Spring 1983 United States Department of Agriculture

extension review

Soil and Water

review

Extension in the 80's

Mary Nell Greenwood
Administrator
Extension Service, USDA
and
Lucinda Noble
Director
Cooperative Extension, New York
and Chairman, ECOP

National Teleconference participants at Washington, D.C., reporting on "Extension in the 80s" were (left to right): Denzil Clegg, Associate Administrator, Extension Service, USDA; Lucinda Noble, Chairman, ECOP, and Director, Cooperative Extension, New York; Dan Aldrich, Jr., Chancellor, University of California-Irvine; Robert Clodius, President, National Association of State Universities and Land-Grant Colleges; George Brown, Representative, California; and Ray Lett, Executive Assistant to the Secretary of Agriculture.

Mary Nell Greenwood, Administrator, Extension Service.

"Extension in the 80s, A Perspective for the Future of the Cooperative Extension Service," represents a systemwide response and set of guidelines to the challenge of rapid change. The report contains results of a year-long study by the 21 members of a Joint Committee appointed by John Block, Secretary of Agriculture, and Robert Clodius, President, National Association of State Universities and Land-Grant Colleges.

Future Role for Cooperative Extension
The Committee's charge was to produce a document to serve as a guide for the future mission, scope, priorities, and policies and to review and restate the roles and responsibilities of each of the partners—federal, state and county—in the Cooperative Extension system.

The Committee received inputs from many groups and individuals in writing and in open hearings. It received responses from an extensive mail survey with returns from nearly 4,500 leaders and individuals from the private sector and 14,000 Cooperative Extension Service professional staff nationwide.

The official report was made to Secretary Block and President Clodius on February 28, 1983, in Washington, D.C. Cochairs of the Committee, who presented the report were Ray Lett, Executive Assistant to the Secretary, and Daniel Aldrich, Jr., Chancellor, University of California—Irvine.

Selected Recommendations and Guidelines for Cooperative Extension formulated by the National Committee include:

Mission—The basic mission of Cooperative Extension is to disseminate, and encourage the application of research-generated knowledge and leadership techniques to individuals, families, and communities... Dissemination of research knowledge and the application of that knowledge to practical problems is as important now as in the past.

Priorities—The Cooperative Extension system must establish priorities within six major program areas... the agricultural system, natural and environmental resources, community and small business development, home economics/family living, 4-H/youth education and development, and international concerns.

Clientele—Ways must be found to reach more people with educational programs... Much sharper delineation of target audiences is needed.

Flexibility—Cooperative Extension programming must retain broad flexibility at all levels if it is to remain relevant and respond to the dynamics of change for the greater good of people and their communities...

Federal/State/County Partnerships—The importance of linkages among the Service, all three levels of government and America's community leaders was reaffirmed.

Research—Research should remain the base for the system's major educational and information efforts... Additional resources are needed for applied research and demonstrations, which are essential for effective technology transfer.

Extension in Land-Grant Universities—Administrators and faculty of land-grant universities must place lifelong learning on a plane equal to that of research and preparatory education... A tested system exists for extending knowledge about agriculture, home economics, and natural resources to local communities throughout the nation.

Volunteers—Some 1.5 million adult volunteers perform numerous roles under the guidance of Extension professionals. This volunteer system deserves encouragement from all three legal partners as it is basic to the success of Cooperative Extension in America.

Private Sector—At the national level, the private sector provides major resources through national foundations, corporations, and individuals... The legal partners should continue to recognize and encourage this commitment.

Methodology—Cooperative Extension is encouraged to use new electronic technology in providing viable educational opportunities to expanded audiences.

Evaluation—Cooperative Extension must involve the public and decision-makers in Extension evaluation efforts; by such activity, these people will come to understand Extension better.

A Unique Achievement
The Cooperative Extension Service is a unique achievement in American education. The system has been a major asset to the nation and to the world. If changes recommended by the Committee are adopted, the Cooperative Extension Service will, the Committee believes, be able to play a larger and more vital role in the years that lie ahead. □

contents

extension review

Vol. 54 No. 2
Spring 1983

John R. Block
Secretary of Agriculture

Orville G. Bentley
Assistant Secretary for Science and Education

Mary Nell Greenwood
Administrator
Extension Services

The *Extension Review*, quarterly publication of the Extension Service is for Extension educators in county, state and USDA agencies. The Secretary of Agriculture has determined that the publication of this periodical is necessary in the transaction of the public business required by law of the Department. Use of funds for printing this periodical has been approved by the Director of the Office of Management and Budget through September 30, 1985. The Review is issued free by Law to workers engaged in Extension activities. For sale by the Superintendent of Documents, Government Printing Office, Washington, D.C. 20402. Send manuscript inquiries to: The Editor, Extension Service, Room 3135-S, USDA, Washington, D.C. 20250. Telephone (202) 447-4651.

Reference to commercial products and services is made with the understanding that no discrimination is intended and no endorsement by the Department of Agriculture is implied. Extension Service of the U.S. Department of Agriculture offers its programs to all eligible persons regardless of race, color, sex, or national origin, and is an Equal Opportunity Employer.

Director of Information: Ovid Bay
Editor: Patricia Loudon
Associate Editor: Judith Armstrong Bowers
Associate Editor: James Wolfe
Design Director: Deborah Shelton

Cover: Conservation farming near the Susquehanna River in Harford County, Maryland. (Credit USDA–Soil Conservation Service.)

Soil and Water Resources—The Challenge to Extension

John R. Block
Secretary of Agriculture

John R. Block, Secretary of Agriculture.

Cooperative Extension has long been recognized for the major influence it has had in developing the agricultural production system which so many of us take great pride in today. This recognition is richly deserved.

Cited by many as a model for technology transfer programs, the Cooperative Extension system is unique in its effectiveness and cooperation. A three-way federal, state and local partnership supports Extension, provides program direction, infuses it with innovation and enthusiasm, and provides many volunteer leaders who contribute greatly to the effectiveness of the programs and the efficiency of the system.

We can look to the past and find many accomplishments by Extension. But by its very nature, the Extension system is a forward-looking service to American agriculture. The achievements have been great, but the challenges ahead are even greater.

One such challenge is to make ourselves fully aware of the impacts which technology transfer programs have upon some of our most basic resources—soil and water. How can the Cooperative Extension system develop and deliver programs to educate and influence citizens to make wise use of these basic resources?

Shortly after being confirmed as Secretary of Agriculture, I established a list of departmental priorities, two relating particularly to the Extension Service and the Cooperative Extension system. Those two priorities were to maintain agricultural productivity and conserve natural resources.

As the educational arm of USDA, Extension has an important responsibility in the conservation of soil and water resources. It complements the roles of two other USDA agencies in soil and water conservation—the Soil Conservation Service and the Agricultural Stabilization and Conservation Service.

Outside the Department, the Extension Committee on Organization and Policy has recognized the need for such complementary programming. Further, the recently published report, "Extension in the 80's—A Perspective for the Future of the Cooperative Extension Service," referred to in this issue's editorial, has also suggested increased emphasis on these subjects.

Programs in soil and water resource conservation are needed. They are important! As one reflects on the extraordinary success of the Extension system in the development of U.S. agricultural productivity, the question arises: What would happen if the Extension system were to mount an all-out response to the challenges of conservation?

Results from such an emphasis would likely be every bit as remarkable as those we see in our agricultural production programs. I personally believe that in time Extension can and will achieve such results in conservation as it rises to the challenge. □

Reclaiming the Land

William C. Burleson
Extension Information Director
Virginia Polytechnic Institute and State University

Lack of usable land is hindering the economic growth of the coal-producing counties in southwest Virginia. For years the mountains that have yielded the coal on which these counties' economies depend also have served as barriers against further economic development.

The mountain barriers may be coming down, however. Virginia Tech, through its Extension and research arms, is cooperating with private industry, two other area colleges and local, state and federal agencies in what may be the answer to this problem—the Southwest Virginia Project. This project is showing promise of making valuable additions to the region's economy by finding new uses for the land after the coal has been removed.

The Southwest Virginia Project, now in its third year, became a reality in 1980 when Penn Virginia Corp., a natural resources and equipment firm with its natural resources office in Duffield, Va., provided $500,000 in grants to Tech. It also made available 1,200 acres of reclaimed mined land at the headwaters of the Powell River in Wise County for the research and assigned three employees to work at the project site.

Beginnings

The project stems from talks in 1979 between C.B. Slemp, Penn Virginia land manager and now project director, and Milton B. Wise, associate dean for Extension in Tech's College of Agriculture and Life Sciences. Slemp, a native of the region, was concerned about finding uses for the surface-mined land after the coal was removed.

These talks resulted in more than a dozen research projects being conducted on the surface-mined land to find ways to make it productive and beneficial to the area's residents. H. John Gerken, Jr., Tech Extension specialist, became project coordinator.

A Virginia Tech (VPSU) graduate student outlines recent land reclamation research for coal producers from various states.

The project could mean millions of dollars of revenue for those Virginia, West Virginia and Kentucky counties that have had extensive surface mining during the last four decades. Early indications are that the land, once thought unusable, can be an asset to the local economy. Several coal companies have expressed an interest in the work, indicating they may be willing to fund additional research at the site. Several national, regional and local groups have toured the project site to learn first hand about the work. Extension is using the research results in areas with similar problems.

Advisory Council Cooperation

At the same time that the Tech researchers began looking at ways to productively use the land, Wise helped form a project advisory council which includes all segments of the political spectrum.

He chairs the council which includes representatives from Congress and the Virginia state legislature, the Tennessee Valley Authority, Office of Surface Mining Reclamation and Enforcement, Division of Mined Land Reclamation, Virginia Department of Agriculture and Consumer Services, and Virginia Department of Conservation and Economic Development.

Higher education, in addition to the Extension and research components in agriculture and engineering at Tech, also is represented by Clinch Valley College at Wise and the Mountain Empire Community College at Big Stone Gap. The coal industry is represented by Penn Virginia and its Penn Virginia Resources subsidiary, the Pittston Coal Co., and Contracting Enterprises. Citizen involvement includes Lenofwisco, the planning district composed of Lee, Scott and Wise counties and the city of Norton, and the Citizens for Better Reclamation.

"Everyone is working together for the benefit of the region," Slemp says.

Cattle Herd Successful

Gerken and fellow Extension specialist

Virginia Tech's (VPSU) Extension and research arms are major contributors to a cooperative reclamation project. Here, visitors examine erosion controlled slopes that are part of the Southwest Virginia Project.

A.L. "Ike" Eller Jr., an animal scientist, already have found one way that the land can be used—raising beef cattle. They have maintained a herd of beef cows on the property since June 1980 and have watched it produce three calf crops.

"Results indicate that the beef cow-calf herd can be adapted to the available forage on the strip-mined land and will produce at or near the levels expected elsewhere in Virginia," Gerken says.

The calf performance in the experiment has been excellent, Gerken said. Twenty-four calves in the first crop sold for an average price of $348 a head and had an average weight of 505 pounds. The second crop of 22 calves averaged $321 per head with an average weight of 585 pounds.

"There is no question in my mind that cattle can be raised on this land which are comparable in weight and quality to any which are produced in Virginia. The big question is whether the pastures can be maintained over the long haul," Gerken points out.

Soil Yields

Dan F. Amos, associate professor of agronomy, and W. Lee Daniels, a research associate, are conducting research with Gerald D. McCart, Extension agronomist in soil fertility, and James A. Burger, assistant professor of forestry, to find how soils in surface mined areas can produce optimum yields. The project looks at the effect of selected overburden materials on mine soil properties and plan growth. The U.S. Office of Surface Mining Reclamation and Enforcement recently gave the University a $50,000 grant to support this project.

In a mine spoil characterization and mapping project, Amos and Daniels assessed the plant nutrient potential of the reclamation area, characterized the major mine soils and produced a map showing the location of the major mine soil mapping units describing each.

After sampling, analyzing and mapping the soil of the three benches at the project, they found that the soil varies in pH from extremely acid to moderately alkaline. Soils were found to be shallow, and rocky; over half had been compacted during reclamation. Much of this soil is severely affected by dry weather.

Amos and Daniels, however, found that where mine soils had formed on predominantly sandy, uncompacted soils, there was vigorous plant growth and deep root proliferation.

Amos said, "This reinforces our belief that, with a little extra effort, surface mine operators could select and place overburden materials in a manner that would result in productive mine soil."

Turfgrass Tests

John R. Hall III, Extension turf agronomist, David C. Martins, professor of agronomy, and McCart are looking at the turfgrass species and soil additives that can provide the most functional turf for use on home lawns and recreational areas which use mine soil. They have used varieties of Kentucky bluegrass, tall fescue, fine fescue, perennial ryegrass, bermudagrass and zoysia grass in their research.

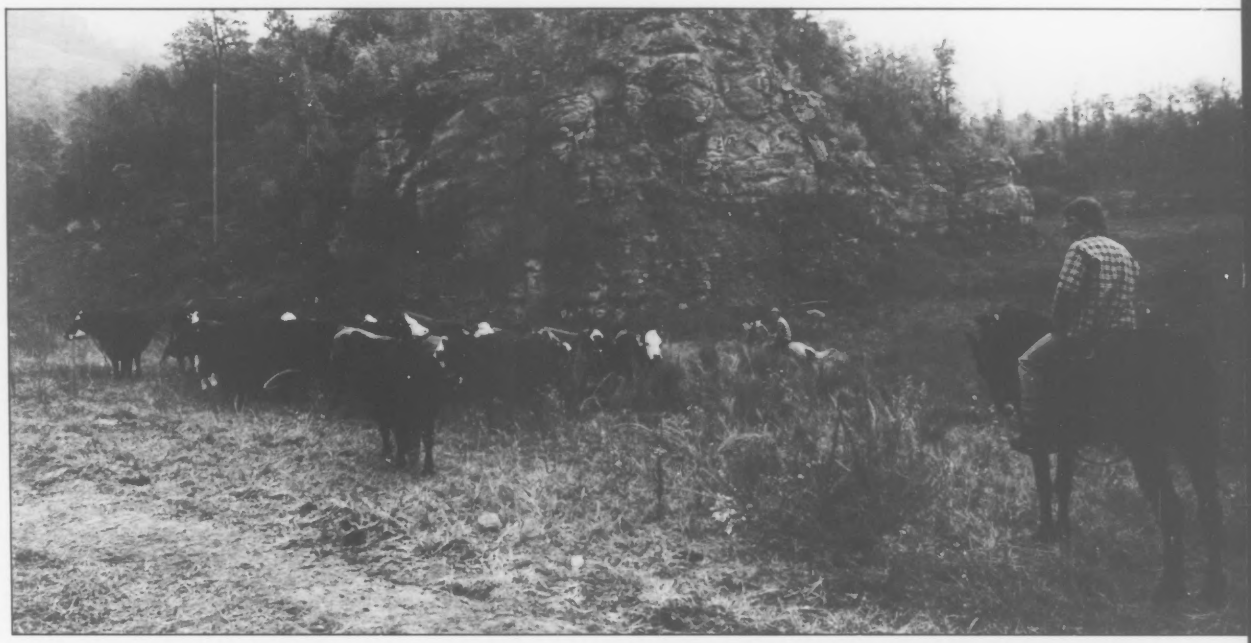
The researchers are looking at the use of sludge, sawdust and topsoil in various rates to find the better mixtures which produce good turfgrass. Their effect will be measured in relation to ground cover, turf quality, foliar analysis and rooting patterns.

Dale D. Wolf, an associate professor of agronomy, and a graduate student, Robert L. Williams, are studying sericea lespedeza management in connection with other forages. The pair is looking to see if there are ways that the legume can be controlled and yet used as a forage.

Plant Introduction

Charles R. O'Dell and Stephen C.

Cattle forage near the Powell River in Wise County, Virginia–a new production use for surface mined land discovered by research and Extension specialists.



Myers, Extension horticulturists, and Ronald D. Morse, associate professor of horticulture, planted 350 apple trees and, thus far, are pleased with the survival rate. The main problem has been excessive settling in some areas that caused rain water to stand in the plant hole and suffocate the roots.

The three also planted strawberries and blueberries. The strawberries appear to be adapting to environment. The blueberry project is long term as the bushes are not expected to begin bearing until 1984. There are also plans to plant grapes at a site adjacent to the orchard.

Their plantings of tomatoes, green beans and acorn squash have produced yields on limed plots which are comparable to Virginia state average commercial yields.

The three researchers feel that many vegetables can be successfully grown on mine soils that are treated with lime, fertilizer and some form of organic material. Black plastic mulch definitely increases productivity under normal rainfall conditions. Since mine soils are normally low in nitrogen, they feel research is needed to evaluate the best methods of meeting this requirement in a fast-growing plant species, such as squash.

Timber Research

Harold W. Wisdom, associate professor of forestry, and Terrence D. McCay, a graduate student, are evaluating the economic feasibility of harvesting timber on the land and estimating the impact of the forestry project.

There are a number of forest products industries in southwest Virginia, northeast Tennessee and southeast West Virginia. Potential markets, therefore, look promising.

The pair also is working on data of manufacturing costs for alternative wood products plants, together with harvesting and transportation costs, information on prices and sales potential for a discounted cash flow analysis.

Site factors are being examined on surface-mined land which affect the growth and survival of the seedlings. The project involves 10 species of hardwood and five pine species. So far the seedling survival rates have been excellent.

Robert H. Giles Jr., professor of fisheries and wildlife sciences, completed a comprehensive resource area plan. The data were used to select the best sites for residences, orchards, pastures and forests and for analyzing the potential of various sites.

Gerken observed that the volume of research being conducted at the site will give a "total package" of possible uses for the land. Although local studies would have to be done, the results from the Powell River Project should be applicable to many surface-mined areas in other parts of the region. □

Coming to Grips with the Mud Bowl

Robert D. Walker
Extension Natural Resources Specialist
and
Doug Peterson
Extension Communications Specialist
University of Illinois

A diverse group has gathered around a conference table to discuss whether soil erosion standards should be voluntary or mandatory.

"Listen," says one, "for the past 50 years since the 'Dirty Thirties,' soil conservation has been voluntary and little progress has been made. How do you expect a voluntary program to work?"

"You've got to give a voluntary program a chance," counters another. "Most farmers are sincerely interested in controlling erosion. They just need financial assistance to get the job done."

When a third person says that a mandatory program may be necessary if the voluntary approach doesn't work, the fellow next to him thumps the table and bursts, "Give me a break! You let the bureaucrats move in with their regulations and before you know it you'll have a bunch of people who've never even seen an acre of eroded land calling the shots!"

This scenario, which gives just a flavor of the controversies surrounding the erosion problem in the United States, was enacted in one of the University of Illinois Extension Service's new slide sets on the theme, "From Dust Bowl to Mud Bowl."

Saving the Soil

The slide set is part of a new "Land and Water" series of publications and slide programs that focus on the growing interest in soil conservation throughout Illinois and other parts of the country.

In turn, the Land and Water series is part of the Extension Service's aggressive participation in the Illinois erosion-control planning process and program.

To put this in the proper perspective, though, requires some background.

At a farm southwest of Tiskilwa, Illinois, active gully erosion stems from overstocking pasture.

Interest in soil conservation in Illinois developed out of the Dust Bowl era and continued into the forties and mid-fifties when most of the state's 98 soil and water conservation districts were established. However, technological advances increased crop yields at about 2 percent per year during this period. So many people in the agricultural community slowly slipped into what has been called "the invisible trap."

A symptom of the invisible trap is the tendency to say, "Who needs to worry about whether erosion is stealing away the most productive soils? Technology will come up with a way to keep yields high."

Section 208

In the early seventies, when environmental interest was at its peak, the United States passed the Water Pollution Control Act Amendment. Section 208 forced states to look again at water pollution problems, including those caused by soil erosion.

Most previous water pollution work had concentrated on "point" sources of pollution—pollution from easily identified sources such as pipes carrying industrial wastes. But Section 208 put the spotlight, for the first time, on non-point sources, such as runoff from agricultural land, construction sites, and urban development.

In 1976, the Illinois Environmental Protection Agency took the lead in developing a pollution-control plan for the major agricultural regions in Illinois. Other participants included farm organizations, commodity groups, fertilizer and chemical dealers, farmers, and many state and federal agencies—the Soil Conservation Service (SCS), the Agriculture Stabilization and Conservation Service (ASCS), the Department of Conservation (DOC), the Illinois Department of Agriculture (IDA), the Association of Soil and Water Conservation Districts (ASWCD), and the Cooperative Extension Service (CES).

Extension Takes Charge

The Extension Service was put in charge of educational outreach and was represented on the main work team—the Agricultural Task Force. Robert Walker, Extension natural resources specialist at the University of Illinois, served as secretary of the task force and chaired the subcommittee on soil erosion.

As the study of water pollution problems got underway in what became known as "the 208 planning process," the Cooperative Extension Service at the University of Illinois put its educational program into motion.

