wage and price controls. Through it, a geographically dispersed group of U.S. officials all received information about government policies without having to spend long periods on the telephone or in travel. Computer conferencing allowed them to comment on the wisdom of specific policies at any time that was convenient to their individual schedules.

This asynchronous communication technique is a major strength of computer conferencing. An expert can be part of a discussion which local or state or federal decision makers are holding without even leaving his or her research location. Participation can be whenever the expert has enough time to make a phone call and press a few buttons on a typewriter-like device used for transmission of information to and from the computer. The computer stores the entire text of the discussion until the expert wants to read it and will later transmit the expert's own information to all the other participants at their convenience.

One experiment in using computer conferencing was conducted very early in the development of the technique using the CONFER system on the University of Michigan computer. Could a community committee reach a policy decision and advise the city government by communicating exclusively through computer conferencing? Could expert testimony be provided through such a medium in a timely and useful way for the citizens who used the system? The conference at Michigan concerned recombinant-DNA, a topic of considerable interest in Ann Arbor at that time because the university had just decided to build a special laboratory to support such research. The community was alarmed by the possible health hazards of such biological research and needed to consider what restrictions it might be wise to place on the subsequent development of similar activities in local industry.

The participants "met" through the computer during a six-week period in 1976 and received expert discussion on the subject from written materials transmitted via the computer. They were successful in better understanding the topic and evaluating the possible developments as a result of their own comments to one another and the information that was provided by the expert testimony. Their final recommendations, thanks to the conferencing mechanism, represented a consensus that the initial diversity of opinion would not have permitted.

In a follow-up evaluation of the conferencing experience, participants recalled some additional advantages of computer conferencing. Individuals who are typically reticent found it easier and more rewarding to participate than in a face-to-face situation. One commented, "It was the first time I actually got through what I wanted to say without being interrupted." All participants noted that comments and questions were more coherent and relevant than in face-to-face conferences. They spent more time formulating their contributions so that they tended to be short and relevant.

Minnesota Conferencing Experience

A more recent development in computer conferencing was LEGITECH, a system used by the State of Minnesota's Science and Technology Research Office and partly supported by CURA. The LEGITECH system began as a national project in early 1979 and brought together legislative aides from twenty-two states and Puerto Rico. It also provided a communications channel with twenty-four federal and regional agencies charged with assisting states in decision making with reference to scientific information needs. These included the National Bureau of Standards, the Library of Congress, the Naval Weapons Center, the National Highway Traffic Safety Administration, and others.

The purpose of LEGITECH was to provide a way for legislative aides to exchange information on questions pending in their respective legislatures. Each participating

state was permitted to ask the others for information on publications or experts who could help on any given matter. Responses to queries were in several forms:

- *briefs*, a collection of entries all on one topic (or a series of related topics) which addressed the query;
- *leads*, suggestions on where to find literature or people expert on the subject; and
- *conferences*, a special computer discussion mechanism which brought together all those interested in a particular topic (for example, acid rain) to exchange knowledge and information informally.

Minnesota was one of the early participants in the LEGITECH project in early 1979 and continued participation through the first half of 1980. Evaluation of the LEGITECH experience by a graduate student from the Humphrey Institute of Public Affairs, Randy Erford, was supported by CURA. His evaluation, completed in June 1980, found that LEGITECH was a convenient way to share information but that several problems in the dependability of the system made its value questionable.

Shortcomings of Computer Conferencing

One problem which LEGITECH shares with many computer conferences is that there is really no way to compel someone to participate in the discussion at regular time intervals. Since the people in the computer

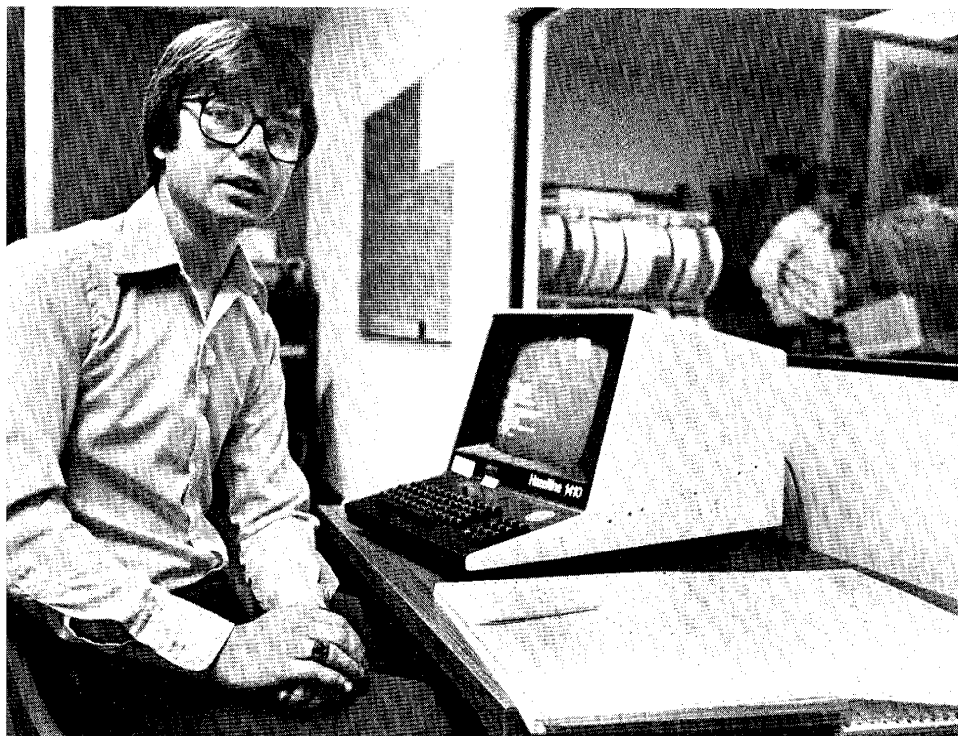
conference never see one another face-to-face, techniques which encourage some people to speak up in a discussion or discourage others cannot be used. While computer conferencing suffers hardly at all from people who would monopolize the discussion (you can always simply refuse to read what any given person contributes), it does suffer from lack of entries by some experts. A busy researcher may easily decide that there are more important things to do today than telephone the computer and put some material into the discussion. Even those with good intentions forget that the computer is there waiting. The most successful computer conferences have sometimes required that the conference moderator make personal telephone calls to members from time to time to remind them that they should check into the computer and catch up on what is happening. Without such facilitation, the systems often degenerate into everyone waiting for someone else to say something and nothing getting said at all.

The Minnesota use of LEGITECH revealed other difficulties with computer conferencing, as well. Because there was little control over who could respond, the responses received to questions were sometimes of poor quality. In addition, the time lapse between an initial query and the response was two to three weeks. The delayed responses were not a function of the technical capabilities of the system; the computer is capable of responding in minutes. They were, rather, related to how often those participating in the project read the material and how quickly they responded to the queries.

Minnesota's final verdict on the LEGITECH experience was that computer conferencing still has a long way to go. The computer conferencing mechanism proved to be a convenient way for both the legislative aides and the experts to communicate. It was convenient and easy to use, just as advertised. However, the value of conferencing is dependent on more than the computer technology. It depends also on the behavior of the humans who use the technology. And the LEGITECH system has not yet been able to develop sufficient incentives to insure that the information put into the computer conference will be accurate, timely, and complete enough to make conferencing a consistently valuable resource.

Future of the Computer for Expert Advice

We have barely begun to use the computer as an augmentation of the human mind. The very first commercial computers were sold in the early 1950s, something we easily forget now that they teach our children, control our cars, write out paychecks and generally pervade our lives. In addition to the fact that we really know very little about



Graduate library student Jim Gillispie working at the State Planning Agency, where University students helped develop the data base that became the bibliography file for the INDEX project.

how to best use computers, we also do not yet have enough understanding of how expert knowledge contributes to government decision making. The computer is a tool, just as the copy machine and the telephone have been. Each has the potential to change profoundly how we can go about our activities, whether in government or as private citizens. The difference between the copy machine or the phone and the computer, however, is that we can best use computer resources if we understand what it is that we are trying to achieve when looking for an expert or asking questions of that person. Computers will do what we ask them to, but they will not do it the way a person would. Thus, computer technology is forcing us, in a way that no previous technology ever did, to understand better what it is we are trying to achieve. It is an awesome undertaking and not one we can hope to finish soon. But the promise of it is nothing short of a better understanding of what it is to be human.

Minnesota Issues in Print

For several years CURA has joined with the Humphrey Institute of Public Affairs to sponsor a television program called "Minnesota Issues." Interviews on public policy questions are conducted by Arthur Naftalin, professor in the Humphrey Institute.