A newsletter, "208 Update for Agriculture," became the communication voice among 3,000 agricultural leaders in Illinois, state and federal agency employees, advisory groups, key state legislators, and environmental groups.

Left: This farm in Ford County, Illinois, typifies the messy problem of handling livestock wastes. Runoff from livestock feedlots is a major environmental problem to agriculture in the state. Below: A chisel plow leaves crop residue on a field. The switch from the moldboard plow to the chisel plow demonstrates the increasing interest in conservation tillage systems.

By keeping agricultural leaders on top of upcoming events, such as public hearings, public input was drawn into the planning process.

In addition, regular news releases were sent to all county Extension advisers for radio, newspaper and newsletter use. Other stories went directly to the 140 daily newspapers throughout the state; radio programs on the 208 process were sent to a 100-station network covering agricultural news; three 4-minute television programs went to 12 stations; and four 2-hour sessions were held over the university's telephone communications network.

The network, known as TELENET, reached 40 stations whose audiences consisted of Extension council members, soil and water conservation district board members, representatives from government agencies and farm organization leaders.

The 208 process generated volumes of material, but the Agricultural Task Force focused its attack on two major agriculturally related problems—soil erosion and runoff from livestock feedlots. Problems of pesticides and plant nutrients were considered part of the soil erosion problem because most of these chemicals reach waterways by traveling piggyback on moving soil.

Because the Illinois Pollution Control Board already had developed a program for bringing feedlot waste under control, the remaining question was what to do about controlling soil erosion.

How Severe?

A first step was to determine the severity of erosion on Illinois farmland. A study revealed that about 10 million, or 40 percent, of the state's 24 million acres of farmland suffered from erosion above the tolerance level. When erosion exceeds the tolerance level, or "T value," that means soil is being lost so fast that its natural productivity is also being lost.

The eventual product of the 208 planning process was the State Water Quality Management Plan—a plan which handed the job of managing the erosion-control program to the Illinois Department of Agriculture and the 98 soil and water conservation districts.

Again, the Extension Service was given the lead role in disseminating publicity and educational materials. The 208 newsletter was set aside after its 27th issue in 1981 and the next stage began.

"T By 2000"

Through 1981 and 1982, the Department of Agriculture and the 98 districts hammered out a series of erosion-control goals with the ultimate objective being "T by 2000." In other words, erosion on all farmland in the state must be brought within the tolerance level, or "T value," by the year 2000. Leading up to the "T by 2000" goal was a series of shorter range goals.

The erosion-control program went into effect on January 1, 1983, at which time the Illinois CES presented its Land and Water series. The series consists of six slide programs and six publications—all which have been reviewed by representatives from a variety of agencies.

This package of materials, being continually expanded, is designed for use by Extension and SCS staff. Materials reach high schools and junior colleges through the university's Vocational Agricultural Service.

Teach the Landowners

The Land and Water series aims to teach landowners the following:

- How Illinois has established goals for controlling erosion and how important it is to meet those goals.
- How to estimate soil erosion losses and the amount of soil saved with conservation practices.
- How to evaluate the economic impact of erosion.
- How the soil erosion process and the basic principles of erosion-control operate.
- How to evaluate the costs and benefits of specific soil conservation practices.

Left: Contour strip cropping—alternating row crops with strips of sod—is a technique many Illinois farmers are using to bring erosion under control. Below: Hillard Morris, chairman, Soil and Water Conservation District Board in Effingham County, Illinois, uses a truck and three bushels to illustrate erosion damage at an Extension Service field day.

- How to make the best use of technology and financial resources to plan and implement soil conservation programs.

The first publication and slide set, "From Dust Bowl to Mud Bowl," puts erosion in the historical context, beginning with the dust storms of the thirties and how they brought the problem into national view.

The second publication and slide set, "T by 2000," outlines the state erosion-control program and what it will take to bring the 10 million acres with excessive erosion into compliance by the year 2000.

"Raindrops and Bombs," the third program, expands on the often used but appropriate comparison of raindrops with bombs. During a rainfall, millions of drops fall at velocities reaching 30 feet per second, exploding against the ground and splashing soil as high as 3 feet in the air and as far as 5 feet from where they hit. The program analyzes such forms of erosion as sheet, rill, and gully erosion. Understanding the mechanics of the erosion process gives a clearer idea of how to control the erosive impact of rain and runoff water.

Many erosion forces are hard to see with the naked eye. For example, when a 1/8-inch layer of soil erodes from a field, a farmer probably would not notice it. But when a 1/8-inch layer erodes away, that means the field has suffered the loss of 20 tons of soil per acre during the year.

To deal with this problem, the fourth program, "How to Measure What's Missing," gives a step-by-step lesson on how to use the Universal Soil Loss Equation—which figures out the rate of erosion on a piece of land.

The alternative strategies for controlling erosion then become the subject of the fifth program, "A Plan For The Land." The landowner is instructed on how to evaluate the available conservation tools—terraces, grassed waterways, contour farming, conservation tillage, and crop rotations, for example—and how to piece them together into a plan that will adapt to this particular piece of land.

The sixth program, "What Price Conservation?", examines the complicated question of economics and soil conservation. After all, financial questions are at the core of the erosion problem. Often, landowners must farm their land intensively to meet mortgage payments and the family's other financial needs. Also, many farmers feel that, because the returns on soil conservation practices do not come for many years, they must put their capital into an enterprise that will give them a more rapid return.

Good Response

The Extension erosion-control materials received enthusiastic response at a series of soil conservation meetings in December 1982. The purpose of the meetings was to train various staff on how to publicize and educate the public about the state erosion-control program. Instead of telling state staff, "Here's what you have to do; so go out and do it," the staff was provided with tools to carry out the task—the Land and Water series.

So far, the major problem has been keeping up with the demand for the slide sets and publications. Requests have been coming from all of the groups represented at the winter training meetings—ASCS, SCS, soil and water conservation districts, and the Extension Service.

Meanwhile, back at the conference table . . .

"Hey, other industries have regulations!" says one agitated person. "Why should agriculture be exempt? Does ownership of land mean you have the right to spoil our resources for future generations?"

But another's response is, "You know, if mandatory erosion-control regulations were passed, there'd be such opposition that I bet the program would receive less cooperation than a voluntary approach."

"Not only that," adds the next person, "but it'd probably cost more to police mandatory standards than it would to make them voluntary and provide financial incentives."

Debates such as these in the late seventies eventually led to Illinois' decision that the erosion-control program should be voluntary, not mandatory. However, the key to any voluntary program is education—teaching farmers that a problem does exist and that there are ways it can be solved. That is when the Cooperative Extension Service steps into action. □

Cleaner Water Through Interagency Cooperation

Thomas R. Halbach
Community and Natural Resources Development Agent
CES, University of Minnesota
and
Gary Williams
Chief of Planning and Standards, Region V
Environmental Protection Agency
Chicago, Illinois

Couple concern for the environment with a strong education awareness program. Involve two government departments—not just in Washington, D.C., but out in the grassroots, the Midwest where the problem exists.

The result—establishment of a CES liaison position and a closer working relationship in the area of nonpoint source (NPS) water pollution control between the U.S. Environmental Protection Agency (EPA) Region V office in Chicago and six state Cooperative Extension Services.

History
Discussions within Extension on how to best work with EPA go back to 1972 and passage of PL 92-500, the Clean Water Act. In 1976, the 208 Nonpoint Water Quality Planning process stimulated additional discussions.

Region V staff felt that the Cooperative Extension system had a high degree of credibility, longer history and an excellent information delivery system. With this in mind, EPA staff, in 1978, established closer contact with the six states in Region V.

In January 1979, EPA and Extension Service, USDA, signed a memorandum of understanding to work together in the area of water quality. In August 1979, the National Extension/EPA Executive Committee drafted and approved an outline of "Cooperative Extension's Role in Water Quality Programs."

In March 1980, the state CES directors in Region V (Norman Brown, Minnesota; Gale VandeBerg, Wisconsin; Gordon Guyer, Michigan; William Oschwald, Illinois; Howard Diesslin, Indiana; and George Gist, Ohio) agreed to establish a CES liaison position.

During its first 6 years of existence, EPA Region V had found that controlling pollution from point sources alone would not always achieve water quality goals, especially in Lake Erie.

Position Established
The two agencies agreed in September 1980 to establish a CES liaison position in the EPA Chicago office with 50 percent funding from EPA and 50 percent from the Cooperative Extension Services in Region V.

In December 1980, Tom Halbach became the first CES liaison to EPA Region V, the first position of its kind in the Nation. The long-range goal was to get widespread application of water quality Best Management Practices (BMP's) where they are needed to achieve water quality goals. Primary objectives are:

- Produce a CES liaison newsletter discussing current EPA and CES water quality programs.
- Conduct monthly EPA staff seminars on various aspects of American agriculture, CES, USDA, and current AgNPS projects in Region V.
- Establish a formal system of CES water quality contact people.
- Route CES and EPA materials and publications for information purposes to selected staff.
- Arrange for CES staff, both county and state, to meet with EPA staff whenever possible.

Project Participation
Some of the more important EPA projects include:

- The Black Creek project, Indiana, the Nation's longest-running AgNPS project, began in 1972 and was completed in 1982. (The final report will be available shortly.) Black Creek showed that not all agricultural areas contribute equally to water pollution.
- The four Rural Clean Water Projects are demonstrating the USDA, EPA, state and local units of government can work together.
- The Model Implementation Project in six counties surrounding Indianapolis, Indiana.
- The NPS report developed under Section 208.
- The Great Lakes Tillage demonstration projects under Section 108.
- The state agricultural Water Quality Strategies were reviewed for Michigan, Wisconsin, Illinois, and Ohio.
- The U.S. Army Corps of Engineers' Lake Erie Waste Water Management Study.

Specific Accomplishments
The liaison position has had many positive accomplishments:

- A $40,000 EPA grant to incorporate water quality information in CES staff development programs during 1982 and 1983 to bring county agents up-to-date on current research findings related to water quality BMP's and their application.
- Additional EPA funding of $38,000 for the county agronomist position in Tuscola County, Michigan.
- Additional EPA funds of $25,000 to Michigan State University for analyses of conservation tillage systems in the Saginaw Bay project area.
- EPA funding of $8,000 to Ohio State University for revising fertilizer recommendations.

Future Challenges
Although a high level of interagency cooperation has been attained, several challenges remain. The continuation of regular personal interaction between EPA and Extension is essential, as is the continued exchange of information. Within USDA, the Cooperative Extension system, the Soil Conseration Service, and the Agricultural Stabilization and Conservation Service need increased funding and greater coordination to integrate water quality information into staff development programs. EPA also needs increased funding in the AgNPS area.

From a technical standpoint, AgNPS pollution needs to be reduced in many areas if water quality goals are to be achieved, a fact that needs to be communicated to the appropriate decisionmakers.

The final result will be cleaner water for all of us to enjoy. □

Bay Cleanup Boosts Economy

Jim Bottom
Editor-Writer
Oregon State University

Cow manure. Some 275,000 tons of it from 115 dairy farms. More than 100 inches of annual rainfall on 364,000 acres. A 6-mile-long bay used for shellfish harvesting, fishing, and recreation.

These are the things pollution nightmares are made of, says Jong Lee, a former Oregon State University seafood specialist in microbiology.

How a seafood specialist became involved in a major water pollution problem that threatened Oregon's oyster industry, public health, tourism, and the reputation of the state's coastal playground is seemingly strange. But it's no more odd than the unusual groups who were involved in solving a critical problem: reducing fecal coliform in Tillamook Bay.

The clean-up of Tillamook Bay is a story matched only in scripts made for television movies, says Jim Moore, an Oregon State agricultural engineering Extension specialist. "It's an excellent success story," he says.

Cooperative Program

Moore's participation in the cleanup campaign has been recent. The campaign has involved OSU Extension, OSU Sea Grant, the oyster and dairy industries, the Oregon Health Division, the Oregon Department of Environmental Quality (DEQ), The Oregon Department of Agriculture, the Oregon Department of Fish and Wildlife (ODFW), the Soil Conservation Service (SCS), and the Agricultural Stabilization and Conservation Service (ASCS)—just to name a few groups involved to date.

Moore, along with several colleagues, designed the successful computer model that's being used to tell farmers how to manage dairy herd wastes to keep harmful micro-organisms out of the bay.

"Basically our job was to develop the model to evaluate manure management practices," he says. "That's been done, it's currently being used and we're just tickled by its performance."

Lee, on the other hand, was an early participant in the cleanup effort—a researcher playing an informal Extension role. His involvement came about through his research in the microbiological quality of seafood for OSU Sea Grant. When the industry was threatened by pollution, oyster growers asked Sea Grant for help. Lee became a go-between for oyster growers, dairy producers and various state and federal agencies. His early research on the bay's water quality formed the nucleus of the current cleanup efforts.

Lee now heads the newly founded Fishery Industrial Technology Center at the University of Alaska's Kodiak branch. He says dairies weren't the only polluters. Five sewage treatment plants also deposit treated sewage into Tillamook Bay. During heavy rains, these plants sometimes overflowed, dumping untreated sewage into the bay. Lee served on a task force that made recommendations to the Oregon State Health Division regarding this and other problems.

Oyster Industry

Oregon's oyster industry is small. It produces about one-tenth that of the State of Washington, or only about 24,000 gallons per year. But Tillamook Bay accounts for 65 percent of Oregon production. Historically, the federal Food and Drug Administration was critical of Oregon's shellfish sanitation program.

In 1977, the agency threatened to remove its federal endorsement of Oregon's shellfish. Without this endorsement, oyster growers could not ship across state lines.

"I was able to talk to dairymen and creamery people and show them that

Bob Pederson, Tillamook District SCS conservationist, gave technical advice to dairy owner Lewis Plantenga who built this 27,000 gallon manure storage tank on his Tillamook farm. The storage tank will allow the producer to keep manure from his 350 cows from entering Tillamook Bay.

they can raise cattle elsewhere, but the bay is the only place oysters can be raised," Lee says.

But Lee says the problem was broader than that.

"It wasn't a matter of just saving the industry," he says. "It was a matter of saving Oregon's good name. If you prohibit harvesting oysters, then you also prohibit recreational clamming and fishing. That impacts tourism and other things Oregon is known for."

Dairy Industry

Almost 120 dairy farms are found in the lower tidal areas. Forty-one of those farms are located next to the bay itself. About one-half of them are built on clay soils that saturate quickly and cause runoff, which then washes animal waste into the bay. When Lee's task force identified these farms, Tillamook County Extension agent John Massie went to work.

"We went after a $2 million grant available from the Rural Clean Water Act to assist dairy producers in remedying some of the problems," says Massie.

In June 1981, the Rural Clean Water Project (RCWP) was approved for Tillamook Bay by Secretary of Agriculture John R. Block. Since then, about 90 applications have been received for the money to be used for waste storage facilities, says Massie. About 40 were listed to receive these funds initially. When the first grant was

Top center: Bruce Thomas (left), a local dairy owner, and Bob Pederson, soil conservationist, worked together to improve manure handling procedures and facilities on Thomas's Tillamook dairy. A $27,000 Rural Clean Water Act grant helped to build storage facilities that keep waste from Thomas's 100 dairy cattle from entering this small creek which feeds into Tillamook Bay.

Top right and above: Tillamook Bay oyster worker finds another likely bivalve candidate for his basket, then hands his partial harvest to a co-worker. Approximately 65 percent of Oregon's oyster production is taken from this bay. This production was threatened by a major water pollution problem until a cleanup campaign–the result of a vast cooperative effort lead by Extension–saved the industry.

committed, Massie and others went after another $1.2 million. About $300,000 has been received so far. The money has done a lot toward improving Tillamook Bay's water quality.

"You can't see the improved quality of the water itself, but you don't see manure running from an uncovered pile into a stream," County agent Massie says. "You won't see that any place now."

Success Story

The Tillamook Bay success story goes beyond the improvement of water quality, says Bob Pederson, Tillamook district SCS conservationist. As a result of local construction contracts, employment is up, he says.

He explains that dairy farmers are more than matching the government grants, taking the opportunity to upgrade facilities beyond what is recommended.

"To make these improvements work, they're doing other things," says Pederson. "They're adding more than double the money they're getting from the grants."

And this has helped employment, he says.

"At the start of the project, Tillamook County was number three in unemployment and there was hardly any construction going on," says Pederson. "It's put people to work."

Pederson says local contractors are doing most of the work, which includes concrete holding structures, roof-building and gutter work. By using a computer model developed by the Extension specialist, the SCS conservationist predicts that the first $1.8 million of committed Rural Clean Water Act funds will generate more than $5 million for Tillamook County.□

Florida Water: Ag-Urban Common Cause

Mary Laurent
Extension Communications Specialist
Institute of Food and Agricultural Sciences
University of Florida

Above: Sludge from an anaerobic lagoon is removed for land-spreading; wastewater in this site from a dairy operation has been biologically treated. Florida Cooperative Extension Service specialists have begun a statewide program with clean water (left) as the "ag-urban common cause."

Florida's water resources are the state's greatest assets—its most pressing legislative responsibility and ultimately, the limiting factor for continued growth.

Despite a population that grows at a rate of 7,000 new residents a week, agriculture is still the top user of water in Florida. As the state's largest industry, agricultural operations occupy the most land and discharge the most drainage into the state's 1,700 streams and rivers and 7,700 lakes.

Under the banner "Producing Good Food While Protecting Florida's Water," the Florida Cooperative Extension Service has begun a statewide program promoting clean water as the ag-urban common cause.

Water Program Background

"In Florida we have a rapidly growing population and a diverse, dynamic agricultural industry. The two are bound to come into contact. What we need is constructive interaction, not obstructive confrontation," says L. B. Baldwin, coordinator of the water program. Baldwin says that the program has a twofold objective: "To teach cost-effective pollution control practices to producers and to let the public know agriculture is doing something to protect the water it uses."

The Florida Department of Environmental Regulation funded the program in 1981. A study found that more than half the pollution in the state's lakes, streams and rivers came from indirect, or *nonpoint* sources drainage and runoff from forests, mines, city streets and farmlands—rather than from direct discharges of factories and sewage treatment facilities.

Best Management Practices
PRODUCING GOOD FOOD WHILE PROTECTING FLORIDA'S WATER

Slogan of the Florida Agricultural Water Quality Program.

The program began with a random and representative mail survey of 2,000 Floridans in December 1981. The survey measured attitudes and knowledge of water quality issues. Its most impressive finding was that an overwhelming number of the state's residents felt that water pollution was seriously threatening the environment and almost as many had personally experienced a water quality problem in their county.

Awareness Campaign

In March 1981, the Florida Cooperative Extension Service sponsored a conference on the technology to combat agricultural nonpoint pollution. It attracted an interested and responsive audience of scientists, water managers, soil conservationists, members of regulatory agencies, and representatives of state agricultural interests.

An 11-minute slide-tape—the next project—discussed the nature and prevention of pollution from nonpoint sources like agriculture and described the state's voluntary approach to water protection. A special version of the slide-tape was created for supervisors of the state's 61 Soil and Water Conservation Districts, the agencies responsible for implementing conservation programs on the local level.

Other materials developed include news and feature releases to newspapers, magazines and broadcast stations, public service announcements, a travelling display, general information leaflets and several technical fact sheets and guides.

Dairy Producers Clean Up Their Act

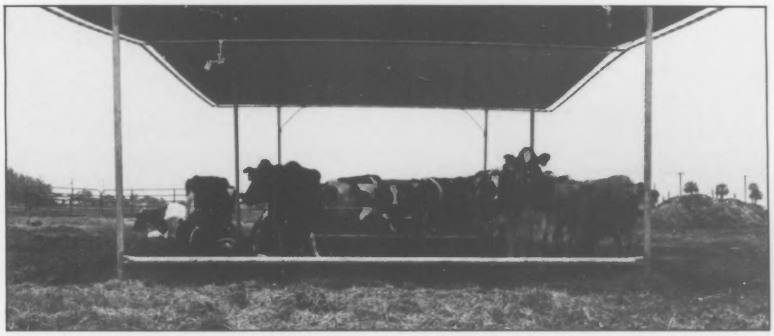
Mary Laurent
Extension Communications Specialist
Institute of Food and Agricultural Sciences
University of Florida

Federal Projects
The program also lends support to two federally funded projects in Florida. The Taylor Creek-Nubbin Slough Rural Clean Water Project is aimed at sharply reducing the amount of nutrients in agricultural drainage flowing into Lake Okeechobee. Extension Service works with dairy farmers in the project area to encourage the adoption of management practices that keep the nutrients on the land for better grain and forage production. Already, a significant improvement in streams in the project area has been noted.

Another area of concentration is the Florida Panhandle, where much of the topsoil is eroding at a rate faster than it can be renewed by natural processes. Here, educational efforts focus on farming practices that stop erosion and associated sedimentation of surface waters. Through field days, an equipment loan program, and "how-to" publications, Extension Service is encouraging farmers in the Panhandle to adopt minimum (conservation) tillage, which has been shown to maintain or increase yields while decreasing erosion by as much as two-thirds.

Accomplishments
One of the major accomplishments of the Florida Agricultural Water Quality Program is the degree of cooperation it has achieved among federal, state and local agencies. These include the Soil Conservation Service, the Agricultural Stabilization and Conservation Service, state Soil and Water Conservation Districts, state water management districts, and the state Department of Environmental Regulation, which provided $86,000 of funding for the 18-month program.

Noting that funds for water quality have dried up during recent years, program coordinator Baldwin says, "We all want clean water and it makes sense to work together to make the most of what we have." □



Dairy cows cool off in the shade instead of a stream. The portable shade structure also prevents waste accumulation.

Nowhere in Florida is clean water a greater priority than in the Lake Okeechobee region. This vast inland lake supplies fresh water to five lakeside communities.

Canals route the lake's water south and east, to serve as the reserve for the entire east coast of the state. Floridians fear the lake is dying due to an overload of organic pollutants. They are anxiously watching the clean-up efforts supported by several state, federal, and local agencies, including the Florida Cooperative Extension Service.

Some pollution comes from dairy and cattle operations in the 118,000-acre Taylor Creek-Nubbin Slough watershed, says Wilmar Schultz, Okeechobee County Extension director. "The pollution in this area is primarily from agricultural runoff, from animal waste that flows into streams or is directly deposited by the cattle as they wade in the streams."

Program Response
Assisted by federal funds from the Rural Clean Water Program, Schultz is encouraging dairy farms in the project area to install pollution abatement measures. Response has been encouraging.

"Most farmers want to be good conservationists," says Kent Bowen of McArthur Farms, one of the first operations to participate. "The thing that has held us back in the past has been not knowing what to do."

A fishing enthusiast or duckhunter traveling south to Lake Okeechobee via the dairylands might now notice subtle changes brought about since the program began in January 1982. Cows are fenced away from streams and the wetlands where they once lounged on hot days. Instead, they are found resting under man-made shade structures, venturing into nearby water troughs when thirsty.

Other anti-pollution measures recommended to the dairy producers include:

- Constructing dikes and detention ponds to slow runoff rates,
- Growing filter strips of grass between pasture land and streams,
- Reusing treated wastewater to flush milking parlors and to irrigate pasture and cropland, and
- Biologically treating wastewater with carefully managed anaerobic lagoon systems.

Success
As preliminary data trickles in, it appears that the quality of water in the watershed has begun to improve. Significant decreases of nutrient levels in streams draining from dairy areas have been noted. Investigators credit the on-farm management practices recommended by the Extension Service as responsible for the cleaner water. □

Can Lo-Till Fill The Bill?

Dan M. Crummett
Extension Information Specialist
Oklahoma State University

Lo-Till, an educational/research program, has become synonymous with minimum tillage in Oklahoma. Here, a wheat drill works its way through last season's stubble.

Oklahoma's 2-year-old Lo-Till Program was germinated by the uncertainty of rising fuel costs, nurtured by a grassroots demand for knowledge, and, now, promises a harvest of answers for the future. Oklahoma wheat growers are looking seriously at chemical weed control in continuous wheat.

Oklahoma wheat farmers were among the first to feel the effects of rocketing fuel costs of the midseventies as they made numerous passes over their fields to control weeds, apply fertilizers and conserve moisture. Then, with the sluggish overseas market for their product, they became even more conscious of inputs as they faced a price squeeze and low commodity prices by the end of the decade. That feeling of helplessness led the producer-oriented Oklahoma Wheat Commission (OWC) to begin searching for answers.

"We have always been involved in wheat production research," says Mike Kubicek, OWC director, ". . . but with the economic squeeze tightening, we realized we needed to address the reduction of costs in producing our yields."

Funds for Research

Those needs were "addressed" with $175,000 of commission money to Oklahoma State University's Division of Agriculture for Research and Extension in late 1980, reports Wendell Bowers, leader of OSU's Extension Agriculture Program.

"For about 5 years, our Program Planning Advisory Committees had been stressing the need for work in minimum tillage," Bowers explains. "We already had some herbicide screening underway in the northwestern part of the state under the guidance of area agronomist Dale Fain. And, our weed specialists in research and Extension had interests in minimum tillage."

With the promise of the funding, OSU leaders and specialists in agronomy, ag engineering, ag economics, plant pathology and entomology, created an internal package to address the problems of the Oklahoma grower.

"Out of this came the term and logo, 'Lo-Till,'" says Jim Stiegler, Extension agronomist and Lo-Till project chairman.

"There has been lots of minimum tillage work done in the northern Great Plains, but their problems and ours are different," Stiegler explains. "Many growers in the north have an 11-month fallow, in which they can use long-residual herbicides. We, however, have to plant again in only 3 months, so long-lasting weed killers cannot be used."

Research done in the Texas Panhandle and western Kansas often does not address the needs of Oklahoma's producers, he says.

"We needed information," Stiegler says, "on how much, if any, moisture conservation we get from not using plows and disks. We needed to know the effect of residue management—and how much stubble is needed to protect the soil through our hot, windy summers. The effects of disease and insects on continuous wheat needed to be explored, along with what kinds of equipment would be required in minimum-till wheat."

"Those first OWC dollars were placed into a single account at OSU to be drawn upon by the multi-disciplinary force of specialists," Bowers explains. "We budgeted $100,000 for research and $75,000 for Extension."

"The response to the project among OSU personnel was phenomenal. The separate account allowed our people to work on the project without jeopardizing their other commitments."

Early Demonstrations

First-year successes included two public planting demonstrations in stubble (attended by at least 500 growers each), work on new spraying techniques and equipment, innovations in planter design and some surprises after the fall-drought of 1982.

"On our Lo-Till demonstration plots, we had wheat 4 inches tall late in '82, while nearby fields in conventional tillage were barely out of the ground," Stiegler says. "We apparently saved enough moisture for germination and a stand. That will make a real difference to the many growers who also run stocker cattle."

In addition to the dust and mud of demonstration plots, the hours working with more than 50 active cooperators, and the testing of new equip-

Interest is growing rapidly in the Lo-Till concept. Nearly 500 producers attended this Extension Lo-Till planter demonstration near Enid, Oklahoma, last summer.

ment aimed at Lo-Till concepts, the specialists collaborated on a Lo-Till brochure, detailing the concepts, potentials and overall methods of minimum tillage in Oklahoma wheat fields.

Introducing the Program

The Division's Agricultural Information Department followed the progress of the program—supporting the research and education functions with news releases, publication of the 16-page "Lo-Till Farming" overview, and production of a video tape report and a Lo-Till slide-tape set used for introducing growers, lenders and educators to Oklahoma's brand of minimum tillage.

But what about the wheat farmer—ultimate consumer of Lo-Till gospel?

"There's a lot of interest, and a lot of skepticism," says Stiegler.

"Wheat producers historically are not in the chemical application mode. Many find it difficult to justify the expense of chemicals, but they are still interested in the research findings," he points out.

"Right now tillage and labor can beat the cost of chemicals," Stiegler says. "But what about the future? What if diesel fuel jumps to $3 a gallon?"

"Just since we began with Lo-Till, we've come up with new rates for herbicide application which have helped bring down the high initial cost of these chemicals. Also, there are other things to consider."

These matters involve soil conservation, moisture retention, reduced wear on machinery, smaller machinery requirements, less labor and improved timing for harvests.

No Magic Solutions

OSU's specialists have no illusions of producing a magical solution to all the ills of producing wheat. They are the first to admit Lo-Till won't come up with all the answers.

"I'd be crazy to predict any certain number of producers using Lo-Till by any certain date," says Stiegler. "Outside influences will determine the use of what we're finding."

"But, what we're learning, we need to know. With decreased water supplies and increased fuel costs forecast in the next decade or so, what we learn now will be vital to our surivival as a wheat-producing area. With Lo-Till, we'll have that knowledge," Stiegler says. □

North Carolina—Focal Point For Water Quality Projects

Richard P. Maas
Jonathan M. Kreglow
Steven A. Dressing
Extension Specialists, Water Quality, and
Frank J. Humenik, Project Director, Extension
Dept. of Biological and Agricultural Engineering
National Water Quality Evaluation Project
North Carolina State University, Raleigh

Water pollution from point sources (such as industry and sewage treatment plans) was greatly reduced during the seventies. Since then, nonpoint sources (such as cropland, construction sites, roadbanks, and mining) have been found to be greater sources of water pollution than was previously believed. Of these sources, agricultural activities cover the most land area. In fact, agriculture has been estimated to be the largest source of pollutants in nearly two-thirds of U.S. watersheds.

Rural Clean Water Program

Over the years, many conservation practices have been developed to protect agricultural land and minimize water quality impacts. These are now called Best Management Practices or BMP's. The Rural Clean Water Program (RCWP) mandated by the Congress was initiated in 1980 by the U.S. Department of Agriculture (USDA) and the Environmental Protection Agency (EPA) to demonstrate water quality benefits from using these BMP's.

Early in the RCWP program, staff saw that individual projects might require assistance in emphasizing the water quality dimension of this agriculturally based project. Further, a national evaluation of agricultural nonpoint source control projects was deemed necessary to determine the state of the art and to document methods and technology leading to water quality improvements. For these reasons, the National Water Quality Evaluation Project was formed under a cooperative agreement by USDA/EPA with the Biological and Agricultural Engineering Department at North Carolina State University.

The project staff for this Extension project consists of four specialists with a combination of water quality and agricultural engineering expertise, a full-time staffer detailed from the Soil Conservation Service, and input from a resource economist with USDA's Economic Research Service (ERS). Direction of this Extension assistance and evaluation of RCWP and other agricultural nonpoint source control activities is determined by a federal project advisory committee composed of representatives from SCS, ASCS, CES, USDA's Forest Service, ERS, and EPA.

Cleaning Lake Tholocco

The Lake Tholocco project in Alabama demonstrates the kind of help the North Carolina Extension Service state project can provide to the 21 individual RCWP projects scattered across the country. Lake Tholocco, located near Ozark, Alabama, serves as a primary fishing and boating resource. In recent years, the beaches have been closed often because of excessive fecal coliform bacteria levels. Sediment has also been filling in large parts of the lake, making these areas too shallow for boating and water skiing. The bacteria contamination has been traced to improperly managed animal production facilities and the sediment to eroding cropland. Local goals are to slow sediment filling of the lake and to reduce bacterial levels to allow full use of this swimming and boating resource.

Many Groups Cooperate

Benefits of the cooperative approach under the RCWP program are already being seen. A cost-share program has been established to encourage all farmers to implement BMP's to control erosion and decrease sediment. All animal production units in the project area have been surveyed to determine ways to reduce bacterial contamination. Locally, effort made to gain farmers' cooperation, design water quality farm plans, get BMP's on the ground, and monitor water quality improvements has been a cooperative venture among USDA's Soil Conservation Service (SCS), Agricultural Stabilization and Conservation Service (ASCS), Extension, the state water quality agency, and the U.S. Army. The Army is involved because most of the lake lies within the Fort Rucker Army Base and the Army is responsible for water quality analyses.

Problems Draw North Carolina Aid

Cooperation and enthusiasm in the project area have been excellent from the start and progress has been rapid. Difficult problems have arisen, and the North Carolina project has been able to provide useful experience to draw from. For example, Army personnel had little experience or equipment for analyzing water samples. The project staff at North Carolina State University made suggestions and assisted in performing laboratory tests. Project participants now believe that recent analyses of water from the lake reflect progress being made.

The North Carolina State project staff also helped to measure sediment reductions to the lake within the project's limited monitoring budget. People were confident that sediment was being reduced because farmers were cooperating in installing practices to control erosion. However, it was important to measure reduced sedimentation rates in the lake. Once again, Extension specialists and local residents developed inexpensive solutions to difficult problems.

Finally, the analysis and interpretation of data from a study as large as the Lake Tholocco project are time consuming and involve specialized tasks. For instance, the amount of sediment and bacteria washed into the lake depends on the amount, intensity, and timing of rainfall. The first 2 years of the Lake Tholocco project were drier than normal. Last year, rainfall was above normal. Thus, higher bacterial levels were observed, although many of the management practices to control runoff from animal production-waste management systems had been installed. Data from the Lake Tholocco project were sent to the North Carolina State project staff for computer analysis, to assist with the management and evaluation of the rapidly developing data base.

Extension at North Carolina State University (NCSU) is engaged in a national evaluation of agricultural nonpoint source control projects. Whether working with Alabama personnel on fecal coliform analysis or reviewing a Rural Clean Water Program (RCWP) project water quality plan NCSU Extension specialists provide valuable assistance in documenting methods and technology leading to water quality improvements.

Techniques to normalize rainfall variations showed that reduced amounts of bacteria were actually being washed into the lake, given the excessive rainfall during the last year. Thus, the North Carolina State project staff complemented the excellent efforts of local workers to identify needs, develop alternative or more effective methodologies, and analyze data. The end result was that water quality is improving in Lake Tholocco.

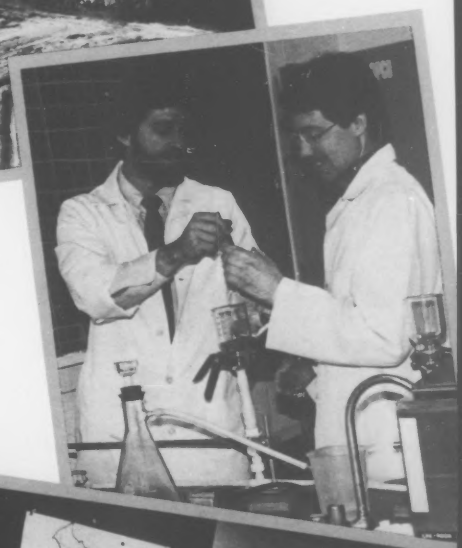
Other North Carolina Activities

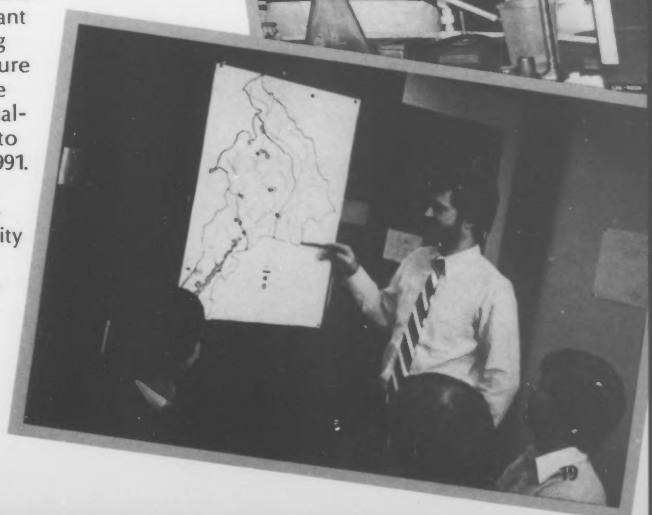
Another primary activity of the North Carolina State project has been to develop and publish documents to assist field personnel. Among these is "A Conceptual Framework for Assessing Agricultural Nonpoint Projects" which describes important steps in planning, designing, and implementing water quality projects. State-of-the-art reviews of BMP's for the control of sediment fertilizer and animal waste have also been published.

Another important activity of the North Carolina State project is to provide USDA and EPA headquarters with technical feedback on the progress of RCWP projects. The result is that technical problems encountered in the field are addressed and continuous direction can be given for achieving water quality goals.

Water Quality Effort

Over the years, a large amount of work has been conducted on small plots and fields to determine the effectiveness of practices to control losses or runoff transport of sediment, fertilizer, and animal waste constituents. While much has been learned, no documentation of the effectiveness of BMP's systems currently being recommended to solve water quality problems is readily available or commonly agreed on. The RCWP program was initiated as the first large-scale agricultural program with demonstration of water quality benefits as its foremost goal.





The 21 RCWP projects each cover land areas of 40,000 to 400,000 acres, so these projects represent one of the most complex water quality experiments ever conducted. North Carolina's project Extension specialists welcome the opportunity to provide future direction for the difficult but important challenge of making production agriculture more efficient while improving water quality. The program is to continue through 1991. Answers gained on production agriculture and water quality benefits of BMP's are likely to help to set agriculture policy for the 21st century. □

Extension's Role in STEEP

Stephen A. Reinertsen
Extension Associate, Conservation Tillage
University of Idaho

Robert E. McDole
Extension Soils Specialist
University of Idaho

Carl F. Engle
Extension Soils Specialist
Washington State University

James A. Vomocil
Extension Soils Specialist
Oregon State University

A dramatic change is just beginning in American agriculture. This change will involve a revolution in the area of information management.

Past changes have seen the farm growing larger with capital, energy, and management inputs increasing as a substitute for labor. These changes greatly improved farm productivity. The next step will be to dramatically improve the efficient use of these extremely expensive inputs—capital, energy, and management.

Greater precision in quantitative assessment of the optimum levels for each of the various inputs will improve efficiency. But improving the precision of management will require the use of large amounts of information on resource management along with information on the biophysics and biochemistry of the green plant. We must study the system which converts solar energy into a usable form—food. Farmers may use microcomputers to process information, but will need programs and input data from sources such as the Cooperative Extension Service.

A Tri-State Program

Cooperative Extension in Washington, Idaho, and Oregon are working together to develop a tri-state Extension program. The purpose of this new program is to disseminate research findings associated with STEEP (Solutions to Environmental and Economic Problems).

STEEP is a multidisciplinary research program to develop new strategies and refine existing techniques to control soil erosion on croplands in the Northwest.

Among the soil erosion problems in the Pacific Northwest are wind erosion on sandy soils and erosion caused by irrigation. However, the greatest problem is in the dryland wheat-producing areas of Washington, Oregon, and Idaho, where water erosion is threatening future agricultural productivity.

For many years the Soil Conservation Service (SCS) has considered the Pacific Northwest to be one of the most serious soil erosion areas in the United States. In Whitman County, Washington, for every bushel of wheat produced, an estimated 0.7 ton of soil is lost to erosion. The factors which cause the high rate of erosion and runoff include warm rains falling on snow-covered, frozen soil; unusually steep slopes; highly erodible silt loam soils; and a prevalence of winter wheat production using conventional tillage management.

Clearly, solutions to these problems will be relatively complex, and involve the inputs from many scientific disciplines working in close cooperation. It will take the efforts of biological, sociological, engineering, and earth scientists to develop recommendations to counter these severe erosion losses.

STEEP Research Program

In 1972, the wheat commissions from Idaho, Oregon and Washington, with the support of the agricultural experiment stations in the 3 states, the USDA-Agricultural Research Service (ARS), and federal, state, and local conservation and environmental agencies, prepared and submitted a tri-state research proposal. Funding for this program, which became known as STEEP, was approved and research initiated in 1976.

Several approaches have been used to develop improved methods of erosion control, but most in some way emphasize the development of no-tillage and reduced-tillage technology.

STEEP Funding

Since 1976, funds for STEEP research have been made available each year since 1976 by a special USDA Cooperative State Research Service (CSRS) grant to Washington State University, Oregon State University, and University of Idaho. Appropriations are also given to ARS in the three states.

Herb Hinman (left), agricultural economist, Washington State University, explains the results of a computer program developed for STEEP to David Ruark, chairman of the research committee of the Washington Association of Wheat Growers.

Researchers and administrators from each state have served on a committee to coordinate the STEEP research program. Recently, the committee has been expanded to include representatives from Cooperative Extension Service and SCS.

Research Priorities

Experiment station scientists prepare research proposals to be considered for funding. Priority of projects is assigned on the basis of relevance to objectives, duplication of effort, balance among the objectives, and probability of success. This procedure has resulted in some 35 state scientists from 10 disciplines gaining financial support for 30 individual projects. Most of the projects have involved collaboration across disciplines, and in many cases, across state boundaries.

ARS appropriated funds are directed to research within the major objectives. STEEP has served to direct the research efforts of about 20 federal scientists.

Annual STEEP Review

Scientists and their administrators meet annually to discuss research results and review research needs.

Darrell Maxwell (left), area Extension agronomist, Oregon State University, learns about the interesting features of a no-till, shoe-type drill opener from Dale Wilkins (center), agricultural engineer, ARS, as Robert Ramig, soil scientist, ARS, looks on.

John Hammell (left), soil physicist, University of Idaho, and Rod Tittemore, scientific aide, measure soil moisture with a neutron probe. Robert McDole, Extension soil specialist, (Idaho), and Harry Riehle (center), SCS area agronomist, examine sediment. Edwin Dowding (right), engineer, (Idaho), explains the operation of a runoff collection device to Stephen Reinertsen, Extension associate, conservation tillage, (Idaho).