Beginning this past fall, the programs are also being transcribed, and texts are available to the general public free-of-charge. Transcripts are usually ready about one week after the program has been viewed on educational TV. They may be requested by writing to the Humphrey Institute of Public Affairs, 909 Social Sciences Building, 267 19th Avenue South, Minneapolis, MN 55455 and enclosing a stamped self-addressed envelope.

Programs already transcribed include:

- Minnesota's Fiscal Crunch: Recession or Poor Planning?

- The "Moral Majority": Demagoguery or Divine Mandate?
- How Will Electronic Delivery of News Affect Our Future?
- Should the Prairie Island Nuclear Plant Be Permitted to Enlarge its Storage Facility?
- Sentencing Guidelines: Are They Working?
- The Teachers' Right to Strike: Have We Gone Too Far?
- Cable TV: Will It Serve the Public Interest?
- Raise Taxes or Cut Spending? Which Way for the Legislature?
- Have Reforms Improved the Legislature's Operation?
- School Systems in Trouble: Is There a Way Out?

From Soybeans to Split-Levels: Exurbanites in Wright and Olmsted Counties

by Lizbeth A. Pyle

Betsy Pyle is a Ph.D. candidate in the geography department at the University of Minnesota. Her area of special interest is land use and land tenure changes in rural areas of the United States. She is in her second year with CURA as a research assistant and presents here some of her recent survey work.

The "rebirth of rural America" captured the attention of many social scientists during the 1970s. For decades the dominant migration stream had been rural to urban. In the 70s that trend reversed. The turnaround is at least partially explained by the development of new employment opportunities outside metropolitan areas and an increase in the number of people retiring to the country. But not everyone leaving the metropolitan area is bound for a completely rural life. Many are choosing rural residences within commuting distance of an urban center.

The new residences are not really suburban in setting. They are too far from the city and are built at lower densities. Nor do the new residences blend inconspicuously

into the traditional rural scene. They are exurban. Their residents, the exurbanites, usually keep their ties with the city while enjoying the amenities of rural living. This redistribution of population and the land use changes associated with exurbanization are altering the character of our nation's countryside.

During the last few years CURA has been studying the dynamics of growth in the rural areas of two Minnesota counties, Olmsted and Wright. These counties were chosen because they are experiencing rapid urbanization. Both achieved metropolitan status within the last decade, Olmsted in 1971 and Wright in 1973. Wright County is part of the ten county Minneapolis-St. Paul Standard Metropolitan Statistical Area (SMSA),* while Olmsted County is the single county included in the Rochester SMSA.

CURA surveyed homeowners in the unincorporated (rural) areas of the two counties during the fall of 1979. The survey touched on a number of issues. Why do people choose to live in a rural area? What

type of land is being converted to residential use? How do residents feel about some of the consequences of rural residential development? The study included the entire range of rural homeowners, both farm and nonfarm, long-term and recent. This report highlights some similarities and differences among *new homeowners*, those who are the first occupants of rural homes built in the two counties during the 1970s, and compares them to long-term residents.

The mailed questionnaire was sent to a random sample of residents with homestead status for tax purposes.** Approximately 2,700 homeowners in Olmsted County and 1,800 in Wright County were contacted. Residential construction in rural Wright County has been occurring more rapidly than in Olmsted County. Because of this, a smaller sample was required to ob-

*SMSAs are urban centers with populations of 50,000 or more and include the socially and economically integrated areas around them, defined on a county basis.

**In Minnesota, those who reside on property that they own are eligible for a considerable reduction in property taxes through a program known as the Homestead Tax Credit.

tain a comparable response from residents whose dwellings had been built during the past decade.

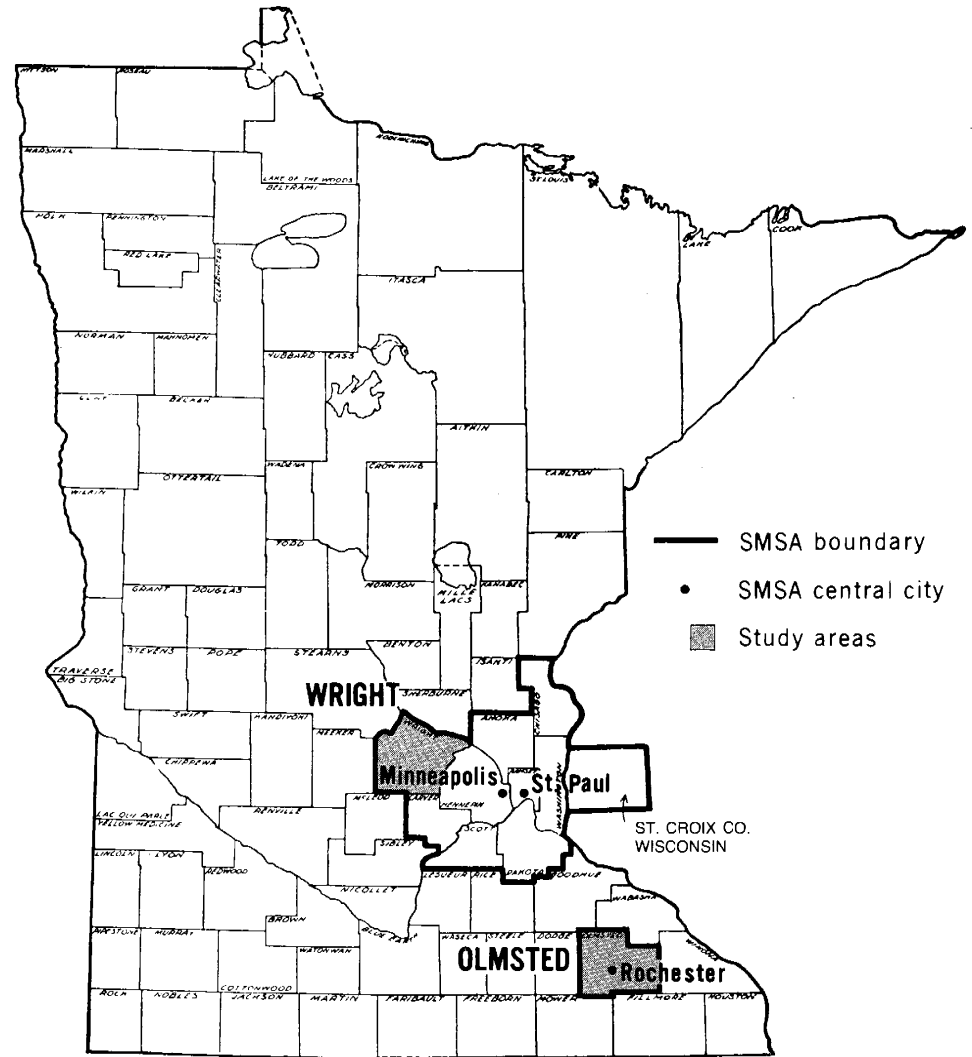
More than 70 percent of the homeowners contacted in each county returned completed questionnaires. The distribution of survey respondents closely parallels the rural population distribution in both counties. In Olmsted County the rural population is concentrated in three townships around the city of Rochester. Wright County's rural population is more scattered, although townships that have easy access to the Twin Cities along a major transportation artery (MN-55, US-12, or I-94) appear to have higher densities.

Where Did They Come From?

Most of the people who have been buying or building new homes in Olmsted County did not move very far; more than half of the respondents had lived in the city of Rochester (Figure 1). New homeowners in rural areas of Olmsted County are largely locals who have joined the urban to rural migration stream. Less than 20 percent moved to their new home from some other county in Minnesota or from outside the state. The attractiveness of employment at Rochester's Mayo Clinic may account for many of the new homeowners from outside Minnesota.

In rural Wright County the largest group of new homeowners moved to the county from somewhere else in Minnesota. They came mainly from the Twin Cities and its surrounding suburbs. Very few are from out of state. Wright County's urban residents moved to the rural part of their county much less frequently than did urban residents in Olmsted County.

In both counties a large proportion of the new homeowners are part of the wave of exurbanization outward from central cities. Although these people moved from an urban to a rural area, many of them are familiar with life in rural America. In well over half of the households, either the respondent, the spouse, or both had lived on a farm or in



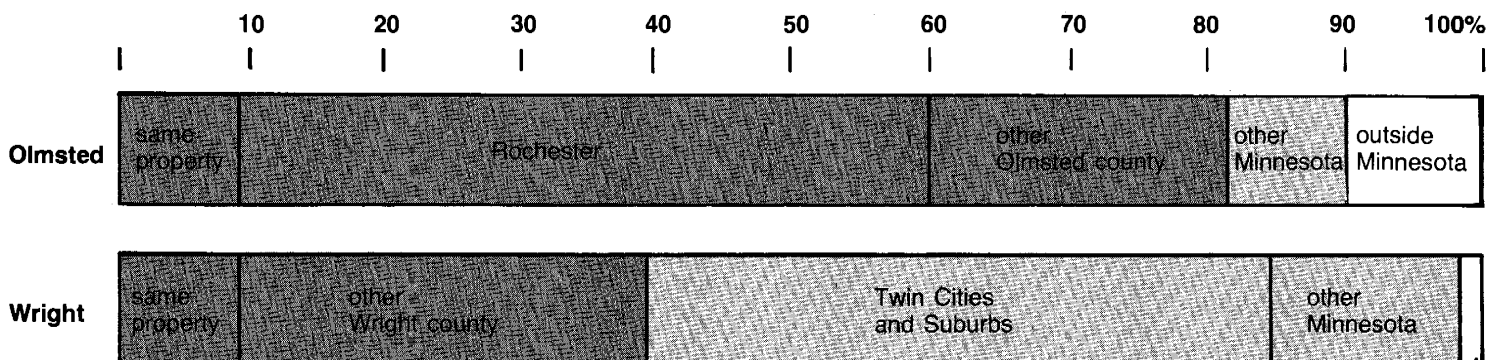
a rural nonfarm setting when they were sixteen years old.