Representatives of the wheat-producer organizations, Cooperative Extension, and federal, state and local conservation and environmental agencies also attend these meetings to have input and to help set guidelines for future research. This STEEP review takes place prior to the allocation of the ensuing year's funding.

New Extension Program

In August 1982, special appropriated federal Extension funds were used by Oregon State University, Washington State University and University of Idaho to establish a STEEP Extension program. These funds, a one-time grant, were used to establish two Extension positions with sole responsibility to disseminate STEEP research findings. The audience for this program consists of farmers, county Extension agents, SCS personnel, conservation district supervisors, bankers, and others in the agricultural industry.

In addition to the federal Extension funds, the SCS in Oregon contributed funds to the program and each of the three states added special funds from a federal grant under Section 208 of the Federal Water Pollution Control Act Amendments of 1972.

A major objective of the Extension program for the first year is to compile and publish STEEP information in the form of state and regional Extension publications. In addition, a bimonthly newsletter is being distributed which describes newly available Extension publications and discusses goals and accomplishments of ongoing research projects. Radio and television will also be used to disseminate STEEP research findings. Slide-tape sets concerning conservation tillage will be made available to county agents and SCS personnel for use in educational programs.

Another function of the STEEP Extension program is to act as a liaison with researchers to encourage more multidisciplinary interactions. In addition, STEEP Extension personnel can help guide future research by encouraging feedback of farmer needs.

Future Plans

In the second year, it is hoped that the program be expanded to include large scale demonstration plots. An advisory board, composed of researchers from the different disciplines, will help design and manage the plots. This will require a systems approach to demonstrate strategies and techniques that have been developed in the STEEP program. The first step in developing comprehensive management packages is an evaluation of the systems approach. These management packages are the ultimate goal of the STEEP research program.

Even though STEEP is multidisciplinary, the tendency of researchers to work within their areas of specialty results in findings that need to be integrated into management packages. To accomplish this, innovative farmers, Extension agents, SCS personnel, and conservation districts are eager to cooperate with the STEEP Extension program. □

STEEP and Control of Soil Erosion

Robert Rost
Extension Information Representative
Oregon State University

Each year more than 110 million tons of topsoil erode from the dryland wheat country of the Pacific Northwest, an area of 90,625 square miles, or about the size of the state of Vermont.

Thirty million tons of this soil finds its way to streams, rivers, and coastal harbors where it silts up navigable channels making constant dredging necessary.

A significant amount of it accumulates in reservoirs behind dams in the Northwest thus shortening the life of hydroelectric generating facilities.

It's readily apparent that the erosion problem is more than just agriculture's alone.

Serious Soil Loss
The grain regions of eastern Oregon, central and eastern Washington, and western Idaho produce over a billion dollars' worth of small grains annually. Unless wind and water erosion can be brought under control here, this yearly loss of topsoil will have a serious impact on the economy of the Northwest.

A problem of this magnitude requires a solution of equally grand dimensions. That solution is STEEP. STEEP is "Solutions To Economic and Environmental Problems." It is a multidisciplinary research/Extension program designed to develop new strategies and refine existing techniques to control soil erosion on Pacific Northwest cropland.

"Finding a program that would give us answers on how to control erosion began 10 years before funding for STEEP was first approved in 1976," says Stanley Christensen, an Oregon farmer who has served eight years as president of Oregon's Association of Soil Conservation Districts.

"The effort put forth by local wheat leagues, wheat commissions, and state associations of soil conservation districts in Idaho, Oregon, and Washington led to the establishment of the program," he points out. "These groups recognized that solutions to erosion could best be found through interagency cooperation and support from the federal level."

Wide Range of Specialties
The STEEP effort requires the talents of plant geneticists, plant physiologists and plant pathologists; crop management specialists; soil physicists; soil chemists and soil microbiologists; micro-meteorologists; tillage engineers; cereal chemists; agricultural economists; entomologists; hydrologists and weed ecologists. These scientists are employed by the USDA Agricultural Research Service and the agricultural experiment stations of the three Northwest states.

According to Darrell Maxwell, Oregon State University area Extension agronomist for STEEP, there is no soil erosion control program quite like STEEP in the United States. "There may be programs patterned after STEEP in the future," he says, "but right now STEEP is the only program of its kind in the country—a new way of interagency teams working together to achieve research goals."

Funds for STEEP research have been provided annually since 1976 by a special USDA grant to Washington State University, Oregon State University, and the University of Idaho, and the Agricultural Research Services in the three states.

Norman Goetze, OSU Extension associate director and a longtime supporter of the STEEP effort, claims that that this approach is a unique problem-solving process because it keeps in mind that the changes and adoption in practices must suit a particular location.

At present, considerable attention is being given to funding and organizing the Extension effort to deliver the research results to the farmers who will put it into practice.

Stephen Reinertsen, Extension associate, conservation tillage, University of Idaho, and Darrell Maxwell, OSU area Extension agronomist (STEEP), have the responsibility to disseminate the findings of STEEP research to farmers who need it.

Maxwell is assigned to eight Oregon counties and two Washington counties. He firmly believes that delivery of STEEP information should employ the traditional Extension method of one-to-one contact where possible.

Symposium for Wheat Farmers
Information delivery tools that Maxwell is using include meetings such as a conservation tillage symposium recently held in Oregon for Northwest wheat farmers. These meetings give farmers the opportunity to get together so they can share new ideas that they have tried in the field, Maxwell points out.

Extension agents and SCS staff are constantly updated on the latest STEEP results at area Agricultural Research Centers.

Farmers: Prime Audience
"Of course, the farmer is the prime audience in the STEEP program," Maxwell says. "How farmers feel about STEEP is very important. Our method of delivery is closely associated with the Extension Service concept—helping people help themselves."

Jon Justeson, Sherman County Oregon farmer says, "New ideas in farming are a way of life. For years I've conserved soil by going to annual cropping to use the soil moisture every year. In dry years I summer fallow. I need whatever research information STEEP can provide."

Such comments are proof that STEEP information is vital in keeping the Pacific Northwest one of the top dryland producing regions in the world. □

Camping for Conservation

Dennis L. Elliott
Extension 4-H Specialist, Camping
The Ohio State University

The Ohio 4-H Conservation Camp has a long and impressive history. Annually, for nearly half a century, this program has taught youth to appreciate natural resources and acquire conservation skills.

Outstanding older 4-H members (two from each county) participate in the week-long program at the state 4-H camp (The 47th Ohio 4-H Conservation Camp was held in July 1982 at Camp Ohio near Utica, OH). The five subject matter areas are taught by faculty of the Ohio State University.

The 4-H members are challenged to become a vital part in the conservation of our natural resources by returning to their clubs, communities and counties and sharing what they have learned. They conduct programs for their local 4-H clubs, their donors, and at county 4-H events such as the camps.

Areas of Study
Campers develop an understanding of and appreciation for our natural resources. The interdependence of our natural resources is emphasized. The five subject matter areas are: land and its use; water resources; forestry; wildlife; and recreational land use.

The campers spend 90 minutes of intensive study in each of the five areas. The lessons are put to test as they apply what they have learned in the development of land use plans.

Walking Tour
All campers take a walking tour of the south farm which is located adjacent to the camp. In working units of four campers they begin developing land use plans for the 120-acre farm. Each work group is provided a large planning map on which to develop their plan.

Each camper's packet has a soil survey map of the farm, a small planning map and a soil survey map legend and soil interpretation. Utilizing these resources and their newly acquired knowledge, each work group develops a land use plan for the farm. They are very careful to observe the limitations and capabilities of the farm because at the end of the camp they must present and defend their plan to a group of their peers. These presentations are one of the many highlights of the week.

This program has been supported by the Federal Cartridge Corporation, the Ohio Federation of Soil and Water Conservation Districts, the Ohio 4-H Foundation and Bob Evans Farms, Inc. It has grown and developed over the past 47 years, and continues to serve this important area of 4-H education. □

For nearly a half century, the Ohio 4-H Conservation Camp has enabled state youth to gain a new understanding of our natural resources. Here 4-H'ers pick up pointers on everything from water sources to soil evaluation.

Nebraska Producers Break Tradition

Elbert C. Dickey
Extension Agricultural Engineer
University of Nebraska, Lincoln

Through Extension educational program efforts, row crop producers in Nebraska are gradually "breaking tradition" and adopting conservation tillage methods to reduce soil erosion.

During 1980 and 1981, Extension specialists presented educational information on conservation tillage and erosion control to more than 5,000 people at approximately 50 meetings throughout eastern Nebraska. In addition, Extension agents provided leadership in developing demonstration plots that compare various tillage systems.

Soil erosion in the state exceeds 100 million tons annually. About 75 percent of this occurs in row crop production areas, primarily in eastern and south central parts of the state. Increased use of soil conservation practices could prevent a large portion of this loss. But producers are reluctant to change their traditional farming methods and adopt conservation methods.

Although soil erosion occurs and is a concern, generally farmers have not seen corresponding yield decreases. In some cases, producers acknowledge that technological inputs such as fertilizer, irrigation, and improved hybrids are masking erosion losses. But, they are reluctant to change partially because they are farming the way their fathers taught them.

Conservation tillage is one of the most effective and least expensive methods found to reduce soil erosion. This practice leaves at least 20 percent of the soil surface covered with crop residues to protect the soil from wind and rain and to help prevent the movement of soil particles downslope. A 20-percent covering can reduce soil erosion by 50 percent—adequate for many farming situations.

Two Programs Evolve

Because climate and crop production differ in various areas of Nebraska, two major conservation tillage educational programs have evolved—ecofallow production systems centered in southwest Nebraska and moving into the south-central area, and conservation tillage for row crop producers, primarily located in eastern to south-central Nebraska.

Ecofallow farming methods, well adapted to lower rainfall areas, generally have a fallow period, where crop residues remain on the soil surface to conserve soil moisture. By adopting ecofallow methods, farmers can now produce two crops every three years in southwest Nebraska.

In eastern Nebraska, however, use of conservation tillage systems generally does not result in yield increases, thereby decreasing the incentive to change farming methods.

Extension conservation tillage educational programs in the eastern part of the state are encouraging farmers to adopt conservation tillage methods. Five major components of these programs include:

- Determining tillage and planting methods being used;
- Evaluating those practices, including advantages, disadvantages, and limitations of various systems;
- Developing educational materials for the targeted audience;
- Providing an in-service training program for Extension agents, Extension specialists and related agency personnel;
- Delivering the educational program to the target audience—primarily row crop producers.

Educational Materials Developed

As a first step in targeting materials needed to support the program, Extension specialists developed fact sheets highlighting advantages and disadvantages of basic tillage systems.

Winter in Nebraska. Standing corn stalks catch and hold snow on a farm; the use of conservation tillage reduces soil and moisture loss.

Left: A farmer in Gage County, Nebraska, does some minimum till planting in corn stubble. Below: A farmer in Colfax County, Nebraska, plants corn in bean residue.

The fact sheets also emphasized erosion control through residue management. A slide-tape unit containing similar information was developed for Extension agents' use. Extension specialists distributed additional fact sheets pertaining to weed control, insect and disease considerations, and economic comparisons to assist the producer in making tillage management decisions.

More than 240 Extension agents and Soil Conservation Service personnel attended an in-service training program, in 1980, covering various aspects of conservation. In 1982, over 150 producers attended a statewide conference on conservation tillage for row crop production. Evaluations of the conference were excellent—more than 90 percent of the attendees indicated an interest in attending a similar conference at a later date. Providing a proceedings as well as a producer panel to discuss their experiences with conservation tillage generated many favorable responses.

Program Efforts Expanded

To expand on the success of both the in-service training program and the statewide conference, Extension conducted six area tillage programs in February 1983. Also, an Extension agent within each area is taking the lead to develop conservation tillage demonstration plots.

In addition to meetings, several other methods promoted conservation tillage during 1982. At the University of Nebraska's annual Tractor Power and Safety Day, planters, drills and other equipment designed for use in conservation tillage systems were demonstrated. A rainfall simulator on loan from USDA-ARS at Ames, Iowa, demonstrated the magnitude of soil erosion from different tillage systems and corresponding residue covers. Producers attending these demonstrations compared erosion control potentials as well as equipment performance for different conservation tillage systems. Extension specialists also used television, radio, and news releases to help promote conservation tillage throughout the state.

Progress Slow But Sure

Although soil erosion continues to be a major concern in Nebraska, soil conservation practices are steadily increasing to help reduce this problem. In fiscal year 1981, more than 6.5 million acres in Nebraska were farmed with conservation tillage methods—a 20-percent increase since 1977. □

Pesticide Disposal—The Right Way

Mary W. Lomolino
Extension Community Resource Development Agent
Cooperative Extension Association of Broome County
Cornell University, Binghamton, New York

"DDT is stored in the basement of my new house, how can I get rid of it?" This question is frequently posed to the Cooperative Extension Association and the Environmental Management Council (EMC) of Broome County, New York. People often possess old pesticides (now banned from use) or materials they no longer want around the home because of the hazards they pose to children and pets. Whatever the reason, the easy solution is to put it in the trash or just flush it away.

Neither Extension nor the EMC was comfortable with the fact that, as a result of these disposal methods, the materials ultimately ended up in the county landfill or in wastewater treatment plants. It was likely that some toxic materials in the pesticides would leach into groundwater from the landfill, enter the Susquehanna River from the treatment plants, or become incorporated in sludge. Disposal of pesticides in the county landfill would only exacerbate an existing leachate contamination problem. Since the Susquehanna provides drinking water to downstream communities and disposal of treatment plant sludge is already a county problem, the option of flushing away unwanted pesticides seemed inappropriate. Alternative pesticide disposal methods had to be explored.

Through inquiries, it was learned that a pesticide disposal program for homeowners run by the NYS Department of Environmental Conservation (DEC) was no longer operating. This was due to budget constraints and more pressing hazardous waste problems. Homeowners requesting assistance from the DEC were provided instead with a list of registered hazardous waste disposal firms. Because these firms are geared to the needs (and budgets) of commercial customers, homeowners were left without any practical means of pesticide disposal.

Further investigation revealed that a fairly large store of pesticides existed at the Cooperative Extension office as it once served as a dropoff point for the DEC program. People were obviously still in need of a pesticide collection service.

It's registration time during "Pesticides Cleanup Day" when the Cooperative Extension Association of Broome County, New York, and the Environmental Management Council offered homeowners a one-time opportunity to dispose of unwanted pesticides.

A Time for Disposal

Extension and the EMC decided to offer homeowners a one-time opportunity to dispose of outdated or unwanted pesticides. Dubbed "Pesticides Clean-Up Day", the event was designed to educate people about the proper storage and use of pesticides, as well as to provide an environmentally sound means for their disposal. The plan was to collect pesticides at a central, easily accessible site for one day only. During that time a registered hazardous waste hauler would package them for eventual disposal at a secure landfill or for incineration.

Since this collection concept was new and untested, extensive planning was necessary to make the idea a reality. Six people, including Extension and EMC staff, EMC members and a student intern met regularly to plan the event. The plan included the following: contracting a hazardous waste disposal firm, choosing a date, obtaining funding, finding a site, securing necessary permits, and launching a publicity campaign.

Local industry helped to contact one of two hazardous waste disposal firms in New York State and helped convince the firm that their participation in this unique community service project was worthwhile. Fortunately, SCA Chemical Services, Inc., of Model City, New York, was so interested in the idea that they offered to collect the material on an at-cost basis and transport it back to their facility for a nominal fee.

Once a basic agreement was reached with the disposal firm concerning the services they would provide, a date for the activity had to be determined and funding pursued. A Spring date was chosen since many homeowners are gearing up for landscaping and gardening then and their awareness of pesticides is heightened. Several local industries were approached for funding and IBM and New York State Electrict and Gas responded with a monetary grant and provision of video services, respectively. The EMC also budgeted $1,000 for the project.

The Cooperative Extension office was chosen as the collection site since it is located near the interchange of the county's two interstate highways. Once the site was selected, applica-

Left, top: A volunteer engaged in pesticide disposal weighs material as chemist (right) classifies it before packing into appropriate drum.

Left, middle: Here, the chemist uses a manual to determine components. But a few of the collected materials were so ancient they pre-dated any manual at hand.

Left, bottom: A worker seals a drum filled with collected pesticides for transport.

tions had to be filed with the U.S. Environmental Protection Agency (EPA) for a hazardous waste generator number. Federal law mandates that this number be assigned to hazardous waste genertators (in our case, the collection site) so that toxic materials can be tracked from "cradle to grave."

To ensure that no last-minute problems developed regarding permits, the DEC and the Broome County Health Department were informed of our plans and activities.

Publicity was Essential

Good publicity was essential to the success of the collection efforts. People were encouraged not only to evaluate the condition and usefulness of their stored pesticides, but also to take time out of one particular Saturday morning to bring them in for disposal.

The publicity campaign was launched prior to the event by the County Executive. He proclaimed Saturday, June 19, 1982, as Broome County Pesticide Clean-Up Day at his weekly morning news conference. The announcement launched a day-long pre-arranged media blitz during which Extension, EMC and SCA representatives met with reporters from the press, radio and television. Other publicity was channeled through *Broome County Living* (Extension's monthly publication) and flyers distributed to garden and grocery stores.

Early in the planning stages it was recognized that to get adequate participation the collection would be publicized as a free service. Eventually, the service was offered at no cost to anyone bringing in less than 10 lbs. of powder or 1 gal. of liquid of any single pesticide. People could bring in, for example, 8 lbs. of DDT and 5 lbs. of arsenic compounds without incurring a charge. There was a nominal fee for any quantity over these thresholds to prevent small businesses, farmers and commercial applicators from overwhelming the project capacity.

Collection Day

On the morning of collection day, organizers met with the SCA chemist and waste handlers to set up the outdoor site. A heavy plastic tarp was put down to protect pavement from any possible spills. A registration table, scales and a classification table were needed for recordkeeping and material handling. Drums and packing material were located behind the tables away from the public.

"Some of these things are as old as I am," declared our first participant. While we doubted that his pesticides matched his 93 years, none of us felt that "Fly Ded" deserved a space on any gardening shelf. Fly Ded was an arsenic compound that pre-dated World War II. The SCA chemist designated the barrel for Fly Ded's disposal.

Chose Incineration

After 5 hours of collecting, workers had assembled nearly 500 lbs. of powder and 70 gals. of liquid pesticides from 98 county residents. The materials (including parathion, DDT, chlordane, lindane and 2,4,5-T) were separated into classes and packed in drums surrounded by absorbent materials. Since the pesticides collected were more toxic than anticipated, SCA decided to incinerate rather than landfill them.

The program objectives of increasing community awareness of pesticides and providing a means of disposal were fulfilled; however, another objective remained. It was hoped that other communities would consider sponsoring a similar event. With technical assistance from NYS Electric & Gas and Cornell Cooperative Extension, a videotape was produced outlining the planning necessary to sponsor a clean-up day. The tape titled, "Are Pesticides a Community Pest?", is available to community groups and agencies with an interest in the environment. A detailed handbook supplementing the tape has also been prepared.

The Broome County Pesticide Clean-Up Day gave citizens a meaningful environmental choice. They could retain unwanted pesticides in their homes, dispose of them in an environmentally dangerous manner, or take advantage of an opportunity to use our best available technology in toxic waste disposal. Fortunately, many people responded to this program and Broome County soil and water are better off as a result. □

Watershed Management Pays Extra Dividends

Rob Crowley
News Specialist
Cooperative Extension Communications Center
University of Massachusetts

"To a municipality, the forest may be thought of as principal and the annual growth and harvest likened to interest. The interest can be used to lower the municipal tax rate or offset the cost of water, or it can be reinvested in the forest with a predictable rate of return. So, forest management actually pays for itself and a healthy and productive forest watershed benefits the public."

—Warren Archey

What do you get when you turn loose a gang of college kids in the woods? A new country? A dozen Tarzans? A catastrophe?

The question is no joke and the answer isn't a punch line when you're talking about the University of Massachusetts Forestry Department.

For the past 5 years, students under Joseph Mawson's direction have inventoried watershed lands in several western Massachusetts towns. The towns—now numbering 16—are involved in a cooperative watershed management assistance program, the brainchild of Warren Archey, regional community resource specialist for the Berkshire County Extension Service.

A watershed is the land surrounding a reservoir that adds water to the reservoir through drainage. Every tree on a watershed uses water to survive, thus decreasing the potential yield to the reservoir. Theoretically, a paved surface sloping towards the water would be the most effective watershed. Of course, this would be unsightly and impractical.

Studies Completed

So far, studies have been completed on 25,000 acres of municipal watershed. Timber on these lands is valued at almost $12 million. Potential annual harvest done in all 16 municipalities would generate an estimated $380,000 revenue while enhancing water quality and quantity. Costs for the University studies were about $5,600, but done commercially, they would have totalled nearly $31,000. To date, income to participating towns exceeded $359,000 resulting in a total benefit (savings plus income) of more than $390,000.