Why Did They Move?

Economic incentives do not appear to have influenced the move to rural areas much in

either county (Table 1). Few respondents considered job-related reasons to be "very important" in their decision to move. In rural Olmsted County more than 90 percent of the new homeowners work in Rochester, and in Wright County more than 50 percent work in the Twin Cities or its suburbs. In both coun-

Figure 1: PLACE OF PREVIOUS RESIDENCE FOR NEW HOMEOWNERS SURVEYED*



*First occupants of rural homes built during the 1970s.

ties the new homeowners have kept strong economic ties with the urban areas from which they moved. This characteristic is one of the hallmarks of exurbanites.

The owners of new rural homes in both counties appear to be motivated by the amenities of country living, another important characteristic of exurbanites. New residents usually have not moved because they disliked their former residences; rather, they believed they would like their new homes better. The countryside is more attractive and offers more space and privacy. Some feel that the rural area provides a better environment for their children. A few consider their residence a retirement home (more in Wright County than in Olmsted County). A number of small lakes dot Wright County's landscape making it an attractive place for retirement. These lakes also serve as the focus for a few small resorts.

Many of the reasons given for moving to an exurban setting, especially those aimed at improving quality of life, are identical to reasons commonly offered by people moving to rural settings that are disconnected with any large urban center.

Who Are They?

In both counties the owners of new homes are younger, report higher levels of education, and have larger incomes than respondents who have lived in their homes for more than ten years. A greater proportion of new homeowners in Olmsted County have completed college and have family incomes in excess of \$30,000 than in Wright County. Many new homeowners in Olmsted County are employed in professional or technical positions (Table 2). The Mayo Clinic and International Business Machines (IBM), two major employers in the county, probably account for most homeowners in this category. The professional character of Rochester, owing to its world renowned medical clinic, was enhanced in 1958 when IBM expanded the county's employment base. Another employment group accounting for a sizable proportion of Olmsted County's new homeowners is management, adding to the white collar image of the county's exurbanites.

In Wright County, no single employment group dominates among the new homeowners. There are about one-third as many professionals as in Olmsted County. Wright County lacks an internal employment focus; a few small industries operate in the county but none are equivalent to Olmsted County's Mayo Clinic or IBM. Many of the new homeowners commute to jobs outside the county, and most of these people are headed for the Twin Cities area, especially Minneapolis and its western suburbs.

The average one-way journey to work is nine miles in Olmsted County, but twenty-five in Wright. The relatively short trip for

Table 1: REASONS FOR MOVING GIVEN AS "VERY IMPORTANT" BY NEW HOMEOWNERS SURVEYED (in percents)

| Reason | Olmsted County | Wright County |
|----------------------------------|----------------|---------------|
| Attractive scenery, surroundings | 68 | 59 |
| A larger lot | 67 | 59 |
| More privacy | 67 | 63 |
| To live in a rural area | 64 | 64 |
| Good place to raise children | 51 | 64 |
| Job-related | 14 | 12 |
| A retirement home | 8 | 17 |

Table 2: EMPLOYMENT OF RURAL RESIDENTS SURVEYED* (in percents)

| | Olmsted County | | Wright County | |
|------------------------|----------------|-----------------------|----------------|-----------------------|
| | New Homeowners | Long-term Residents** | New Homeowners | Long-term Residents** |
| Professional/Technical | 41 | 22 | 14 | 11 |
| Managerial | 14 | 14 | 17 | 12 |
| Clerical | 14 | 12 | 15 | 13 |
| Sales | 5 | 4 | 7 | 5 |
| Crafts/Supervisory | 10 | 11 | 19 | 14 |
| Operative/Assembler | 5 | 5 | 11 | 13 |
| Service | 8 | 15 | 13 | 13 |
| Laborer | — | 1 | 2 | 2 |
| Farmer | 3 | 16 | 2 | 17 |
| Total | 100 | 100 | 100 | 100 |

*Based on combined totals for respondents and spouses.

**Those who had lived in their homes for more than ten years.

new homeowners in Olmsted County reflects Rochester's dominance in the employment market as well as its central location in the county. Wright County is part of a much larger urban system, and the commuting pattern of exurbanites in Wright County emphasizes their ties to the more distant Twin Cities.

Though employment patterns differ between new homeowners in Wright and Olmsted counties, both have much in common when compared with long-term residents in the counties. People employed in professional/technical or managerial positions and other highly skilled workers are moving into a countryside that was once the domain of farmers. The proportion of new homeowners in Wright and Olmsted counties who reported farming as their occupation was only two and three percent, respectively—substantially less than the proportion for long-term residents in both counties. Olmsted County gained more people in professional/technical positions than in any other occupation. Wright County, also making gains in white collar workers, saw its greatest increase in homeowners employed as managers and craftspeople/supervisors. With the exception of a sharp decline in the proportion of service employees in Olmsted County, the proportions of new homeowners to long-term residents in most other occupations remained relatively stable.

What Has Happened to the Land?

Americans have long expressed a preference for small towns or rural areas when asked where they would most like to live. Recently, more people have been acting on that preference. One important, though very obvious, change that occurs when more people live in rural areas is a change in land use. A number of groups and individuals have expressed concern about the loss of farmland. Soybeans are giving way to split-levels in Wright and Olmsted counties, just as they are nation-wide.

New homeowners in both counties of CURA's study most commonly reported that their lot had been used previously as farmland—51 percent in Wright County and 36 percent in Olmsted County (Table 3). These figures may underestimate the percentage of new homes actually built on farmland. Many of the respondents who stated that their land had been used for "other" purposes said that their lot had been a pasture; in a broader sense, this should also be considered farmland.

In Olmsted county, more than in Wright, some recently constructed rural homes were built in platted subdivisions, especially in the three townships surrounding the city of Rochester. With Wright County's focus on the Twin Cities rather than an internal employment center, exurban construction seems to be more scattered.

Table 3: LAND USE BEFORE CONVERSION TO RESIDENTIAL USE BY NEW HOMEOWNERS SURVEYED (in percents)

| Use | Olmsted County | Wright County |
|---|----------------|---------------|
| Farmland | 36 | 51 |
| Subdivision lot | 23 | 16 |
| Site of former farmhouse | 10 | 5 |
| Other (pasture, woodland, lakeshore property, etc.) | 27 | 25 |
| Don't know | 4 | 3 |
| Total | 100 | 100 |

Table 4: PROBLEMS OF RURAL LAND CONVERSION CONSIDERED "SERIOUS" BY RESIDENTS SURVEYED (in percents)

| Problems | Olmsted County | | Wright County | |
|-----------------------------|----------------|---------------------|----------------|---------------------|
| | New Homeowners | Long-term Residents | New Homeowners | Long-term Residents |
| Increasing land prices | 51 | 56 | 51 | 55 |
| Loss of productive cropland | 39 | 49 | 50 | 57 |
| Loss of open space | 33 | 41 | 48 | 48 |
| Loss of rural character | 28 | 37 | 41 | 44 |
| Farm-nonfarm conflicts | 20 | 28 | 14 | 23 |

Does This Create Problems?

The questionnaire respondents supplied information on their attitudes toward some issues associated with land use changes in the rural areas of their counties (Table 4). An equal proportion of new homeowners in the two counties, 51 percent, feel that increasing land prices are a serious problem associated with rural land conversion to nonfarm uses. There is less consensus between the two counties on the remaining issues associated with farmland conversion.

Wright County's new homeowners seem much more sensitive to the losses of cropland, open space, and the area's rural character. Of course, more rural residential construction has occurred in Wright County and is more widely scattered than in Olmsted County. Yet it is the same people who built their new homes on farmlands who now lament the losses of cropland, open space, and the area's rural character.

New homeowners in Olmsted County are more concerned with conflicts between farmers and nonfarm residents, although the percentage who consider the problem serious is fairly low. Because new rural construction in Olmsted County is less scattered than in Wright, one would think that farmers and new nonfarm residents would have less contact with each other and, presumably, fewer conflicts. Perhaps residents' attitudes toward taxes rather than noise, dust, and odors are causing the conflict.

In both counties a greater proportion of long-term residents feel that all of these issues associated with land conversion are

serious problems. This is even more true for those respondents who identified themselves as farmers. Apparently many of the long-term residents in the two counties like their rural way of living and are unhappy with the changes taking place.

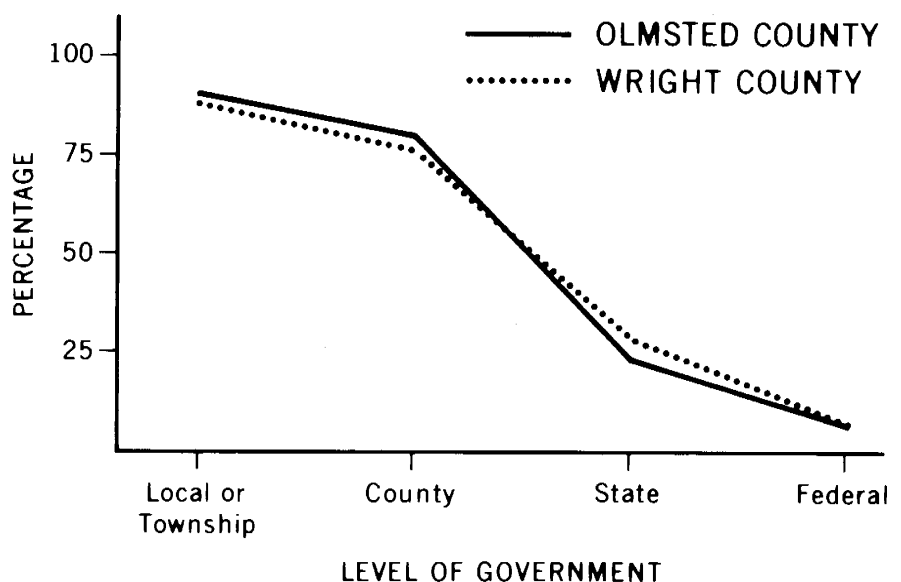
Should There Be Limits?

The dilemma faced by rural communities that want to control growth is how to achieve this goal without imposing unwanted or overly restrictive controls on the sale and use of land. The owners of new homes in Wright and Olmsted counties have similar attitudes concerning the role of government in land use decisions (Figure 2). They are most supportive of government involvement at the township or local level. Far fewer care to see state or federal involvement in local land use matters.

Even though new residents of both counties are equally supportive of local government involvement in land use decisions, Olmsted County has taken a more aggressive role than Wright in creating limits. The agricultural economy seems healthier in Olmsted County, and the Consolidated Planning Department is actively planning and zoning to protect the county's farmland resources while accommodating growth near existing urban areas.

Farmland quality in Wright County is not as good, farm size is smaller, and the cash income received by farmers is less than that in Olmsted County. A zoning policy aimed at restricting nonfarm development in agricultural areas of the county has been in effect for several years but does not seem to be effective in stemming farmland conversion. Perhaps the less active planning and zoning program in Wright County is explained by the lack of a large urban core. Buffalo, the county seat and largest

Figure 2: PERCENTAGE OF SURVEYED NEW HOMEOWNERS AGREEING WITH GOVERNMENT INVOLVEMENT IN LAND USE DECISIONS



settlement, reports only 4,466 residents according to preliminary figures from the 1980 census. Smaller communities often lack the funding and expertise necessary for an involved land use planning program. They may not sense the urgency of controlling the haphazard conversion of rural land to more intensive uses.

Wright County, though part of the Minneapolis-St. Paul SMSA, as defined by the Census Bureau, is not one of the seven counties in the Twin Cities Metropolitan Planning Council. The Metropolitan Council has not moved to expand its jurisdiction, and many Wright County residents seem disinclined to press the issue. Both agree that the county is very much tied to the Twin Cities, but neither seems to be moving very quickly to do anything about it.

Conclusions

The CURA study of new residents in Wright and Olmsted counties demonstrates that exurban growth results from different scales of movement among households with different employment patterns. More exurban residences have been constructed in Wright County than in Olmsted, resulting in a greater proportion of new homes on land formerly used for farming. Rural residents in Wright County seem more concerned about the problems accompanying rural land conversion, but county officials are doing less to limit those problems. Despite these differences, the owners of new homes in Wright and Olmsted counties chose their exurban locations for similar reasons. Although they have similar attitudes about government involvement in land use decisions, the two counties have faced the land use issues created by exurbanization in different ways.

New homeowners in exurban areas play an important role in the conversion of land from rural to urban uses. Who they are and what attitudes they adopt tell us much about the demand for rural land. The process of land conversion is complex, and an improved knowledge of demand still leaves us with only a partial understanding of the changes occurring in our nation's rural areas. More needs to be known about the supply of land in the rural real estate market. Who were the landowners who sold property for conversion to residential use? And why did they sell? The rural landowner is the key actor who allows the conversion process to get underway. The next phase of this larger CURA project on the dynamics of land use in rural areas will focus on the role of rural landowners in converting land from rural to urban uses.

Related Readings

National Association of Counties Research Foundation, Agricultural Lands Project, *Disappearing Farmlands: A Citizen's Guide to Agricultural Land Preservation*. Washington, D.C.: National Association of Counties Research Foundation, December 1979.

Philip M. Raup, "Urban Threats to Rural Lands: Backgrounds and Beginnings." American Institute of Planners, *Journal*. Vol. 41 (November 1975), pp. 371-378.

Andrew J. Sofranko and James D. Williams, eds., *Rebirth of Rural America: Rural Migration in the Midwest*. Ames, Iowa: Iowa State University, North Central Regional Center for Rural Development, June 1980.

United States Department of Agriculture, Economic Research Service, *The Revival of Population Growth in Nonmetropolitan America*, by Calvin L. Beale. USDA ERS-605, June 1975.



International interest in Minnesota peatland . . . Scientists from around the world participating in the sixth International Peat Congress in Duluth last August share their observations in a St. Louis County peat bog. Here, as is typical of the east central Minnesota bogs, black spruce predominates.

If We Develop Peat . . .

by Thomas R. Peek and Douglas S. Wilson

Tom Peek and Doug Wilson are staff members for CURA's Peat Policy Project. Peek is a master's candidate in the Humphrey Institute of Public Affairs concentrating on energy policy and technology planning. Wilson is a master's candidate in Agricultural and Applied Economics concentrating on resource and regional economics. The CURA project, described here, will soon be releasing a policy report. Copies may be ordered by phoning 612/373-7833 or returning the order form on page 15 of this CURA Reporter.

According to the Minnesota Energy Agency, by the end of this decade, Minnesota's energy demand will begin to outstrip its available supplies of traditional fuels. This will place the state in a vulnerable position as we import virtually all of our present energy supplies. The shortfall will likely result in an economic slowdown which by 1985, the Minnesota Energy Agency predicts, could increase unemployment in Minnesota by 4.7 percentage points, and as much as 11 percentage points by the year 2000 if no changes are made to affect projected supply and demand. By that time, energy costs for the consumer could be nine or ten times higher than they are today.

No wonder, then, that industries and government are now seriously examining the possibilities for developing Minnesota's northern peatlands for energy. Minnesota contains some of the most extensive peatlands in the United States—close to six million acres. Approximately 61 percent of those lands are government owned. Energy could be produced from peatlands either by extracting the peat and converting it to fuel, or by using the peatlands as a medium for growing energy crops which can then be converted to fuel. Both alternatives are currently being explored.

Industry and Government Involvement

Industries that are eyeing these virtually undisturbed lands in the north include Minnegasco; Northern Natural Gas; the electric utilities, Minnesota Power and United Power Association; Control Data Corporation; and several small briquetting interests. The Minnesota Department of Natural Resources has spent the last five years doing field inventories of the peatlands and examining the overall management options available to the state for monitoring,

reclaiming, and leasing these lands. The United States Department of Energy, strongly committed to development of synthetic fuels, has taken an active interest in Minnesota's peatlands and is contributing to a major research and development effort to make large scale peat gasification possible in Minnesota. The Minnesota Energy Agency, committed to developing Minnesota-based sources of energy, favors extensive research and development of energy crops—such as willows and cat-tails—for biomass production.