Five years ago, the Extension specialist realized that most of the 220,000 acres of municipally owned watershed land in Massachusetts suffered from little or no management. This policy of "woodland anarchy," he found, was linked to a fear by most towns that tampering with the watershed might prove detrimental to the water supply and lead to forest destruction.

"It's been the assumption that if you do anything to the forest—harvest timber, put in roads, whatever—it's going to result in poorer water quality. But now, with contemporary forest management practices where a lot of thought is given to erosion control, you can manage the land and still have high-quality water," says Archey.

Development

Archey contacted officials in 21 towns in the four western counties of Massachusetts who maintained "hands-off" policies towards their watersheds. He had to do some convincing, but once he explained the benefits of careful management—increased water yield, timber to sell and a greater vaiety of plant and animal life—Archey had 16 converts.

Next he recruited Professor Mawson and willing students to do the actual legwork. The students, all seniors in forest management, met with town authorities to explain their intentions and obtain accurate maps of watershed lands—an often difficult task. Some towns had maps without property boundaries, or simply had no maps at all.

But with maps, aerial photos or the memories of old-timers to guide them, teams of young foresters ventured into each watershed to conduct a forest "inventory." The teams run "cruise lines" (straight lines through the woods used to measure trees at set intervals) to determine how much and what types of wood were on the land. The students also inspected each watershed for potential silt and erosion trouble spots.

Management Plans

Next they prepared 10-year management plans for each watershed. The plans included guidelines for improving the quality of water, the yearly removal of timber and estimates of the annual revenue towns could expect from the sale of lumber. In one instance, students estimated that the town of Dalton could expect $25,000 per year from management. The first year, the Dalton harvest produced $27,000, and the next, $29,000.

And in Chester, a town that believed it had no timber worth managing on its 774 acre watershed, students developed a plan calling for harvests of $8,000 worth of timber annually over a 10-year cutting period.

To improve water quantity and quality in western Massachusetts, Extension specialists and faculty and students at the University of Massachusetts team up to determine the density of various forest stands. After this, they removed selected trees from watershed areas. Trees use water to survive, but trees on a watershed (land surrounding a reservoir) decrease water yield to a reservoir.

Through an agreement worked out by Archey, each town paid only the travel and equipment expenses for students. Since neither Archey, the students, nor the university were profiting financially from the watershed projects, Archey and Mawson both felt that the towns would have confidence in the objectivity of the management reports. In other words, neither the Extension Service, students, nor the university would become involved in implementing the plans for a fee.

Since the program's beginning in 1977, Archey has hoped that each town, armed with new information about its watershed and a basic knowledge of forest management, will be able to decide on their own whether to hire a professional forestry consultant.

"Neutral, objective data provided by the university enabled towns to realize the worth of their forest resources. It was then a small step to become involved in management through a consultant," Archey says.

Benefits

Of the 16 towns the students visited, four now have their watersheds (8,165 acres) under management. Many of the others, Archey says, are still considering what he calls "forestry with water production as a benefit."

"Each situation is unique. What is common to all towns is the need for a continuing supply of water at the least cost. It has been demonstrated that forest management can be designed to improve timber growth and augment water supplies while maintaining water quality—and at the same time yield revenues," Archey says.

So if you happen to be hiking through the forests of western Massachusetts and see a small band of young people roping off a plot of wooded land, don't think they're seceding from the Union. It's probably just a bunch of UMass forestry students getting some on-the-job training. □

Testing . . . with a Lab on Wheels

Stanley L. Chapman
Extension Soils Specialist
University of Arkansas

A mobile laboratory–converted from a camping vehicle–tests irrigation water from wells for total soluble salts, and other factors that can harm crops. Extension specialists from the University of Arkansas drive the lab, supervise testing of one hundred samples a day, and make recommendations to growers.

Most of the irrigation water used in Arkansas comes from wells. According to USDA's Soil Conservation Service estimates, more than 18,500 wells pump over 3 million acre-feet of water annually for Arkansas crops. Water quality has become a problem in several locations. Long-term use of well water high in calcium and magnesium bicarbonates has created alkaline soil pH's near inlet areas of medium-textured rice fields. The resulting high pH causes zinc deficiency in seedling rice. Other wells are high in total soluble salts. The use of such water in some cases has damaged soils to the point of harming most crops grown on them.

Water Quality Concerns

State Extension specialists and county Extension agents interested in solving the increasing salt problem have developed an educational program to increase farmers' awareness of water quality. A University of Arkansas Mobile Lab equipped with water testing equipment has been used to test irrigation water for the last 3 years.

The Mobile Lab is a modified 1976 GMC recreational vehicle normally used as a camping vehicle. The interior was redesigned as a laboratory. Major features include extensive bench tops, storage cabinets, a ventahood, sink, numerous electrical outlets, and excellent lighting. Two gasoline generators provide electricity for lighting, outlets, and air conditioning or heating.

Although the University of Arkansas Diagnostic Lab at Fayetteville has been testing irrigation water for over 15 years, less than 15 percent of the state's wells have been tested. County Extension agents say, "Most farmers do not even consider testing their irrigation water until they experience a problem in growing crops on the land." One agent recalls, "I know a grower who lost three rice crops in a row before he recognized that his irrigation water was too salty to use." A few farmers test their water but in most cases, farmers know little about their water quality and what effect its long-term use may have on future crops.

Educational Efforts

The Mobile Lab is used to test water samples brought to collection centers by farmers in the area. The bulk of the testing is done in June or July when farmers' pumps are already running for irrigation purposes.

The Mobile Lab contains portable equipment that can quickly and accurately measure pH, total salts (specific conductants), total hardness (calcium plus magnesium), total alkalinity (carbonates and bicarbonates), and levels of iron, manganese, chlorides, sulfates, and nitrates. The number of tests run on an individual sample depends on the quality and use of the water.

Extension specialists drive the Lab, supervise testing, and make recommendations to growers. The specialist team consists of a fish and wildlife biologist, a soils specialist, and an agricultural engineer. Local Extension agents publicize, collect samples, do necessary paperwork, and, in general, administer the program in the county. Excellent local support from agricultural businesses, educators, consultants, and other agencies, such as the Soil Conservation Service, has helped to make the program a success.

Collection stations are established at one to five locations in a county. Primary agricultural travel centers, such as farm supply stores, shopping centers, and county courthouses, are popular locations. Farmers are notified of the date and time when the Lab will stop at each location.

Growers are encouraged to collect fresh samples in clean containers on the day of the testing. The number of samples collected at each location determines whether the farmers will receive their results and recommendations before the Lab moves to the next location.

Extent of Testing

Normally about 100 water samples are tested in a day's time. In some cases, collected water samples must be tested later, an undesirable situation because chemical changes can occur quickly. Generally, such changes are not great enough to mask overall quality of the water.

More than 1,000 irrigation water samples have been tested in the Mobile Lab since 1979. Ninety percent of these are from five counties. Agents in these counties use these tests plus results from other laboratories to delineate water quality boundaries. Most wells in a given area extend into the same aquifer or "water-bearing zone." Water quality maps are being developed to help predict what to expect from new, untested wells in the county.

Such information will help to avert deterioration of soil from salt buildup and to prevent the resulting agricultural disasters that have plagued irrigated lands. □

Making Sure It's Pure

Jerry L. Mosser
Extension Natural Resources Editor
Department of Agricultural Journalism
University of Wisconsin

Living by a lake or river has its benefits—fishing, swimming, boating, and picturesque surroundings, to name a few. But it can also present special problems—contaminated drinking water is one example. Many building sites near bodies of water have porous soils and high water tables. The result can be mixing of household wastes and drinking water supplies, especially when septic systems and wells are not in good working order.

High water levels such as this can cause problems for lakeside dwellers by contaminating drinking water with septic system effluent. Extension at University of Wisconsin is conducting an educational program for the state's many lakeside dwellers involving tapwater testing for drinking water quality.

Many Lakeside Homes

Wisconsin has many lakeside homes, and, for the past 5 years, University of Wisconsin-Extension has offered an educational program to inform lakeside dwellers of the likelihood of contaminated drinking water. George Gibson and James Peterson, water resources specialists in Extension's Environmental Resources Unit, initiated and conduct the program.

Gibson and Peterson's efforts are part of a growing nationwide concern about drinking water quality. One outcome of that concern is the federal Safe Drinking Water Act. This act requires that a long list of potential water contaminants be kept below specified levels in all public water supplies, including those of resorts, campgrounds, and restaurants. But the act does not apply to private household wells, the source of water for most rural residents and many small communities. Bacteria contaminated 29 percent of individual household water supplies tested recently across the country. Many more had higher-than-recommended levels of one or more contaminating chemicals.

Wisconsin's lake communities are generally more prone to drinking water contamination than other rural communities are, Gibson says. Besides sitting on sandy, porous soils with high water tables, many lakeside homes have shallow wells close to their own or a neighbor's septic system. Originally summer cottages, many of these homes also have a septic system that is inadequate for a full-time residence. To make matters worse, many septic systems have been in use longer than the safe working life they were designed for—about 25 years.

Samples Show Contamination

Typically, participants in the Extension drinking water program send in samples of their tapwater for testing, then attend community meetings to get the results and information about soils and groundwater in the area. The testing includes measurements of coliform bacteria, water hardness, and chloride and nitrate levels. So far, Gibson has checked water from 824 wells in 30 different lake and river communities. Nearly half the samples appeared to be contaminated to some degree. Luckily, no serious illness seems to have resulted from the apparent contamination. The water resource specialist says that tests do not prove that a well is contaminated, but they serve as a warning that the owner should have the water tested by a certified testing laboratory.

Extension specialists at other University of Wisconsin campuses help Gibson and Peterson conduct the drinking water program, and county Extension agents bring it to the attention of Wisconsin residents.

Broad Educational Program

Although an important service for homeowners, the water testing is the first step in a broader educational program. The overall goal is to make homeowners in contamination-prone areas aware of the need to have their drinking water tested regularly, preferably once a year. Gibson says homeowners must take the initiative because such testing is not required by state or federal regulations.

The program also aims to make homeowners aware of their responsibility in protecting the groundwater beneath them; it is a source of drinking water for them and their neighbors. Gibson is now designing a set of illustrated file folders to encourage participation. Each folder contains informational materials and space for personal management records. Gibson plans separate management folders for septic systems, wells, property, and watershed land use. □

Saving Water in Montana

James W. Bauder
Extension Soil Scientist
and
Larry D. King
Extension Irrigation Specialist
Montana State University

For Montana's farmers and ranchers, conservation and efficient use of available water is not merely a matter of good practice—it is a matter of survival.

With the exception of the mountain valleys, essentially all of the cropped lands in Montana have seasonal climatic demands for water which are greater than the amount of rainfall available during the growing season. That means either learning how to effectively use soil-stored moisture and rainfall probabilities or paying the price of irrigation. But irrigation doesn't solve all the problems—pumping, water, and labor costs necessitate conservation. The Montana Cooperative Extension Service has been doing its part to help both the dryland farmer and the irrigator with moisture conservation and profitable crop production.

Valuable Guidelines

The first step for dryland farmers was the development of water use-yield relationships for most dryland cereal grains in Montana. Years of research across Montana resulted in the 1981 publication of "Soil Water Guidelines and Precipitation Probabilities" for barley and spring wheat. The publication indicated just how much water was required to produce a crop. It also defined the amount of moisture that could be obtained from the soil for different soils and locations.

The publication also contains the rainfall probabilities at different locations in Montana. Putting these things together resulted in a tool that farmers could use to determine what the yield potential was for locations across Montana on a year-by-year basis.

A computer program called FLEX-CROP contains most of the information summarized in the soil water guidelines publication and it leads farmers through step-by-step procedures to help them estimate production potential and input requirements. In fact, the program will tell farmers whether to crop this year or fallow and conserve more moisture. These procedures could be called water conservation through efficient cropping practices.

Many dryland small grain producers have taken advantage of this computer program which is available through AGNET. Montana is one of the six major partner states in the AGNET computer system. The grain producers use the program to help them make management decisions about crops to plant, seeding rates, fertilizer levels, and variety. These management decisions involving moisture conservation and efficient use highlight the entire issue of resource conservation facing Montana's dryland farmers.

Although Montana is primarily a dryland state, irrigation makes a significant contribution to the state's economy. The 19 percent of the tillable acreage which is irrigated in Montana accounts for more than 35 percent of the annual cash receipts from agricultural commodities. Farmers have been irrigating in parts of Montana for almost 100 years. The Montana Cooperative Extension Service has taken an active role in defining management practices that lead to water conservation and efficient water use. Again, the computer has proven invaluable in helping the Extension Service deliver information, and also in assisting the irrigator with the decisionmaking process.

The Washtub Monitor

It all started with a simple "washtub." In 1971, two researchers with the Montana Agricultural Experiment Station, Sims and Jackson, reported that they were able to successfully monitor the rate of water evaporation from a water surface with a simple No. 1 or No. 2 washtub, rather than the expensive weather bureau evaporation pan. Gerald Westesen, an agricultural engineer with the Montana Cooperative Extension Service, then began an experiment using the washtub method to monitor the rate of water use by crops. The next stab was irrigation scheduling with a washtub. In 1978, when Westesen first reported on the use of the tub, he indicated it was a success that irrigators could readily understand and adopt without significantly altering their input. The method resulted in more efficient irrigation in both the amounts of water applied and timing.

Demonstration Project

In 1980, an extensive effort by the Montana Cooperative Extension Service to help Montana's irrigators improve their water management programs resulted in substantial water conservation. Spin-offs from this effort were impressive: reduced pumping requirements meant energy savings; significant reductions in fertilizer leaching associated with excessive irrigation resulted in improved production; and reduced runoff from irrigated lands paid off in soil conservation.

The program began with the development of a large-scale demonstration project, funded cooperatively by the Montana Cooperative Extension Service, the Montana Department of Natural Resources and Conservation, and the Teton and Cascade County Conservation Districts. Approximately 50 irrigators on the Fairfield Bench, an irrigation district 30 miles northwest of Great Falls, were invited to participate in a cooperative irrigation scheduling program. Each cooperator was encouraged to follow the guidelines and recommendations of the Extension Service, relative to irrigation scheduling. Three full-time field scouts were hired; they were assigned to work with irrigators, showing them how to effectively schedule irrigations.

In order to make the system work, and also make the system useful for irrigators across Montana, two computer programs were developed for use on

Left: A center pivot irrigation system in a Montana potato field; proper irrigation scheduling of such systems has a significant effect on water use and crop production. Below: A field scout records the depth of water in an evaporation pan in an irrigated barley field collecting important information about rainfall amounts between irrigations.

AGNET. The programs are called CONSUMPT and SCHEDULE.

Water-Use Information

CONSUMPT, available at all county Extension Service offices in Montana, is designed to provide water-use information to help irrigators, agents, and irrigation dealers advise farmers about how much water their crop is using. The program will handle 13 crops at the same time, and the user needs to keep track of the water use rate from one of the washtubs.

The SCHEDULE program is designed to actually do the irrigation scheduling for each field. The irrigator supplies information about soil, crop, and location. The computer requests information about the local weather, washtub readings, and soil probing information.

The irrigator then has the answers to the following questions: How much water is there in the soil right now? How deep are the roots and from where are they getting water? How fast is the crop using water right now? When should I irrigate again? How much water should I apply?

The computer keeps track of the farm record, and knows just how much water can be added without over- or under-irrigating. The result is proper timing and amount of water to apply.

Right on Schedule

The program is now working in 16 counties in Montana. Although the Montana Cooperative Extension Service does not have a means of getting an accurate accounting of the use of the system, we estimate that in 1982 more than 50,000 acres of irrigated land in Montana were affected by these efforts.

Whether irrigators think it is worth it or not is easy to answer. In 1982 the Montana Cooperative Extension Service surveyed 55 of its cooperators to determine their feelings about computer-assisted irrigation scheduling. Does it help conserve water, soil, fertilizer, labor, capital, and other valuable resources? They seem to think so.

It doesn't end there, either. Other things have been happening in the area of water conservation in Montana. In 1981, the Montana Cooperative Extension Service began an effort to assist Montana's surface irrigators (flooders) in improving on-farm water management. The purpose of this program is to determine the effects of improved water management on crop yields and on return flow quantity and flow quality from graded border irrigation systems. This is being accomplished by measuring both water applications and return flows, assessing water quality as it enters and leaves the field, and trying different application rates and set lengths.

Application Periods

Preliminary results indicate that over-application occurs because of labor scheduling conflicts. That is, farmers turn water onto the field and let it run for approximately 8 to 12 hours, before changing sets. This minimizes disruption of other, more pressing activities, such as harvesting. Extension Service studies have found that fields can be adequately irrigated with a 3- to 3-1/2-hour set, instead of the traditional 8- to 12-hour set. At present, the greatest drawback to improved water management practices is the impracticality of the shorter sets, because it requires changing sets at inopportune times.

This work is being expanded to include furrow irrigation methods on conventionally tilled and no-till planted corn. This should allow a determination of any significant management differences for furrow irrigation management techniques for these two tillage methods.

The project goal is to convince irrigators of the benefits of improved management practices and how such practices may improve yields, reduce fertilizer use, or enhance fertilizer utilization, minimize the effects of excess water applications, and minimize water quality degradation, resulting from excessive return flows. □

Protecting Soil In The Palouse

Carl F. Engle
Extension Soil Scientist
and
James S. Long
Staff Development Specialist
Cooperative Extension
Washington State University

Geologically, the Palouse soil is very young. It has been deposited in eastern Washington over the past 10,000 years by winds carrying silt and ash from a great dry basin in south-central Washington and from the Cascade Mountains, 200 miles west. The latest major addition came from Mt. St. Helens in May 1980.

The steep, silty Palouse hills are among the richest rainfed, annual croplands in the world, producing soft white wheats, dry edible peas, and lentils as major crops.

Cropping the rolling hills is costly in soil loss, however, caused by 15-25 inches of precipitation during the winter months when the slopes are largely unprotected. Soil loss reduces fertility, plugs drainage ditches along the roads, and fills the reservoirs behind the hydroelectric dams on the Snake and Columbia Rivers. Water is rushing our soil back west faster than it drifted east!

Tillage techniques are available to protect croplands and reduce erosion. But they are not being used universally. According to one estimate, one-quarter of the producers contribute three-quarters of the erosion.

Reaching Producers
How to reach those producers? That question prompted an educational project to reach producers with information about conservation tillage and to motivate them to try tillage techniques new to them.

Education Effort
It was known that producers who become aware of a new tillage technique would want to discuss the practice with experts and each other. An educational program was planned to involve delivery and interaction, using federal funds allocated to control nonpoint sources of water pollution.

A synchronized slide/tape set featured the evolution of tillage in the Palouse from animal power to high speed tractor power; available tillage practices; principles of soil management, field crop production, and economics that help producers evaluate each tillage practice; and experiences of producers in the Palouse who have tried conservation tillage.

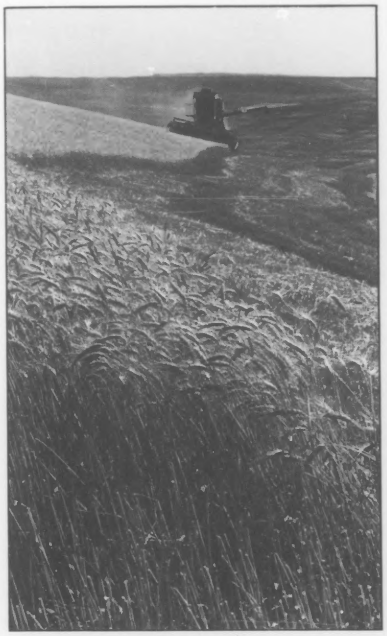
This scripting effort came from a small group representing Conservation Districts, Soil Conservation Service (SCS), county Extension agents, and Extension specialists.

The production effort was contracted to a graduate student in Washington State University's (WSU) Adult and Continuing Education Program. After completing the slide/tape set, he made copies for county agents at six sites in the Palouse area of eastern Washington. An evening in January 1982 was scheduled for the program and agents invited producers from their counties.

Teleconference heads the Way
Meanwhile, on campus a group of Extension specialists assembled to participate by conference telephone in the January program. After producers had an hour to view the slide set and formulate questions at their sites, the telephone conference was activated, linking the field sites and the campus.

For another hour and a half, the specialists and producers discussed topics that concerned the producers: Soils and fertilizers, germination and yield, disease control, weed control, tillage equipment, and economics.

Another graduate student in Adult and Continuing Education who evaluated the program told us:
- The event attracted 60 producers, most of whom had tried conservation tillage techniques,
- It did not attract those less experienced with conservation tillage,



The Palouse region of the Pacific Northwest has both a unique topography and unique erosion problems because intense cultivation pulverizes the soil into finely ground particles that are easily washed away. To keep this silty Palouse soil producing Extension has developed an educational program that promotes conservation tillage techniques.