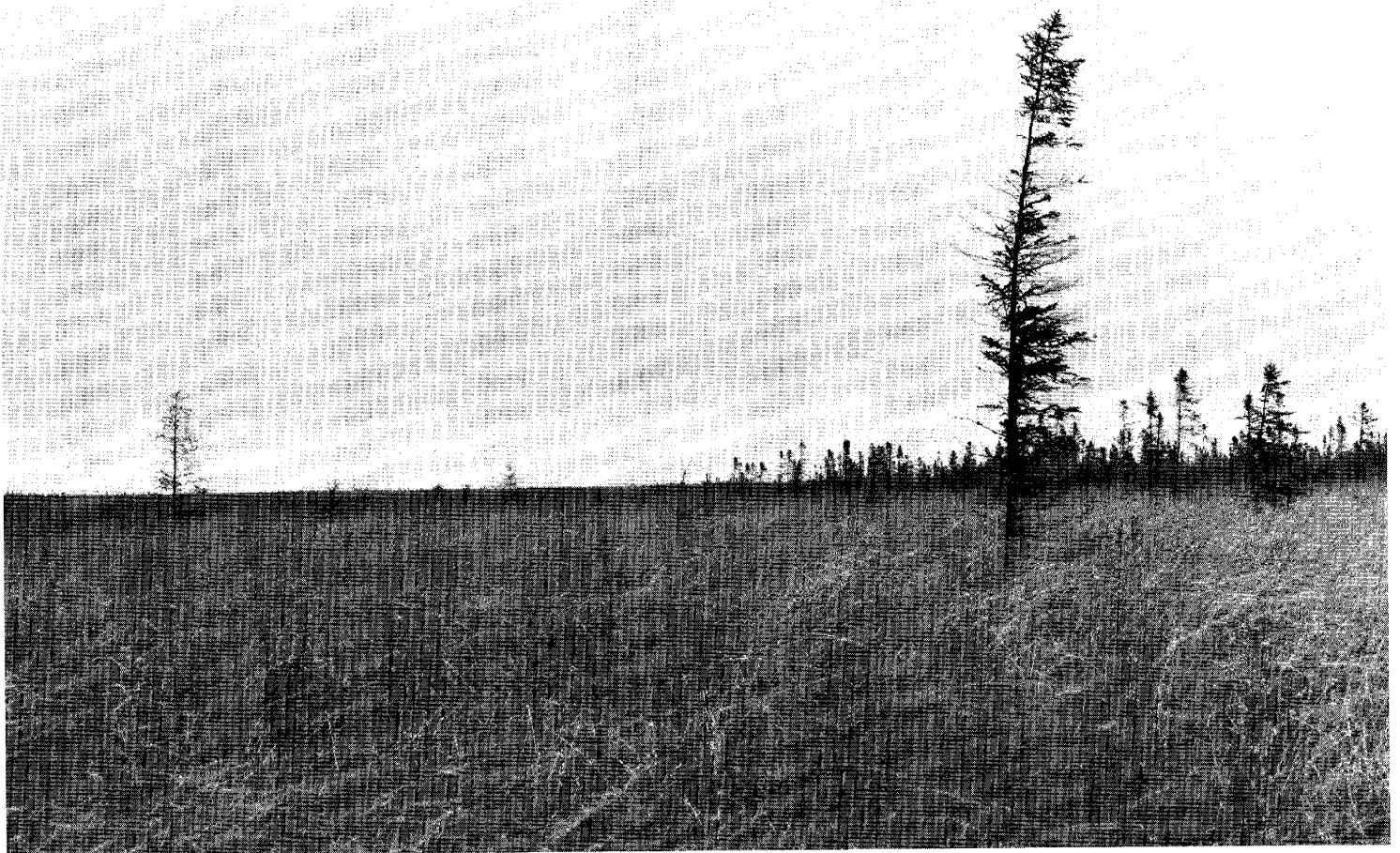
Responding to increasing development pressure, citizen groups concerned about the environmental implications of development have taken steps to learn more about peat and peatlands. One common interest is that steps be taken to identify and protect those peatlands with geologically or biologically unique characteristics. The Minnesota chapters of the Nature Conservancy, the Isaak Walton League, the Sierra Club, the Audubon Society, and the Defenders of Wildlife are all watching peat development plans, as are the Minnesota Public Interest Research Group and Clear Air Clear Water.

University Concern

Recognizing the need to examine the policy implications of Minnesota's peat development and the service that University expertise might lend to decisions about peat, CURA established the Peat Policy Project in July of 1980. A panel of eleven University of Minnesota faculty was assembled who have knowledge or interest in peatland development in Minnesota. The panel, chaired by Dean E. Abrahamson of the Humphrey Institute of Public Affairs, and drawn primarily from the membership of CURA's All-University Council on Environmental Quality, reflects a variety of backgrounds and disciplines: Perry Blackshear from Mechanical Engineering; John Borchert, Phil Gersmehl, and Rod Squires from Geography; Bill Fleischmann from Sociology (Duluth); Howard Hobbs and Matt Walton from the Minnesota Geological Survey; Wilbur Maki and Lee Martin from Agricultural and Applied Economics, and Tom Anding from CURA.

Possible energy source . . . Exposed hemic peat, that layer of peat best suited for energy use. A decade ago the top layer of sphagnum moss was removed for horticultural use and the hemic peat was left unreclaimed.





Controversial peatland . . . A portion of the Red Lake peatland being proposed for large scale energy development.

As part of its investigation, the panel has met with representatives from government and business, with members of environmental groups, and with others interested in the development of Minnesota's peatlands. The panel has served as an informal resource to all interested parties.

A Policy Study

The central component of the project is a policy study, prepared by the project staff and overseen by the panel. The study examines the implications of development of Minnesota's peatlands from several perspectives, including those related to economic development, energy, environment, and land use. In addition, CURA has contracted with the Minnesota Project, which has prepared a study of the existing legal and regulatory framework governing peatland in Minnesota.

CURA's policy study, provides general information on the nature and extent of peat resources in Minnesota and elsewhere in the world and the traditional and emerging uses of peat. It incorporates the legal and regulatory framework information provided by the Minnesota Project. It identifies and examines the economic, social, and environmental effects of land development. From the implications analyzed in the

study, a set of policy recommendations has been prepared, designed to aid the Department of Natural Resources, the Minnesota State Legislature, and Minnesota citizens in determining the future of the peatlands.

The Options Identified

Alternative uses of Minnesota's peatlands are examined in the CURA study, particularly those for producing energy. Two basic energy approaches are identified: non-renewable use of peat through mining and conversion to fuel; and renewable production of energy through the growing of energy crops that are then converted to fuel. Both peat and energy crops can be converted in similar ways to produce the same fuels: gasification to produce synthetic natural gas; direct burning for generation of industrial process heat or electricity; manufacture of briquettes or pellets for home or industrial process heating; or liquefaction to produce liquid hydrocarbons.

Problems That Must be Considered

What factors should be considered when comparing these options? The policy study explores in some depth three sets of issues:

ECONOMIC EFFECTS

- Total cost of each approach, including costs of construction, operation, depletion of resource, reclamation, and expansion of necessary services and other infrastructures.
- Energy efficiency of each approach, from conversion of the resource to its processed form (synthetic natural gas, electricity, and so on).
- Short and long-term stability of the peat supply and related economic activity given each particular approach, and especially the capacity of these to offset Minnesota's dependence on imported energy.
- Economic development, including expansion of local employment and local industrial and commercial enterprises; and the impacts on existing municipal services, tax base, housing availability, and education.

SOCIAL EFFECTS, related to the nature, scale, location, and speed with which development occurs.

- Impact on existing communities, including disruption of traditional settlement patterns, lifestyle alterations, changes in the nature of local commercial enterprises, and disruption

of the historical continuity of the community.

- "Boomtown" changes such as those already seen in Gillette and Rock Springs, Wyoming.
- Political Implications.

ENVIRONMENTAL EFFECTS, with particular concern for the degree to which impacts can be contained, mitigated, or prevented.

- Water quality of surface and ground water systems.
- Air quality.
- Impacts on fish and wildlife.
- Occupational health and safety.
- Reclamation of disturbed peatlands.

Conclusions

The CURA study asserts that industry and government share responsibility for the sound development of Minnesota's peatlands for energy. Because most of these lands are still undisturbed, careful planning for their use, considering both short- and long-term implications of development is possible. A thorough examination of proposals being considered by industry and government should include careful study of the economic, social, and environmental effects of each plan. The impact of these various effects will depend on the nature and scale of the specific project and its particular location in the state. Such factors are of central concern if Minnesota is to create a sound development plan for her peatlands.



Energy crops . . . Peatlands can be used as a renewable source of energy by growing crops such as the cattails shown here. Cattails are then harvested and converted to fuel just as the natural peat would be.

Student Papers in the Public Administration Library

Research papers prepared by masters degree candidates in the Hubert H. Humphrey Institute of Public Affairs are housed in the Public Administration Library after they have been approved by the institute's faculty. Because many of these papers are of interest to our readers, we periodically list recently acquired papers, (Plan B papers, as they are called). The Public Administration Library is located in room 365, Blegen Hall, West Bank Campus of the University of Minnesota (373-2892). The faculty advisor for each study is indicated at the end of the entry.

Aldonas, John R. The Minnesota legislative budgeting process. 1979. Jernberg. (In *Legislative budgeting in Minnesota*, 1979; see L1 M66L in PA Library.)

Ames, Candice M. School finance: dollars and politics in the 1979 Minnesota Legislative session. 1979. Jernberg. (In *Legislative budgeting in Minnesota*, 1979; see L1 M66L in PA Library.)

Dejong, Fred J. Area agency on aging operations: an overview. 1980. Dewar.

_____. "Who needs Title III": a case study of the abrupt withdrawal of in-home services to the elderly. 1980. 22 p. + appendices. Dewar.

Dougherty, Kevin P. Controlling growth in the Twin Cities metropolitan area. 1974. 48 p. + appendices. Naftalin.

_____. Housing policy: Bloomington, Minnesota. 1976. 46 p. + appendix.

Eggen, Brad. Reparations: an analysis of the Minnesota program. 1979. 20 p. + addendum. Warp.

_____. A proposal for governmental involvement in the products liability crisis. 1980. 37 p. + appendix + addendum. Warp.

Ghandi, Abdul Muana Kpana. A review of an educational plan: a case study in Sierra Leone. 1980. 35 p. Warp.

_____. Unemployment/underemployment, a problem in Sierra Leone agricultural development. 1980. 32 p. Warp.

Jensen, Val R. Gasoline taxation and rationing as components of U.S. energy policy. 1981. 97 p. + appendices.

_____. The solar utility interface and utility involvement in solar commercialization: feasibility, practicality, and political feasibility. 1981. 127 p. + appendices.

Johnson, Paul. Legislative budgeting: the work and workings of the Minnesota Senate finance subcommittee on education. 1979. Jernberg. (In *Legislative budgeting in Minnesota*, 1979; see L1 M66L in PA Library.)

(continued)

- Jones, Walter L. Education for social control. 1977. 65 p. + appendix. Naftalin.
- _____. Lifelong learning: a rationale and a model. 1977. 47 p. + appendix. Anderson.
- Lindberg, Gregory Linn. Screening and referral: a proposal for promoting appropriate utilization of care resources for the elderly. 1974. 78 p. + appendix. Anderson.
- _____. Using volunteers to provide information and referral services: an evaluation. 1974. 55 p. + appendices. Brandl.
- Loe, Jonathan David. NSP's conservation rate break: an empirical study. 1980. 40 p. Kudrle.
- _____. Direct-to-home broadcasting satellites: a study. 1980. 30 p. Geesaman.
- McLaren, J. A. Anatomy of nondecision: the Ham Lake site. 1970. 63 p.
- Nakaguchi, Ann Marie. An assessment of community and human services available to the Pacific/Asian community in St. Paul and Minneapolis, Minnesota. 1980. 36 p. Dewar.
- _____. A study of medicaid discrimination in medicaid certified long-term care facilities in Minnesota. 1980. 46 p. + appendices. Copeland.
- Ohnstad, Ellis A. Airport noise and land use planning an introduction to the problem. 1977. 119 p. Einsweiler.
- _____. Minnesota employment projections to 1980. 1977. 86 p. + appendices. Brandl.
- Radtke, Eric C. The state departments division of the senate finance committee of the Minnesota state legislature: a case study. 1979. Jernberg. (In *Legislative budgeting in Minnesota, 1979*; see L1 M66L in PA Library.)
- Schilling, William C. Obstacles to (and disadvantages of) the development and implementation of purchase of service alternatives. 1976. 51 p. + appendices.
- Seavey, Michael J. The Minnesota state legislature and the budget: a look at the process: a case study on the senate finance subcommittee on health, welfare, and corrections and a comparison of legislators' expectations. 1979. Jernberg. (In *Legislative budgeting in Minnesota, 1979*; see L1 M66L in PA Library.)
- Sprague, Diane L. Developing a community care policy for less-able elderly individuals based on assessment of functional ability. 1978. 65 p. Anderson.
- _____. Deinstitutionalization of the developmentally disabled—its background, dilemmas and prospects. 1980. 110 p. Copeland.
- Steiner, Kathryn. Energy assistance in Minnesota: an analysis of government policies aimed at mitigating the effect of rising energy prices on low-income Minnesotans. 1981. 48 p. Abrahamson.
- Techanen, Sandra R. Legislative budgeting: a case study of the division (of) health, welfare, and corrections. 1979. Jernberg. (In *Legislative budgeting in Minnesota, 1979*; see L1 M66L in PA Library.)
- Weisberg, Betsy. Housing design: physiological and psycho-social changes in older people—the need for a supportive environment. 1977. 48 p.

Maps showing the distribution of Indochinese refugees in Minneapolis/St. Paul and in the Twin Cities metropolitan area will be available in a CURA report to be issued this spring. The study is briefly described under "housing" on page 13, opposite. For a free copy of this report, phone the CURA central office, 612/373-7833.

Refugees and Researchers

by Judith H. Weir, CURA staff

What do refugees and researchers have in common? An office on the West Bank may not be the entire answer, but it is a step in the right direction; a step taken last June when CURA acted to help coordinate the many research efforts on campus involving the people from Southeast Asia who are resettling in the United States, particularly those in the Twin Cities.

The Researchers

The researchers have been here all along; anthropologists, doctors, linguists, and psychologists among others. Some have a long standing interest in studying other cultures and how converging cultures adjust; others have been surprised to find themselves now involved with the problems of cultural change.

The Refugees

The refugees are more recently arrived, beginning in 1975 when the war in Vietnam ended. Their numbers are now increasing dramatically; in the past year, more Southeast Asian refugees moved to Minnesota than all of those who had moved here in the preceding five years.

Why Minnesota?

Word has gone out to friends and families in the refugee camps in Thailand and Malaysia and in other states across the country that Minnesota is a good place to live. It is largely because of the generosity of individual Minnesotans and the responsiveness of Minnesota institutions, both public and private, that a steady stream of Southeast Asians are coming here to make new homes for themselves.

Many Minnesotans have stepped forward to sponsor the refugees. Church groups have taken on a large share of the burden. Local social service agencies have been sensitive to the urgent needs of these displaced lives. Bilingual staffing in offices and clinics has made a significant difference. Standard programs have been adjusted to accommodate to the new circumstances.

Schools have responded with new English language classes and in some locations materials on Southeast Asian culture and history are being introduced into the regular school curriculum. We have as much to learn about these newcomers in our midst as they do about us.

Origins

The refugees are Vietnamese, Laotian, Hmong, and Cambodian. The first wave in 1975 was 95 percent Vietnamese. Most of them were highly educated and they adapted relatively easily to American culture. The second wave of immigrants, especially since June of 1979, is quite different. Most are uneducated and unskilled when it comes to the kinds of jobs available in western society. Almost half of the refugees are Hmong, hill people from northern Laos. The Hmong are a seminomadic group, historically originating in China. Theirs is a closeknit, strict society where honesty, chastity, loyalty, and pride are paramount. For them, life in America is a completely new world.

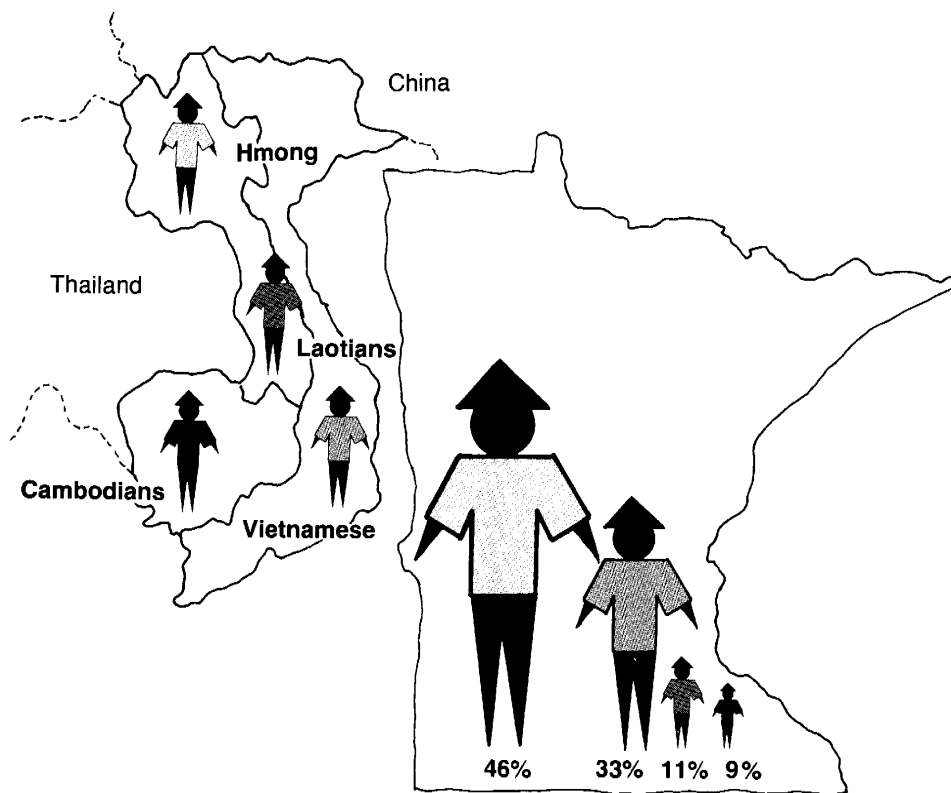
Minnesota has been receiving about 600 Southeast Asians a month for the past year or more. Half are coming from the refugee camps in Thailand and Malaysia. The other half are resettling here after initially living in some other state. By the end of November 1980 more than 18,300 refugees were living in Minnesota, all but 3,000 in the Twin Cities metropolitan area.