- The program introduced information new to even the experienced participants and stimulated most of them to ask for more information,
- Participants rated the slide show as "good" and rated the telephone conference even better.

Committee's Tool Successful

Since the January program, the "tool created by committee" is being adapted more for the ultimate target group. In one county, for example, the Extension agent adapted the slide show for presentation at an annual commodity meeting—a gathering that attracts a broad cross section of producers.

In two other counties, Extension agents adapted the slide set and teamed with Conservation District Supervisors to conduct neighborhood "mini-sessions." The slides on conservation tillage became part of a half-day program that also discussed, for example, the Payment-in-kind (PIK) Program. The series of winter mini-sessions were conducted with small groups of farmers and spouses in homes representative of the target audience.

So, the diffusion process continues. It continues because of—

- Early cooperation among Extension, SCS, Conservation Districts, and Adult and Continuing Education in defining the message and the medium.
- Introducing the slide show to innovative producers and talking about its content with a mix of specialists and each other.
- Positive judgments about the quality of this educational tool.
- Ability and commitment of the Extension agents to adapt a slide/tape set in which they had invested and, with others, to play it again and again.

By collaboratively creating this slide/tape set, another step has been taken toward keeping soil producing in the Palouse. □

Education Through Computer Simulation

John R. Amend
Professor of Chemistry
and
Verne W. House
Associate Professor of
Extension Economics
Montana State University

Better management of the nation's water, energy, and electrical power and development of new technologies for them are essential. Ultimately, decisions on these resources are made by citizens and their selected representatives.

Computer Simulation
Interactive computer simulation is one way to help people understand the technical principles and relationships of a complex resource management system. They can also learn about some of the social problems involved in resource management. Computer simulation can place them in decisionmaking situations involving real problems and alternatives. No preconceived solutions are presented. Participants can experiment with different strategies and policies, and observe the probable consequences.

Interactive computer simulation can be illustrated with examples from work we have done in water management. The Water Resources Education Project was in cooperation with the Bureau of Reclamation, the Old West Regional Commission, the Cooperative Extension Service, and the Office of Water Resource and Technology. We initially developed the technology for the AEC/ERDA/DOE public education programs in energy. More than 100 Energy-Environment Simulators are in use in the United States and Canada today.

Simulating
The Water Resources Management Simulator is used in our water resources education workshops. We treat four problem areas: sources and quantity of water, uses of water, quality of water, and political management of the water resource. General hydrologic information is provided through a short slide talk. Workshop participants get a "hands-on" opportunity to develop and evaluate water management strategies through use of the simulator.

The Water Resources Management Simulator, a digital computer, can model a region's water supply and demand situation. Groups from the audience use remote consoles to make water management decisions on storage of surface and ground water, sources of water, rate of water use, technology of water use, and disposition of used water. Switches on the back panel weight the demands to represent the water use pattern in the region modeled. They also permit selection of a number of different ground and surface water conditions. Stream systems that are modeled in the current computer simulation program include the Gallatin, a high mountain stream typical of parts of Montana and Wyoming, the James in the plains of the eastern Dakotas, the Niobrara in Nebraska, the Suwannee in northern Florida, the Rogue River in Oregon, the Green River in Washington, and the Sacramento in California.

Real-Life Decisionmaking
Operators of the Water Resources Management Simulator must make some hard decisions. It provides them with snowpack and stream flow for each year that represent historical behavior of their region.

With their supply of water, operators must provide for their region's water needs—irrigation, energy, livestock, and municipal and industrial uses. They will want to prevent drought or flood from destroying crops or land. They will want to reserve adequate stream flow to support downstream users and fish and wildlife.

For each of their water uses, they must decide if the water will come from surface or underground water. They must decide the technology for each of their water uses. And, if they wish, they may flood some of their basin to create a reservoir for storage of surface water.

Unique Computer Simulator
The Water Resources Management Simulator differs from standard digital computer simulations in several ways. It operates in "real time" (approximately 8 seconds per month), and represents information on all of its variables simultaneously during the run.

Participants may interact with the model at any time, using simple controls to implement their water management decisions. As the simulator operates, a color graphic display of stream flow, water demand, and surface or ground water reserve is plotted on an TV monitor placed next to the simulator.

Workshop Structure
Participants learn by experimenting with the control variables and observing the effect on the overall system. The simulator poses problems, acts according to their decisions, and forces them to live with the consequences as time progresses. Through a process of successive trial, error, and optimization of variables, participants develop an understanding of the relationships between variables and of the alternatives involved. They also often change their idea of what is "optimum," after being faced with the realities of the system.

No One Point of View
A major advantage of the simulation technique lies in the fact that the workshop leader does not present a certain point of view. Participants can experiment with different strategies and policies and observe the probable consequences of different courses of action.

Our problem is one of increasing complexity of life. One could learn to plow by walking behind the ox, and to shoe a horse by working beside the blacksmith. But learning to fly an airplane or experimenting with energy or water management policy is far more difficult. Computer technology lets us experience these complex problems, and experiment with alternatives in a safe, low-cost manner. □

Training in Water Technology

Melville L. Palmer
Extension Agricultural Engineer
Water Management
The Ohio State University

A farm drainage installation in Stark County, Ohio.

Drainage is the major water management practice in Ohio agriculture. Contractors are assuming more responsibility for drainage system design and layout, since there has been a decline in both technical and cost-sharing assistance from USDA agencies. There is growing need for continuing education of drainage contractors in both technology and management as their enterprises become more complex. Almost 60 percent of our 11.7 million acres of cropland requires drainage for efficient crop production, and only one-third of this land has been drained to date. Other midwestern states have similar needs for drainage. About 25 percent of all U.S. cropland has wetness problems that require drainage for profitable production.

Changing Technology

Drainage technology has been changing rapidly during the past decade. New innovations such as laser systems, drainage plows and plastic drain tubing have attracted many young people into the drainage industry and stimulated experienced contractors to modernize their operations.

Technical proficiency in such fields as surveying with tripod levels and lasers, drainage system design, plan preparation, efficient machine operation, and equipment maintenance are basic. Business management becomes more important as the number of employees, the investment in equipment, and the volume and diversity of work increases. Programmable calculators and home computer systems are gradually becoming more significant factors in many contracting businesses. To be successful, a drainage contractor must develop good communication skills among employees, customers, and numerous others with whom there is frequent contact.

Since the early 1950's Extension agricultural engineers at The Ohio State University (OSU) have conducted annual educational programs for drainage contractors, in cooperation with the Soil Conservation Service and the Ohio Land Improvement Contractors' Association (formerly the Ohio Drainage Contractors' Association). The primary emphasis has been on one or more annual short courses 3 to 5 days in length, depending on subject matter and timing.

In 1979, these short courses were renamed "Virgil Overholt Drainage Schools" in honor of the late Professor Virgil Overholt who initiated the program of contractor education in Ohio. Professor Overholt retired from OSU in 1956 after 42 years of outstanding service.

Surveying a Basic Course

Throughout the 30 years of our drainage short courses (and schools), surveying for farm drainage has been basic to the program. The surveying schools involve about 30 hours of field and classroom instruction. Schools on drainage system design-installation involve a similar period of time. More than 1,100 drainage contractors, machine operators, drainage material suppliers and technicians have participated in these programs.

During the past 10 years (1973 through 1982), nine surveying schools and five design-installation schools have been held in Ohio, with an attendance of 537 people, 25 percent of whom came from states outside Ohio.

The purpose of the surveying school is "to advance the knowledge of drainage contractors and others interested in laser surveying for farm drainage." This is the only school of its kind in the United States.

The purpose of the design-installation school is "to provide continuing education for drainage contractors and others interested in advancing their knowledge of drainage system design, soil management for good drain performance, drainage materials, programmable calculators, and related subjects."

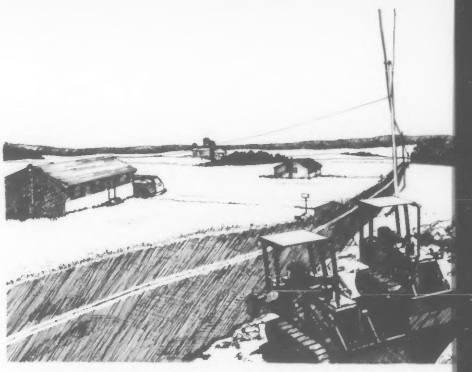
Laser Surveying

Continuing education for contractors is constantly being updated to meet current needs. A good example of this was the change from conventional surveying to laser surveying in 1982. Prior to that time, beginning in 1971, contractors were exposed to an increasing amount of laser instruction with the help of the Laserplane Corporation of Dayton, Ohio—the world's largest manufacturer of laser systems for earth-moving machines. There has been an increasing amount of instruction on soil and water management, including machinery and cropping practices that affect drainability of soil and soil structure.

With their practical working knowledge and expertise in soil and water management, informed contractors can greatly influence public attitudes toward wise use of our natural resources and good land stewardship. And farmers and others benefit by improved quality in drainage installation when they use the services of contractors who have attended these schools. □

Groundwater: The Vital Reservoir

Keith S. Porter
Senior Extension Associate
Coordinator, Water Resources Program
Center for Environmental Research
Cornell University, Ithaca, New York



Substantial irrevocable losses of farmland are often preceeded by a slight suburban encroachment into rural areas.

Half the population of the United States relies on groundwater for drinking water. In rural areas, more than 90 percent of residents obtain their water from wells and springs. Given the dependence on groundwater, deterioration in its quality is a serious issue.

Unfortunately, needs to deal with contamination are being only partially met. The quality of groundwater depends upon the recharge that replenishes it. Recharge itself is affected by multiple land uses and human activities on the land surface. It follows that to manage groundwater, it is necessary to manage activities which affect recharge. The alternative is to manage the water at the well or tap. Between what happens on the land, and what comes out of the well, management is practically helpless.

Framework

Public awareness of groundwater contamination has led to enactment of statutes that provide an initial framework for control of groundwater pollution. The dilemma for the lawmaker or regulator is that groundwater quality is determined by diverse actions on the land. How can laws and regulations govern all significant causes of contamination?

Causes include householders fertilizing their lawns, or pouring cleansing solvents down the drain, gas station operators washing their station's ramps, individuals improperly keeping domestic pets, and highway departments storing and managing salt for de-icing roads. Even if regulatory control of 80 percent of all the potential causes of problems were possible, the remaining 20 percent could still irrevocably damage the resource. For groundwater the *law of the commons* applies with special force.

A great deal of environmental management has been pursued through litigation. Litigation is costly and divisive. Both environmental and business interests bear substantial costs incurred by extended environmental litigation and regulatory reviews. Unfortunately it is not evident that litigation best satisfies either the parties to the conflicts or the environmental issues.

Where sources of contamination do develop, preventing contamination can also be costly. However, the longer term costs of inadequately preventing contamination may be much higher. There is a disposition to defer costs even when the result is a much greater cost later.

Problems in Rural Areas

About 40 million residents in rural areas depend on private domestic wells in addition to those using public systems. Groundwater is cheap and has always been considered reliable. Groundwater can be tapped adjacent to the point of use so no distribution system is necessary. It has not previously required treatment under normal conditions. In addition, groundwater represents an inbuilt storage system. Surface water usually needs storage and treatment which are difficult to control in rural areas.

Unfortunately, the security with which groundwater is used is now diminished. Where contamination occurs, households whose wells are affected can suffer a high degree of stress. Nonpublic water supplies receive little, if any, protection or support from health departments or other government agencies.

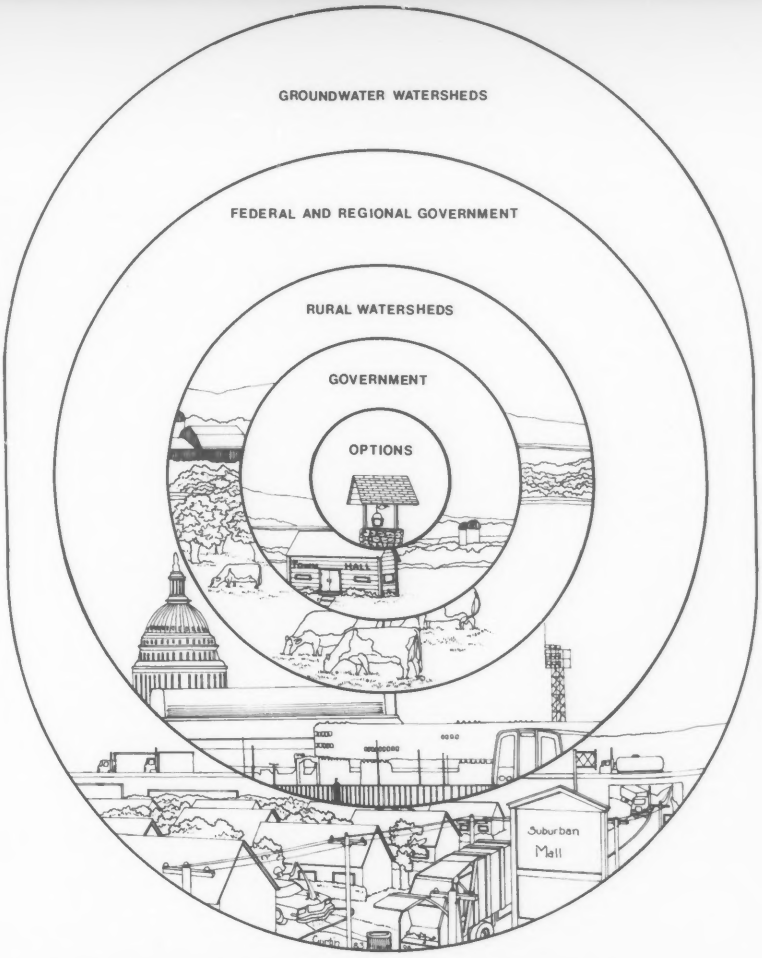
One solution advocated for many years is the development of public water supplies. Obviously, for many rural residents—those in remote districts, the rural poor, migrants and even weekend residents—this solution is not achievable. Also, although public water supplies are more reliable than private ones, they are not without problems in rural areas. For example, in a survey reported in 1970, it was noted that "smaller sized communities or systems had more water quality problems than the larger ones." Recently, the U.S. Government Accounting Office noted that small systems accounted for most noncompliance with Safe Drinking Water Regulations.

Need for Appropriate Answers

The inadequacy of rural waters stems from the lack of resources, and the use of inappropriate technology. During a conference sponsored by the National Rural Center there was overwhelming agreement that federal water programs were more suitable for urban than rural communities. Frequently, traditional and innovative technologies more appropriate to rural communities are underemphasized.

Organized water supply programs in rural areas may foster inadvertent, as well as intentional development. In some regions where staff from the Center for Environmental Research have provided assistance, real estate interests strongly support sewer and water supply construction. However, there may be less support for such water projects when other community residents become aware of the threat to farmland and their rural surroundings.

Work in areas in New York and rural communities in other states shows that the problems are as much institutional and social as technological. In rural areas there are no obvious candidate agencies to take overall charge and to balance competing economic interests.



This chart illustrates the complex overlapping issues of rural water management.

Problems facing rural communities in protecting groundwater, treating wastewater, and in managing water supplies require an *appropriate technology* combined with *nonregulatory solutions.*

Developing New Knowledge

Groundwater is rarely visible. Intuition seldom provides a reliable sense of how groundwater moves, at what speed and from what origin. There is even less appreciation of how actions on the land can cause a contaminant to eventually reach a drinking water well. This failing is compounded in situations where years elapse before the contaminant arrives at a well which is miles from the contaminant's original source. In addition, previously there has been a faith in the purity of groundwater, and in the ability of the soil to filter and cleanse water passing through it.

Testing with WALRAS

Although confidence in the protective capacity of soils has diminished, there remains the need to foster "better housekeeping" on the land surface. A little prevention now is an inexpensive substitute for a lot of problems later. To further understanding in communities, the Center for Environmental Research has developed evaluatory and educational techniques termed the Water and Land Resources Analysis System (WALRAS).

WALRAS has been successfully applied and tested under a variety of circumstances. Its effectiveness is achieved by forcing its users to systematically identify and assess problems using available data. The procedure uses simple budgets which summarize the different sources and fates of a contaminant, or water, in a given area and time, resulting in an understanding of the implications of both short-term activities and longer term development patterns.

For success however, it is essential to fully engage the community throughout the procedure.

The approach used in applications of WALRAS is to educate and inform while mediating between conflicting groups or individuals. In each of the areas where WALRAS has been used, considerable success has been achieved in developing institutional or social mechanisms whereby the needed work can be accomplished. This experience however has not so far included the deliberate aim to explore and establish the most *appropriate community arrangements* which are *self-sustainable.*

It clearly is impossible for all villages with water problems to receive individually the intensive support and technical assistance such as that so far provided by Cornell. The vital need is to determine the appropriate administrative and social mechanisms to allow villages and small communities to initiate and adopt the appropriate managements themselves. Community residents primarily determine what happens on their land, and how water supplies are managed. Extension programs could provide external support and assistance that will be required to achieve the necessary level of understanding.

Informing Rural Residents

The scattered distribution of residents in rural areas, the educational level, amount of time and interest, all limit ability to educate and inform the rural audience. Television and telecommunications are going to be increasingly effective as communication media in the next decade. For example, television broadcasting from satellites directly to low-cost individual home receivers will be widespread in many countries before the end of the decade. These satellites offer a cost-effective means of educating and informing the rural audience. □

Keeping Wisconsin's Groundwater Clean

Bruce Webendorfer
Extension Water Quality Education Specialist
and
Gary Jackson
Water Quality Education Coordinator
Environmental Resources Unit
University of Wisconsin

Wisconsin enjoys an abundance of clean, clear groundwater which is widely used for drinking, agriculture, and industry. But recent threats to its quality have greatly increased citizens' interest.

The result has been a challenge to University of Wisconsin-Extension (UWEX) to develop an education program for this complex, misunderstood resource.

Notable Cooperation
Noteworthy in the Wisconsin experience is the cooperation among faculty of many backgrounds and state agencies on a political, conflict-laden issue. That cooperation has enabled quick mobilization of limited resources to address high-priority public information needs.

Groundwater problems in Wisconsin are primarily local. Incidents of contamination have increased in recent years, from a variety of sources, ranging from pesticides, fertilizer, and manure storage to mining wastes, landfills, and hazardous waste disposal sites.
In 1981, several events brought groundwater concerns into focus. A special state legislative committee was evaluating the need for additional legislation on groundwater management. Monitoring showed scattered, increasing instances of pesticides and nitrate contamination. A controversial new rule permitted at least minimal degradation of groundwater from metallic mining, while an emergency rule restricted the use of the insecticide aldicarb (Temik), the most effective agent in protecting the state's $80 million potato crop.

Special Task Force Formed
A special UWEX Groundwater Task Force was formed in November 1981 to identify existing UWEX groundwater education programs and resources, suggest needed programs, and set an overall course of action for internal and external coordination of education activities.

The Task Force included 26 UWEX staff, representing 10 campus departments and 3 Extension community program areas (agriculture, natural resources, and home economics).

Meeting for the first time in December 1981, and issuing their final report on May 7, 1982, the Task Force assessed all groundwater issues in the state and identified the strengths and weaknesses of existing UWEX programs.

Initial Results
The Task Force, from the outset, served as a mechanism for internal communication and coordination. Faculty members came to recognize how their research and teaching programs relate to groundwater concerns. Administrative staff also became more aware of the need for education on groundwater. Limited resources could then be quickly obtained. Finally, the university's success in coordinating its internal efforts has improved its access to the ongoing legislative activity on groundwater.

Groundwater Program Activities
Following issuance of the Task Force report, program activities centered on—

- Gathering and synthesizing information into publications on the priority concerns identified by the Task Force;
- Developing education programs for UWEX staff, farmers, and the general public.

In line with Task Force recommendations, the Water Quality coordinator organized an ad hoc committee to identify highest priority publications, and coordinated efforts that resulted in small grants from Cooperative Extension and the Environmental Protection Agency to use in developing publications and other educational materials.

Publications Developed
Part of the grants funded use of four graduate students to work with Extension specialists as editorial assistants. They synthesized existing information, identified resource people, and wrote drafts for review.

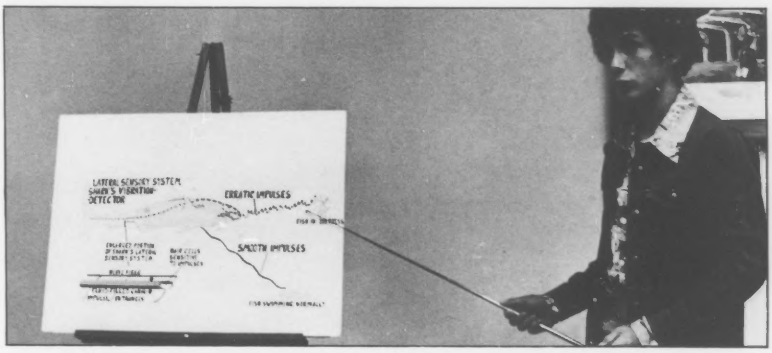
The program activities following the Task Force report have not only spurred internal coordination, but have also established the foundation for a broader cooperative effort on groundwater issues with regulatory and technical agencies.

Many Groups Involved
The number of agencies and offices with a role in groundwater regulation is as imposing as the number of relevant academic disciplines. Overall regulatory authority for surface and groundwater quality rests in the state Department of Natural Resources, whose groundwater functions are spread among functional and regional offices. Other agencies regulate some important activities affecting groundwater quality. The state Department of Agriculture, Trade and Consumer Protection regulates pesticide use, the Department of Health and Social Services evaluates health effects and recommends acceptable limits of contaminants in drinking water, and the Department of Industry, Labor and Human Relations regulates the siting and design of septic systems.

Tangible Results
At this time, 9 months after the Task Force issued its recommendations, UWEX can point to tangible results: 10 publications in press or in review, an internal white paper on irrigation management education needs, a slide show and a display, two agent training programs, and several public information meetings. A start has been made toward translating one of the Task Force's less tangible recommendations—"substantial interagency cooperation and coordination"—into reality. □

Time and Tide—4-H Marine Science

Stu Sutherland
Public Information Officer
Extension Service, USDA



Top: 4-H'ers enjoy the 21 exhibits at the Marine Fair, held in conjunction with the Marine Institute at Marineland, Florida. Above: A 4-H member lectures on the sensory system of sharks at the 4-H Congress held at the University of Florida.

One bright, new and expanding group of 4-H project activities centers attention on the sea and the shores. Commonly known as 4-H Marine Science, this program is gaining popularity in states with Sea Grant staff and facilities.

To glimpse at the diversity of this program, here's a "skipping rocks" look down the eastern seacoast, and a glance at the far northwest.

New York Holds Marine Camp
New York held a 5-day Marine Camp in Nassau County in July 1982. The program for youth aged 12-17 provided 51 young people with an introduction to marine biology, astronomy, maritime crafts, recreational fishing, career exploration, and seafood utilization.

Each of the participants paid $100 for meals and housing, with $3,000 for additional expenses from the state's Sea Grant program. Five Cooperative Extension agents who staffed the camp program now provide marine-related projects in their counties.

One of the camp's objectives was to acquaint county Extension staff with the expertise of the Sea Grant program so that it could be used to support local leader training efforts. Other objectives included making youngsters aware of the marine environment and the role that it plays in their lives, with particular emphasis on economic development—including career exploration—and ecological balance.

This July (1983) a second camp will be held with more youth involved. Seven youngsters from the migrant program attended last year, and this year scholarships have already been provided so that some inner-city youngsters from New York City will have their first chance to attend. Plans are already being advanced to firm up this camp's activity and expand it to spring and fall periods when the camp is not booked solid.

Lobster on Wheels
Called the "Blue Lobster", 4-H coastal education in Rhode Island is mobile. Innovations for this program include the use of a trailer in the summer phase, and specially designed movable tanks containing sea life for winter programs in schools. In the winter phase, for K-6 grade school children, lessons include mammals of coastal areas, foodwebs, ocean flora and fauna, as well as others.

The impact of the "Blue Lobster," giving public access to coastal education for 4,000 in summer and 13,000 in the winter school program, is enhanced by providing 4-H promotion and awareness and in-school acceptance of 4-H.

The "Blue Lobster" is booked about 6 to 9 months in advance, and has already traveled to over 100 schools. The program operates at about $1 per student—similar coastal educational programs would cost around $5 to $6 per person. Teacher evaluations indicate a high degree of lesson retention, especially regarding the handling tank activities.

Below: Little marine student is drawn by net-making project at 4-H Marine Camp. Bottom: 4-H'er at the Florida Marine Camp becomes skilled at the messy but necessary skill of fish cleaning.

Marine Science Weekend
For the third year (in 1982) a special marine science weekend was planned and conducted for youth at the Seaville Consortium facilities.

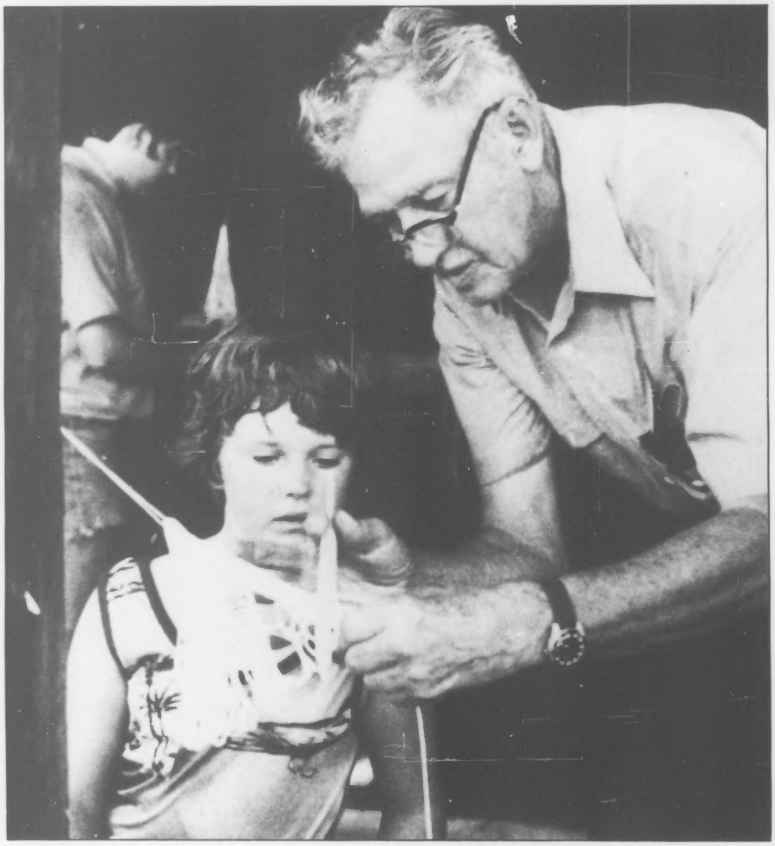
Here young people gained an insight into the problems associated with erosion and industrial pollution, as well as by participating in a hands-on experience with a number of marine specimens and viewing microscopic life. Many of them had never experienced the shore area as a classroom.

Organized with the cooperation of New Jersey's Sea Grant Extension Service and the Consortium, the youngsters learned about a new variety of career possibilities. Their written evaluations show that several were contemplating careers in related fields.

There were also expressed interests and enthusiasm in the evaluations, so future marine science weekends are being planned.

Maryland 4-H'ers Use Research Ship
The Queen Anne County 4-H program arranged for a 2-day trip on a ship for 25 high school youth interested in underwater investigation. They used the resources of a University of Maryland Center for Environmental and Estuary Studies high technology underwater research vessel which can accommodate about 50 passengers. The 25 youth got some special attention as they gained knowledge of scientific investigation methods, gained appreciation for aquaculture, and the impact of land use on marine life. They also developed skills in mapping, data collection, water sampling, and a host of other new skills including marine life identification.

The 2-day trip also created much local interest and excitement, enough so that a week-long marine education camp is now being planned for the summer of 1984—with the research vessel being only a small part of the camp.



Elsewhere in Maryland, Wicomico County initiated an oyster culture project so youth there could learn skills related to the production, harvesting, and use of oysters. Such natural resource programs are being expanded in the Maryland 4-H program with renewed emphasis and interest in the Chesapeake Bay that is so much a part of the state's way of life, and with the support and training of volunteers.

Virginia 4-H'ers Get Involved
The Chesapeake Bay is also a part of

Crabbing, sailor's "salty" knowledge, and snorkeling tips were all ways of the sea 4-H'ers will possess forever after 4-H Marine Camp.

the scene in Virginia where last year 2,084 4-H'ers, 150 leaders and staff in 19 counties were involved in marine science education. One 4-H marine camp was begun in 1982, and nine educational modules developed along with drafts for two field manuals.

An average of 60 percent of the participants showed an increase in knowledge resulting from their marine science program experiences, according to pre- and post-testing. Programs on inland and fresh water areas are being developed to further expand Virginia's water-related 4-H activities.

Florida 4-H'ers Dive Into Program
Figures for 1982 4-H marine projects and activities in Florida show that more than 4,500 youngsters dove into all sorts of activities in their state.

In Polk County, Florida, the 4-H Advisory Board had expressed concern about the lack of public understanding of management of water resources. They established a 4-H Water Resource Education Committee with a main goal of creating awareness to all of Polk County's 4-H members.

The committee prepared a resource list for local 4-H leaders, and conducted tours, workshops, and contests for 4-H youth. Local 4-H clubs and leaders used the resource list to plan local educational experiences. As a result of all this activity and interest, Polk is now one of four Florida counties piloting (and doing a critique) of a new "Water in the Home" project for possible use statewide.

Program Redesigned
The Washington State 4-H Natural Resources program is going through a comprehensive redesign. The objectives, to be completed by fall of 1985, include a literature redesign for marine science (as well as other areas) with an emphasis on leader material; training of agents and volunteer leaders; an evaluation of the new designs; and the building of a learning center to reflect the natural resources curriculum.

To accomplish such a goal they will need to raise $400,000 over the next 4 years. To date, $71,000 has been raised for program development and $65,000 to help build the learning center. They also developed three curriculum prototypes, have involved more than 10 organizations, and also involved two Extension committees in their development effort.

Additional hopes are to hire a natural resources specialist for guidance. The long-term implications would be to increase the number of 4-H members in natural resources projects to 10,000 and the number of leaders to 800.

Conclusion
As mentioned earlier, this has been a "skipping rocks" look at a few of the 4-H/Marine Science/Sea Grant projects and programs that are developing. We have "skipped" a few states with Sea Grant and 4-H connections and hope to be able to include them in a future issue. Through these new and increasing 4-H programs and projects, more and more youth and their volunteer leaders will be able to more fully understand our lands and waterways and to help conserve them for future generations. □

Preventing Texas from Going Dry

Bill Braden
Extension Communications Specialist
Texas A & M University
College Station, Texas

Texas is running out of water. Demands for this precious resource are so great that water has become the number one concern of many of the state's government officials and leaders. The governor's Texas 2000 Commission has tabbed water the top concern in the state, and Texas A&M University's Target 2000 Project has cited the need for programs on water use and conservation. The concern about water has been real for years and has long been a priority educational program of the Texas Agricultural Extension Service. In the Extension Service "Thrusts for the '80s" program, land and water resources is one area targeted for extensive educational programming.

Agriculture uses 70 to 75 percent of the state's water, so Extension programs have been aimed at helping farmers conserve water and use it more wisely. Extension efforts in crop irrigation began in the late '40s when the first irrigation specialist was hired to work in the High Plains area. Today, three Extension agricultural engineers headquartered at Lubbock, Fort Stockton and College Station provide information to help producers grow irrigated crops more efficiently.

Early educational efforts were directed toward improvement of irrigation systems and management practices to reduce the large amount of wasted water—flooded ditches and roads were common in many irrigated areas. Today, programs emphasize refinement of irrigation application systems, techniques to precisely time irrigation and methods to evaluate and improve the performance of irrigation pumps and power units to reduce energy use and irrigation costs.

Reducing Irrigation Water

Leon New, agricultural engineer at Lubbock, works closely with county Extension agents and farmers in the High Plains and Trans-Pecos areas which boast most of the state's irrigated cropland. New is concerned with reducing the use of irrigation water as well as reducing pumping costs.

"Farmers can ill afford to run wells now the way they did when fuel was cheap," New said. "We are working with them on fewer irrigations, different methods of irrigating and checking pumps for efficiency of operation to get the most from every drop of water they pump."

For instance, fewer irrigations used less water and produced 100 more pounds per acre of sugar beets in a 6-year demonstration in Deaf Smith County. Similar results have been found with corn.

Studies show that poor engine and pump efficiency can increase irrigation fuel costs as much as six to eight times. Efficiency tests on pumping plants have helped producers almost double their unit's operating efficiency, thereby reducing the fuel cost per-acre-inch of water by more than 60 cents.

Another study found three inefficient irrigation engines costing a farmer $28,000 a year in extra fuel costs.

Sensors Determine Moisture Levels

New also demonstrates the use of soil moisture sensors to help growers determine moisture levels. He works with producers to adapt center pivot sprinkler systems to ultra-low pressure operation, improving application efficiency to 95 percent or more and cutting fuel costs.

Cotton production in the Trans-Pecos area depends heavily on irrigation, and special efforts have been under way in that region to reduce water use as well as overall production costs. A special educational program, called ECONOCOT (for economical cotton production), was launched several years ago. Through more careful attention to various production practices as outlined by the ECONOCOT program, farmers have reduced their costs while conserving precious water supplies. Some have reduced irrigations by 50 percent.

Control of weeds and brush on Texas' vast rangelands (one-half of Texas is rangeland) is a leading factor in conserving available soil moisture, particularly in low rainfall areas. "Effective use of herbicides and other weed and brush control practices, combined with wise grazing management, go a long way in improving forage production for livestock," said Tommy Welch, range specialist.

Brush and grazing management can improve grass cover which uses available water more efficiently and can also improve the quality of surface runoff.

About 100 grazing management and brush and weed control demonstrations are established each year to help ranchers observe and learn about new and improved techniques and practices. Through field days, tours, meetings and workshops, some 20,000 individuals annually receive information to help them improve water use on their ranches.

Springs and streams are flowing once more in some areas where heavy brush infestations have been controlled and proper grazing management practiced. This attests the fact that brush control and good management are water-saving practices.

Bill Knoop, turfgrass specialist located at Texas A&M's Research and Extension Center at Dallas, has been instrumental in organizing an extensive educational campaign to reduce water waste on lawns.

Leaflets for Homeowners

Several years ago Knoop helped Plano officials cope with rising energy costs

and water use. The utility company mailed out "Waste-Saver Lawn Care Plan" information leaflets advising homeowners how to water their lawns and landscape plans properly. This led to water savings and reduced the tremendous amount of grass clippings that had to be handled by the city sanitation department. Reduced grass clippings alone saved the city about $59,000 the first year.

Since that initial effort, turf specialists have been busy advising city officials throughout the north Texas area on water-saving techniques and proper lawn care to reduce water use. More than half a million leaflets were distributed last year, half of them to Dallas residents. Other cities participating in the waste-saver program include Tyler, Garland, Carrollton, Denton, Hurst, Arlington and Wichita Falls.

Proper lawn management and watering have enabled homeowners and municipalities to reduce water costs—as much as 40 percent in some cases.

Extension's involvement in water issues came to the forefront this spring when the city of Gatesville began to experience water problems, with several wells going dry. Gatesville city officials worked with Extension staff members in a countywide educational program on water conservation. Town meetings on water use in and around the home were followed with mailings of "waste-saver" leaflets to some 7,000 homeowners.

Reducing Home Water Use

Along with proper watering of lawns and gardens, educational efforts in Gatesville focused on reducing water use in the home. Water-saving practices included repairing leaking faucets and toilets, using flow restrictors on shower heads, washing only full loads in washing machines and dishwashers and displacing some of the water volume in toilet tanks so less water is required.

Attention to minor drips and leaks is important because they can lead to big water losses. For instance, a faucet dripping at one drip per second amounts to 7 gallons of water a day, or 2,555 gallons a year. That's enough to flood a football field an inch deep.

Texas' escalating population, expected to surpass the 20 million mark by the turn of the century, will continue to put increasing pressure on the state's water resources. The Extension Service continues its educational efforts on wise water use and conservation for Texas citizens. □

Nonpoint Source Pollution—A People Problem

Frank Clearfield
Kentucky Water Quality Program Coordinator
Cooperative Extension Service
University of Kentucky

Kenneth E. Pigg
Associate Professor, Sociology
Cooperative Extension Service
University of Kentucky

Reduction of agricultural nonpoint source (NPS) water pollution is the task assigned to states by section "208" of the 1972 Federal Pollution Control Act (P.L. 92-500). Wilbur Frye, an agronomist, and Kenneth Pigg and Frank Clearfield, two Extension sociologists, are presently in the process of developing a "208" educational plan in Kentucky. Because Kentucky is one of the last states to produce such a plan, Kentucky specialists have the advantage of learning from the experiences of other states.

One unique feature of the program is that Kentucky is the only state to have a sociologist, Frank Clearfield, as the "208" educational program coordinator. According to a national survey of "208" coordinators gathered during the summer and fall of 1982, there are 21 agronomists, 8 natural resource specialists, 7 Extension administrators, 6 agricultural engineers, 4 state agency personnel, and 1 entomologist who coordinate "208" programs.

Pinpointing Problem Areas
Like most states in the southeast, Kentucky exceeds the generally accepted soil erosion level of 5 tons/acre/year; the state average is 9.4 tons/acre/year. Soil losses in the northcentral or "Bluegrass region," although still above the tolerant level, average only 6.1 tons/acre/year.

By contrast, the "Purchase Area" of southwestern Kentucky loses 15.2 tons/acre/year, which translates into 11.4 million tons of erosion annually.

Two factors will assist in making the educational plan effective. First, educational resources need to be allocated according to the intensity of the problems in a region. Second, since "208" is concerned specifically with NPS water pollution and not soil erosion in general, our first priority might be to target information to farmers who have acreage adjacent to water systems in areas which may be designated as "Water Quality Corridors."

Using Social Science Information
There are a variety of other factors we are considering before producing a final educational plan. Some of these include reviewing plans of other states, identifying solutions to NPS pollution problems that are economically acceptable to farmers, examining the principles of attitude change, applying principles of communication research to the different audiences that will be targeted in our "208" plan, and assessing socioeconomic background characteristics of farmers .

These last three considerations may be somewhat unique for "208" plans in that these research areas are grounded in social science information.

Portions of the plan will be developed by agronomists, agricultural engineers, and agricultural economists.

When you stop to think about it, using both natural and social scientists on pollution abatement educational projects makes sense, as pollution is as much a social problem as a technical problem.

Need for Awareness
Indeed, for a "208" plan to be truly effective, it first needs to raise awareness about NPS pollution and isolate it as a problem; second, it is important to transfer to farmers, conservation personnel, and policy makers knowledge of recent research on the complexities of NPS pollution; and third, it needs to change farmers' attitudes about adopting conservation practices

National Survey
One example follows. Data from the Kentucky national survey of "208" program coordinators showed that 39 percent of the 46 coordinators who responded to the survey felt that a general lack of awareness has been the biggest obstacle to the success of their programs. Raising awareness is most efficiently accomplished by using nonpersonal forms of communication such as television, radio, public service announcements, news releases and so on. Fifty-six percent of the coordinators who cited awareness as being problematic used these forms of communication as their primary source, but only 18 percent felt these were their most effective techniques. The remaining 82 percent felt personal contacts and slide presentations were most effective.

Research indicates that personal contacts are effective for communicating an understanding of details and changing attitudes, but not for raising awareness on a large scale.

Future Plan
Kentucky's educational plan will be finalized by August 1983. It will contain a mix of information from the social and natural sciences. Specialists have completed some major steps that include technically assessing the worst problem areas; conducting a representative statewide survey that determines the farmers' perception of water quality issues along with their personal and farm characteristics; and gathering ideas, strategies, and materials from other programs.

In the final version of the plan, the approach will be varied by state region and by audience (farmers, policy makers, or agency personnel). At the bottom line, however, farmers are the only group that can implement conservation practices. Regional "before" statistics that exist through our land grant university and state conservation agencies will be compared with similar indicators following the implementation of the plan. This yardstick will provide a gross indication of which strategies seem to work and which require some modification. The Kentucky staff hopes to find that using social science research systematically for a pragmatic project such as "208" will be an effective way to minimize NPS agricultural pollution. □

Pollution Control And Production Efficiency

James B. Atkins
Extension Specialist, Biological and Agricultural Engineering
North Carolina State University, Raleigh

Two privately owned farms north of Raleigh in the Piedmont of North Carolina are being used in an ongoing Extension program to demonstrate how control of agricultural nonpoint source (NPS) pollution can increase production efficiency. The program is being conducted by staff in the Biological and Agricultural Engineering Department at North Carolina State University in cooperation with a state task force on agricultural nonpoint source control.

This work stems from the 1972 Federal Water Pollution Control Act amendments. Specifically, Section 208 requires states to develop water pollution control strategies including those for agricultural NPS pollution. In North Carolina, the major agricultural NPS pollutants are sediment, nutrients, animal wastes, and pesticides.