The Hmong, who were here in small numbers four years ago, have now created in Minnesota the largest Hmong community in the United States. Other large Hmong communities in the United States are in Santa Ana, California and Missoula, Montana. Hmong leaders are hoping to preserve their culture by maintaining close ties and rebuilding in particular locations their original large kin groups.

Relocation Problems

Though response to the new Southeast Asians has been better here than in most states, it has not come without many problems along the way and more in the offing. We know how to teach English to people who read and write in their native language, but how do we teach English to a people, such as the Hmong, who are basically illiterate in their own language? We know how to cure intestinal parasites by regular doses of a prescribed medication, but how do we convince people who have lived all their lives without doctors that doing what a stranger in a white coat says and swallowing tiny cakes each day will make a difference? We know that people cannot move in when there is no housing available, but somehow the influx continues; how do we explain that?

SOUTHEAST ASIANS IN MINNESOTA



Data for November 30, 1980 (total 18,318)

Source: Minnesota Department of Public Welfare, Indo-Chinese Resettlement Office

University Involvement

It is questions like these that have gradually involved University staff with the people who make up the newest part of the Minnesota community. What do refugees and researchers have in common?—a need to explore cultural differences and work toward usable accommodations.

If Southeast Asians and Minnesotans are to learn how to live well together, each must learn more about the other. For the refugees this is a matter of survival. For the community it is a matter of adjusting to rapid and complex change. For scholars it is an opportunity to learn more about some of the most basic processes of human interaction.

Housing

A Minneapolis planner observed to a colleague last year, "The Hmong won't move here. There's no housing available." Yet Minneapolis social service agencies have been inundated with new refugees moving in and in need of help.

Where are these newcomers living and how do they decide where to locate? Answers to these questions would help with planning at all levels of government and particularly in establishing patterns of us-

age for both the public and private agencies involved with the Asian refugees.

Glenn Hendricks, Student Life Studies at the University and an anthropologist, is hoping to answer these questions through a study of settlement patterns of the Southeast Asian refugees in the Twin Cities. The project will attempt to map locations of current refugees in the Twin Cities and to note in addition, for the Hmong, the settlement patterns for each of the kin groups or family alliances. For the Hmong, the family alliance is a basic social unit. It is an alliance of families under the leadership of senior males who belong to the same lineage.

Hendricks' study will include interviews with selected refugees to find out how they obtained their present housing. This should give some substantive information about the social processes used by refugees in deciding where they will live. The Hmong association will be cooperating with Hendricks on the project which will, as a side benefit for them, result in the updating of a directory of the Hmong community which the Hmong leadership has already organized.

Health

Finding a place to live is quickly followed by

an initial health screening for the refugees arriving from resettlement camps. The Hennepin County Chest Clinic is one of a number of clinics screening refugees in the Metropolitan area. Between March and July 1980 they screened nearly 650 refugees, including about 500 children. Eighty percent were positive on the standard Mantoux skin test for exposure to the organism which causes tuberculosis. Only about 1 percent, however, have the active disease and another 2 percent have had it in the past. Intestinal parasites and middle ear infections are also very common and dental caries are rampant. "By and large they are a pretty healthy group considering what they've gone through," Dr. Amos Deinard concludes. Dr. Deinard, Associate Professor of Pediatrics at the University of Minnesota, has been working with the refugees at the Hennepin County Chest Clinic for some time. "Most of their health problems are easily treated. But the biggest problem is their total unfamiliarity with Western health care concepts."

The clinic has been using interpreters trained with some medical knowledge at the Vocational Training Program in St. Paul. This clearly helps in the one-to-one communication between refugee and doctor. But it is the one-to-one communication system that is most alien to the refugee and especially the Hmong. The failure of Western health care methods with the Southeast Asians is measured by the refugees' repeated failure to carry out a doctor's recommended treatment plan. When parents are told their child needs surgery or to take a prescribed medication for a time, they invariably say they must talk with other family members to discuss the problem.

The frustrations arising between refugee and doctor are caused by a clash between two quite different social structures Tim Dunnigan believes. Dunnigan, Associate Professor of American Indian Studies at the University, has been working with the Southeast Asians since soon after the first refugees came.

If our Western doctors can learn how the Asian social structures work and can communicate within those structures, they will be successful in delivering health care to the refugees. "For effective health education we must talk with the right people," Dunnigan says. With the Hmong, for example, decisions about health care are not made by the individual. The leaders of the kin group, or family alliance, make the decision.

Tim Dunnigan and Amos Deinard are now working together to set up a pilot project in Minneapolis to demonstrate how health care can be offered to refugees effectively, taking into account the cultural differences that have frustrated both doctor and refugee. "It will be a reciprocal action," Dunnigan notes. "Change is needed on both sides."

Their project will involve a three-part communication strategy. First, understanding the social structure and decision-making process in each of the four Southeast Asian cultures (Hmong, Lao, Vietnamese, and Cambodian). This will assure that doctors are talking to the "right people" when health care decisions must be made. Second, training interpreters with specialized knowledge on a few health topics, selected by both the refugees and doctors as first priority areas. This in-depth training should allow interpreters to communicate with refugees in the vernacular, rather than having to use direct literal translations as they currently do. Third, developing educational materials, either audio or audiovisual, to aid the refugees in understanding Western methods of health care and health maintenance.

Deinard and Dunnigan anticipate that their demonstration project will be useful nationwide. Communication strategies that are found to work with the Hmong, for example, in Minneapolis will be useful with Hmong communities across the country and can be rapidly spread through the nationwide network linking the various Hmong communities in the United States.

The West Bank Office

The projects with housing and health care are just two of many research efforts at the University that link researchers and refugees. Studies centering on the new refugees seem to have grown as the numbers of the refugees themselves have grown.

When the idea of a coordinating research center arose, CURA seemed the obvious unit to create it. Last June the Southeast Asian Refugee Studies Project (SARS) was established with Bruce Downing, Associate Professor of Linguistics and acting director of the University's program in English as a Second Language, acting as coordinator. The advisory board includes Amos Deinard, Tim Dunnigan, and Glenn Hendricks, as well as Pauline Bamford, Social Work; Winifred Strange, Psychology, and Lo Vang, president of the Lao Students Association.

SARS is housed in an office on the West Bank, room 874 Social Sciences tower, and a graduate student in Anthropology, Doug Olney, has been employed since June as a research assistant.

The Reference Collection

SARS was created to encourage, coordinate, and support research related to the Southeast Asian refugees. The present focus of study is on the Hmong refugees.

As an aid to researchers, more than 200 books, articles, reports, and pamphlets have been assembled in SARS's West Bank office. They deal with Hmong language, culture, and history and with the resettlement of Southeast Asian refugees. A computer-based list of holdings has been prepared for quick access and easy updat-

ing. The initial fifteen-page bibliography and a six-page supplement are both available upon request. The research collection itself is open to anyone interested in using it. Since office hours are limited and change from quarter-to-quarter, it is best to call first and arrange your visit with Doug Olney at the SARS project office (376-3486).

Hmong Language Lessons

Pao Vang, a Hmong student, has helped develop a set of tape-recorded lessons to guide Americans in learning the Hmong language. They are available in the project office or may be copied. During winter quarter a beginning class in Hmong is being held through the Extension Division of the University. Vang and Sharon Dwyer are teaching the class using the new lessons along with a textbook developed by overseas missionaries.

Faculty Seminars

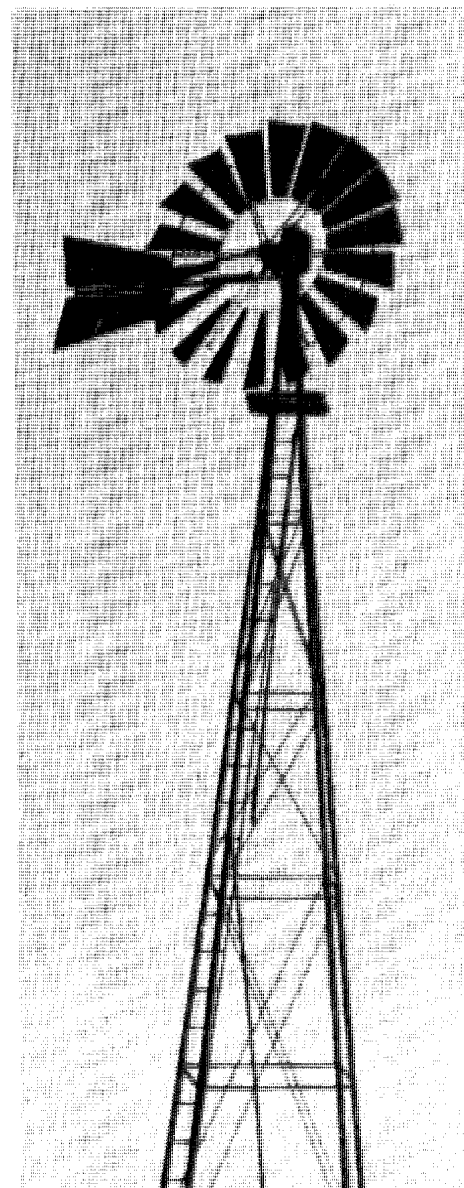
In August SARS surveyed University faculty to determine who was interested in the Southeast Asian refugees. Sixteen faculty members were identified at that time. In addition, faculty from several other Twin Cities schools are cooperating with SARS and collaborating on various research projects. Beginning in January regular seminars are being held for faculty and students to allow for sharing and discussing research findings. Details on the seminars are available from the SARS project office.

Asian Students

As the number of Southeast Asians has increased in Minnesota so has the number of Asians enrolling at the University of Minnesota. Fall quarter marked a milestone in this increase, though one that went unnoticed. Asians are now the largest group of minority students at the University: 1035 (or 1.8 percent) Asian, 966 (1.6 percent) black, 487 (.8 percent) Hispanic, and 330 (.6 percent) American Indian. Those figures represent students on all the campuses of the University; for the Twin Cities campus, the proportion of Asians is somewhat higher (2.1 percent).

Prospects for the Future

A significant worry of those who are working with the refugees now is what will happen this spring when major cutbacks begin in the federal funds that are allotted to each refugee for a three year period. Additional cutbacks in regular welfare funding will only further compound the problem. At present 69 percent of the refugees are receiving some kind of cash assistance. The federal cutbacks will leave the Minnesota community virtually on its own in helping the refugees. What do researchers and refugees have in common? A serious problem to face in the very near future.



Minnesota Wind Power Study

An opportunity is available to study the potential for commercial wind generation of electric power in Minnesota. The first stage of the study would include a review of the status of wind generation systems, the potential for wind power in Minnesota, the institutional factors important to wind power systems, the economic implications, and the social and environmental implications. Faculty members or graduate students interested in participating in such a study can contact Tom Anding, 376-3684, or Dean Abrahamson, 373-7756.



1980 CURA Publications and Order Form

AGING

- Bibliography: On Aging.** Eunice Bisbee Johnson. All University Center on Aging. 3pp. Free.
- Courses in the Field of Aging: Class Schedule 1980-81.** All University Center on Aging. 27pp. Free.

COMMUNITIES AND NEIGHBORHOODS

- Community Involvement in the Whittier Neighborhood: An Analysis of Neighborhood Conditions and Neighborhood Change.** Rebecca Lou Smith and Thomas L. Anding. CURA 80-4. 82pp. Free.
- Introduction to Community Interviewing.** Leslie H. Brown. CURA 80-7. 31pp. Free.

ENVIRONMENT

- Decommissioning Commercial Nuclear Power Plants.** Jane Anderson, Dave Aquilina, and David Rodbourne. CURA 80-6. Free.
- A Student Guide to Courses and Programs in the Environment 1980-82.** Penelope A. Burke. All University Council on Environmental Quality. 79pp. Free.
- Uranium in Minnesota: An Introduction to Exploration Mining and Milling.** Dean Abrahamson and Edward Zabinski. CURA 80-2. 67pp. Free.

INTERCULTURAL STUDIES

- Annotated Bibliography of Recent Research on Chicanos and Latinos in Minnesota.** Greg Stark, Kathryn Guthrie, and Cheryl Selinsky. Minnesota Spanish-Speaking Research and Data Collection Task Force. CURA 80-1. 56pp. Free.

LAND USE

- Atlas of Minnesota Resources and Settlement.** Third edition 1980. John R. Borchert and Neil C. Gustafson. CURA and Minnesota State Planning Agency. CURA 80-5. 309pp. \$8.50 plus \$1.25 postage and 34¢ Minnesota sales tax, if applicable. \$10.09 per copy total. Pre-payment or purchase order required.

- Windows to the Past: A Bibliography of Minnesota County Atlases.** Mai Treude. CURA 80-3. 187pp. Free.
- CURA Reporter**, Volume X, Number 1, March 1980. Free.
 - "When Women Must Work," Esther Wattenberg and William J. Craig, pp 1-6.
 - "BECO—New CURA Office Opens," p 6.
 - "Financing Performing Arts in the Twin Cities," Joseph Galaskiewicz, pp 7-10.
 - "Minnesota's Peat," Jeffrey P. Anderson, pp 11-14.
 - "Student Papers in the Public Administration Library," p 15.
 - "1979 CURA Publications and Order Form," p 16.
- CURA Reporter**, Volume X, Number 2, June 1980. Free.
 - "CURA: Looking to the 1980s," Thomas M. Scott, pp 1-3.
 - "Windows to the Past: Minnesota County Atlases," Mai Treude, pp 4-10.
 - "Two Energy Studies Supported by CURA," p 11.
 - "More on Minnesota's Peatlands," p 11.
 - "Community in Southdale," David Cooperman and Lea Hagoel, pp 12-15.
 - "New CURA Publications," p 15.
- CURA Reporter**, Volume X, Number 3, October 1980. Free.
 - "Decommissioning Commercial Nuclear Power Plants," David Aquilina, Jane Anderson, David Rodbourne, pp 1-5.
 - "Government Training Service (GTS) Comes of Age," Thomas M. Scott, p 6.
 - "Transportation Program," p 6.
 - "A Model for Bringing Academics into the Minority Community," Edward L. Duren, Jr., pp 7-9.
 - "Past CURA Projects Have Been Expanded," p 9.
 - "Whittier: A Revitalization Effort in the Inner City," Rebecca Lou Smith, pp 10-12.
 - "Student Papers in the Public Administration Library," pp 12-13.
 - "New CURA Publications," pp 13-15.

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New CURA Publications

Bibliography, On Aging. Eunice Bisbee Johnson. All University Center on Aging. 3pp. Free.

Not actually a bibliography, but rather a guide to bibliographic sources, this new reference tool is designed for people interested in the field of aging. Sources of information on aging range through many disciplines and literature in the field is rapidly increasing. How can one keep abreast of it all? Ms. Johnson, librarian at the University's Public Administration Library, offers help by identifying a number of places to go. She lists bibliographic data bases, all of which are computerized and some of which also offer abstracts. Bibliographic search services are listed and a guide to the key reference tools for government documents is provided. Procedures for obtain-

ing an article, once you have the citation in hand, are outlined. Research questions that may be answered here include: where to go for background reading, for current statistics, to find out what federal research is going on, and to gain access to data bases on aging. This brief but very useful publication was prepared for the All University Center of Aging and may be obtained directly from their office. Phone 612/376-1759 or write 304 Walter Library, 117 Pleasant St. S.E., University of Minnesota, Minneapolis, MN 55455.

Introduction to Community Interviewing. Leslie H. Brown. CURA 80-7. 31pp. Free.

Designed to aid groups that are preparing to interview in the community, this guide

was written by an outstanding interviewer who helped CURA train interviewers for several recent community planning projects. It provides a background on how to train people to do face-to-face interviews where the questions are fairly straightforward. The most valuable contribution may be the check list of things the trainer should remember to do. It can be used to provide organized and coherent training sessions where all important points are covered. An interesting appendix note provides the mathematical basis for estimating the reliability of one's results after the survey has been completed.

CURA publications may be ordered by phone (612/373-7833) or on the CURA Publication Order Form, page 15 of this Reporter.

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The Center for Urban and Regional Affairs was established to help make the University of Minnesota more responsive to the needs of the larger community and to increase the constructive interaction between faculty and students, on the one hand, and those dealing directly with major public problems, on the other hand.

The **CURA REPORTER** is published by CURA to provide information about:

- what CURA projects are doing
- related programs and projects in the University
- related programs in other Minnesota colleges and universities, and
- actions outside the educational establishment which affect our plans and programs.

Comments and contributions are welcome. Thomas M. Scott, director; Thomas L. Anding, associate director; William J. Craig, assistant director; Judith H. Weir, editor.