BMP's Reduce Losses
A goal of the Statewide Agricultural Task Force Program is to increase awareness of the costs and potential impacts of NPS losses from North Carolina's cropland and farm operations. The program also encourages the voluntary implementation of Best Management Practices (BMP's) by individual producers to reduce these losses. BMP's generally recommended across the state include: soil and water conservation, optimal fertilizer use, animal waste management, and integrated pest management. Although these different practices are each part of ongoing Extension and USDA programs, they all fit together into integrated farm management system that increases efficient on-farm production and clean water.

Farm Demonstrates Effectiveness
The demonstration farm developed as part of the NPS Task Force Educational Program has succeeded in emphasizing the production agriculture and water quality benefits of recommended BMP systems.

During 1982, runoff from the demonstration and comparison fields was monitored to collect information on the effectiveness of the recommended BMP system.

For the farm serving as a comparison or control site, soil testing is the only management practice being used. Soybeans are planted continuously and tilled conventionally straight up and down the slopes. Soil type is a Cecil sandy loam and data are collected from a 10-acre field.

The demonstration site, on which many BMP's are used, is owned by Huel Choplin and his son Connie and is located a few miles from the control farm. They produce swine in a farrow-to-finish operation with 100 sows and grow grain for feed on the 100-acre operation. The 18-acre field being monitored has an Appling sandy loam soil. BMP's on the Choplin farm include:

- Soil and water conservation practices based on the need to meet soil loss goals—parallel terraces, grassed waterways, field borders, winter cover crops, and conservation tillage.
- Three ponds to store runoff for seasonal irrigation needs.
- Annual soil testing to assess nutrient and liming needs.
- Storage of swine waste in a liquid slurry pit.
- Testing of the swine waste to assess its nutrient value prior to land application.
- Land application of waste to meet crop fertilizer requirements based on soil and manure test results via a traveling big gun irrigation system.
- Irrigation scheduling based on crop and soil moisture conditions.

BMP's Pay Off
Annual losses during 1982 were less from the Choplin farm with BMP's compared with those on the control farm:

- Water runoff reduced from 176,000 gallons per acre to 93,000 gallons per acre;

On Choplin farm in North Carolina, farm swine waste is applied over grain sorghum using their traveling irrigation gun system. This is one of two demonstration farms being used in an Extension program to show how control of agricultural nonpoint source (NPS) pollution can increase production efficiency.

- Delivered sediment loss reduced from 14.7 tons per acre to only 0.05 ton per acre;
- Loss of organic material reduced from 1,370 pounds per acre to 82 pounds per acre;
- Total nitrogen loss reduced from 38.2 pounds per acre to 7.8 pounds per acre;
- Total phosphorus loss reduced from 12.6 pounds per acre to 2.4 pounds per acre.

These results show how many valuable resources can be lost from poorly managed cropland, and how well a complete management system can make production agriculture more efficient and protect water quality.

High Yields and Low Bills
The Choplin's management is paying off. From 1978 to 1981, they were Wake County corn champions and in 1981 ranked fourth in North Carolina. Their top yield was just under 214 bushels per acre. In addition, an increased level of soil testing along with testing of their swine waste for its fertilizer value and optimal land application allowed them to reduce their fertilizer bill from $10,000 in 1981 to $2,000 in 1982.

The Choplins are helping to show farmers across North Carolina that management and conservation pay. □

United States
Department of Agriculture
Washington, DC 20250

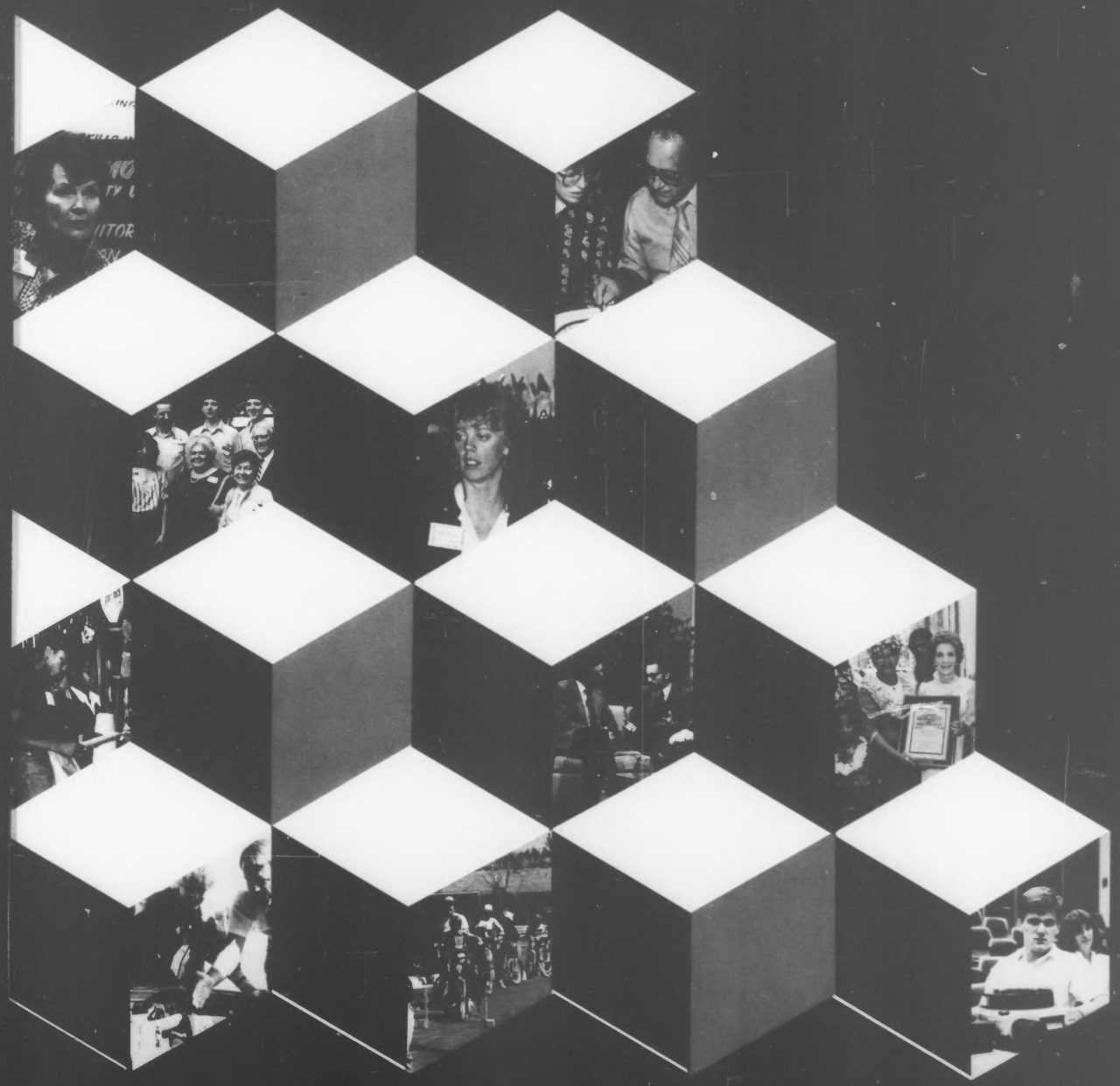
OFFICIAL BUSINESS
Penalty for private use, $300

Postage and Fees Paid
U.S. Department of Agriculture
AGR-101

Summer 1983 United States Department of Agriculture

extension review

Private Sector Partners



review

Teamwork: Extension and the Private Sector

Many of us are more capable than some of us but none of us is as capable as all of us.

The team of Extension and the private sector—working as partners to multiply program participation and impact—is alive and flourishing.

It's a successful partnership which focuses on Cooperative Extension's working relationship with the private sector. That includes business and industry, agricultural, civic, and other interested groups, and over 1.5 million adult volunteers who average more than 100 hours a year conducting Extension programs under guidance of Extension professionals.

Most aspects of Cooperative Extension programming reflect the integral association of Extension staff and private sector counterparts. This interlocking network consists of private resources; Extension staff; individual volunteers serving as leaders, teachers, and in other roles; and clientele who help plan and who participate in and benefit from cooperatively conceived programs.

Agricultural Programs

In the agricultural programs area, the Extension-private sector partnership covers many private organizations, such as commodity groups and agribusiness organizations.

National Extension-industry resource committees are composed of farmers, Extension specialists, commodity and agribusiness representatives, state and federal Extension program leaders, and resource people from other USDA agencies. Similar committees and work groups exist at the state and county levels. Often, these groups are networked together, which provides communication from local to national level.

These committees review educational needs of producers and advise on developing educational materials and programs to meet these needs, resulting in numerous publications and programs. Use of educational materials and participation in programs developed through this mechanism succeed because producers feel they are involved in developing what they want and need. Producers and other clientele identify with and take ownership for materials and programs they themselves have helped plan and develop.

Other private industry cooperation includes joint planning and participation in workshops, symposia and seminars, joint extending of educational information, joint priority setting and evaluation of programs. Industry also provides Extension with demonstrational materials, facilities, and equipment.

4-H Youth Program Involvement

Within 4-H—the youth component of Cooperative Extension—private sector resources totalled $3.5 million at the national level (1982) and about $30 million statewide and locally (1982). These figures do not include the personal time, purchase of materials, and other out-of-pocket expenses of the 600,000 volunteers in 4-H—costs that totalled about $1 billion. People would not expend such amounts of time and money unless they believe the programs will be in their own best interests.

Through the National 4-H Council, major donors to the 4-H program provide national and regional college scholarships, helped build and maintain the National 4-H Center, and provide minigrants to improve leadership and citizenship development.

Private citizens in 4-H and in other Extensionwide activities serve on state and national committees to develop needed nationwide programs, consult on fund raising, and provide specialized training and educational materials.

Natural Resources and Rural Development

Extension's partnership with the private sector is equally paramount and vital in natural resources and rural development. Citizens and industry representatives keep the programs targeted to users' needs. Contributions vary from providing demonstration farms and woodlands to serving on community boards and advisory groups in fish and wildlife and other natural resource areas. Interested citizens donate time and skill as consultants for community development and issues and efforts, and they provide followthrough for resulting projects.

Home Economics and Human Nutrition

Within home economics and human nutrition, private industry cooperates with Extension in many of the same ways as with the other program areas. At the federal level, they join in underwriting programs, such as the Sewing by Satellite telecommunications conference last year, and the year-long Food and Fitness Campaign.

Cooperative Extension staff in home economics and human nutrition have links with hundreds of private organizations. The support and contribution of the private sector multiplies manyfold the work of over 4,000 Extension home economists in reaching American families.

Future Trends

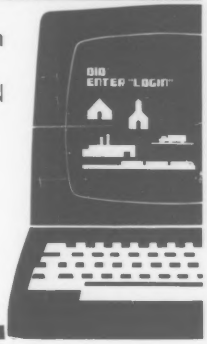
What future trends will shape the Extension and private sector partnership? Extension's original charge of nearly 70 years ago, to interpret, disseminate, and encourage practical use of knowledge, remains its charge today. Extension transmits research to users and users' needs to researchers. Extension also is a change agent, a vital educational system that exists to develop programs that will meet changing needs of the diverse clientele it serves.

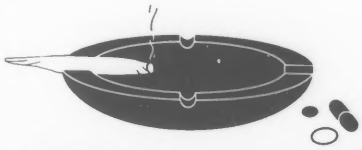
Extension's role as facilitator and catalyst represents a leadership style increasingly common and appropriate today. Extension staff at federal, state, and county levels work with people in the private sector and government.

One of Extension's strengths continues to be that of involving people throughout this process of program development. By working with us from the outset, program users take ownership of them and will see that they continue.

In recent years, many factors have combined to strain our national resources. Now, more than ever before, participatory leadership of Cooperative Extension with clients and in partnership with the private sector is absolutely essential.

contents





extension review

Vol. 54 No. 3
Summer 1983

John R. Block
Secretary of Agriculture

Orville G. Bentley
Assistant Secretary for Science and Education

Mary Nell Greenwood
Administrator
Extension Services

The *Extension Review*, quarterly publication of the Extension Service is for Extension educators in county, state and USDA agencies. The Secretary of Agriculture has determined that the publication of this periodical is necessary in the transaction of the public business required by law of the Department. Use of funds for printing this periodical has been approved by the Director of the Office of Management and Budget through September 30, 1985. The Review is issued free by Law to workers engaged in Extension activities. For sale by the Superintendent of Documents, Government Printing Office, Washington, D.C. 20402. Send manuscript inquiries to: The Editor, Extension Service, Room 3135-S, USDA, Washington, D.C. 20250. Telephone (202) 447-4651.

Reference to commercial products and services is made with the understanding that no discrimination is intended and no endorsement by the Department of Agriculture is implied. Extension Service of the U.S. Department of Agriculture offers its programs to all eligible persons regardless of race, color, sex, or national origin, and is an Equal Opportunity Employer.

Director of Information: Ovid Bay
Editor: Patricia Loudon
Associate Editor: Judith Armstrong Bowers
Associate Editor: James Wolfe
Design Director: Deborah Shelton

Salvaging Alabama's Timberland

Gaines Smith
District Agent, Agriculture and Natural Resources
and
Randall Loyd
Area Forester
Alabama Cooperative Extension Service
Auburn University, Alabama

Harvest the best and leave the rest seems to be the motto of many forest owners. Often, the tendency is to take all marketable trees and leave little more than "green junk." Some even refer to it as the "rape" of our timberland.

In an innovative educational program initiated by the Alabama Cooperative Extension Service (ACES) and Alabama River Woodlands, Inc. (ARW), timberland owners in four southwest Alabama counties are using a different approach. More than 50 landowners in Clarke, Conecuh, Monroe, and Wilcox counties have implemented forest improvement practices on almost 5,000 acres with impressive first-year results.

Early Adopter
Chester Barnett of Monroe County is one landowner excited about improving his timberland. First, he identified the areas needing the most improvement, where his efforts would show the greatest benefits as soon as possible.

He decided to regenerate areas that had been clearcut and left empty. In the fall of 1982 and winter of 1983, he salvaged cut trees from 60 acres, double chopped in preparation for planting, and planted pine seedlings.

In the spring of 1983, he cut low-quality trees from wet areas and treated the stumps with an herbicide. During the summer he burned and mechanically prepared any wet areas. This winter he will plant those areas. He has also thinned about 100 acres of timber.

Improving Forestland
Other timber owners carried out 11 different practices, including prescribed burning, chopping and mechanical site preparation, improvement cuts, clearcuts, thinning, salvage operations, and natural regeneration, and control of kudzu, a major problem in pine timber production in some areas.

Forest improvement practices implemented on the 4,544 acres will increase the amount of wood available for purchase by 3.5 million cubic feet over the next 35 years. In constant dollars (excludes inflation), the practices will generate $443,115 of timber revenue to the local economy. The program generates $3.12 in benefits for every dollar spent. A recent assessment of the federally funded Forestry Incentives Program reports an average return on investment of 8.3 percent, while return on investment of the Alabama program is 9.9 percent.

This program developed because ARW's foresters were involved in traditional Extension programming, and because of the tremendous civic-mindedness of ARW's management. As a pulp producing company without a land base to supply wood, ARW is interested in innovative, efficient alternatives to increase the overall future wood supply.

Robert Frese, executive vice president of the company, says, "What we're trying to do is grow more timber, not for us, but for the industry. We feel that if the timber is there, we'll get our share."

Landowner Programs
Alabama River has taken several approaches to accomplish this goal. Like many other pulp and paper companies, it has landowner assistance programs available to people in the area. Also, ARW has established a "reforestation educational fund" from a self-imposed, 10-cent-per-cord severance tax held in escrow. Projects funded thus far have included a "think-tank" conference to address the needs of private nonindustrial landowners and partial support for a feasibility survey on the replacement of a major river bridge in the area. ACES and several other organizations receive grants from the fund. The resulting program involves a common concern of ARW and ACES; regeneration and productivity of small private nonindustrial forest lands.

Extension Forester Involved
The $75,000, 3-year grant given by ARW to ACES is used to employ an area forester, who works as a part of the county Extension staff in each of the four counties. ACES has full responsibility and supervision of the area forester. Both parties agreed this would help preserve the "credibility and independent recommendations" of the Extension agent.

Extension's regeneration educational program consists of traditional Extension teaching methods as well as an innovative "landowner tracking" project, which involves identification of individual landowners who might be interested in regenerating their forest lands. Various means such as referrals from other county agents, other agency personnel and industry foresters have been used successfully to locate these landowners. Lack of referrals certainly is not a problem.

Landowners are individually contacted and recommendations are made appropriate to each situation. Many landowners are referred to other agencies or individuals for specific help. Consulting foresters, company foresters, Alabama Forestry Commission personnel, Soil Conservation Service people, private vendors, and students from the local community college have all been involved in the effort. Their support and cooperation has been pleasant and helpful.

The idea of the program is for each appropriate agency or individual to be of help to the landowner. The area forester most frequently serves as the "facilitator" and makes sure the right individuals are contacted to carry out regeneration and other improvement practices.

Traditional Methods Continue
Traditional Extension methods are carried out in cooperation with other agents working in the four counties. Over 400 people went on the forestry tour held in each of the four counties so that landowners could observe regeneration practices and other forest management techniques.

Result demonstrations have been started in each county, and regeneration techniques of the demonstration properties are being shown, including several natural techniques, such as leaving seed trees and shelter wood cuts. Other techniques, such as site preparation, tree planting, thinning, and prescribed fire, are also included.

Mass media efforts through five weekly newspapers disseminate information. Circular letters give landowners specific and timely information also.

Overcoming Disinterest
The area forester is also determining why some landowners are not interested in forest regeneration and improved management techniques.

Three basic reasons have been identified:

1. Some people do not trust consulting and industry foresters—in the past, a forester did a bad job, so landowners presume this will occur again.

2. Probably the major deterrent for nonindustrial landowners is the initial investment required to make unproductive land productive. For someone to take advantage of benefits from the new reforestation tax incentives law, "up front" money is necessary.

3. Some management practices are not readily available to small acreage landowners; for example, finding someone to paint boundary lines around 40 acres or to inject 10 acres at a reasonable cost.

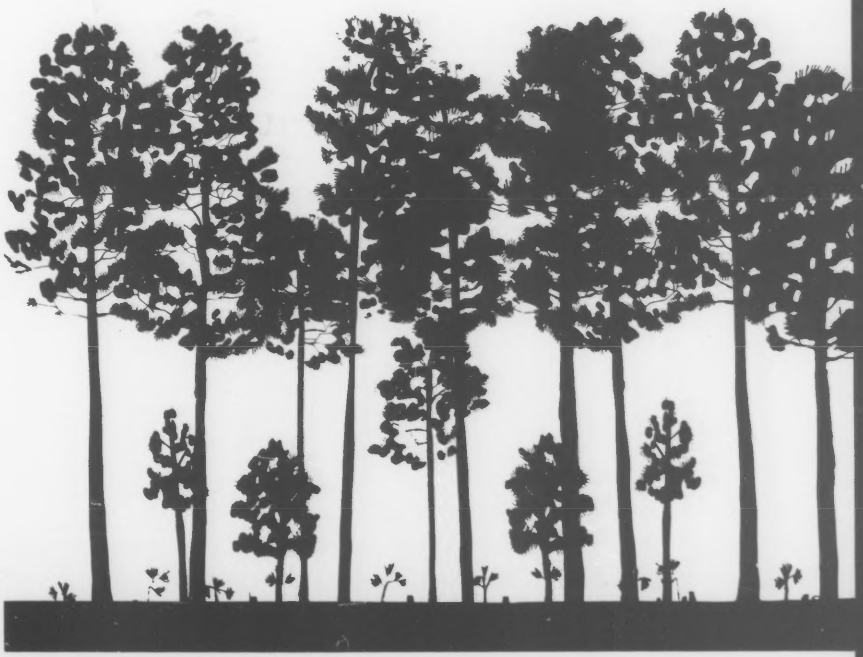
Removing Barriers
Efforts are being made to break through the barriers.

Extension is drawing landowners and service vendors together to get regeneration jobs carried out. A vendor may set up a business specifically for small acreages, which would boost the program. Of landowners now involved, 47 percent own 40 acres or less while 41 percent own from 41 acres to 500 acres.

As trained vendors become available and mistrust is overcome, the "up front" cost will likely become less of a barrier.

So far, both ACES and ARW are pleased. Frese says, "We are interested in the attitudes and good feelings created by the area forester. Results indicated by the number of acres under treatment are impressive for the first year. It is beyond our expectations."

J. Michael Sprott, ACES director, reports that "Everybody in this group is convinced that education—or the lack of it—is the root cause Alabama landowners don't regenerate their timber. What we have here is an action-and-result oriented program." He calls ARW support, which helps make the program possible, "a milestone in funding," adding that he knows of no other program similarly financed and he hopes firms in other areas of the state will follow the example. □



4-H Partnerships: A Flourishing Tradition

Andrea J. Burney
Print Media Coordinator
National 4-H Council
Chevy Chase, Maryland

Public-private partnerships are "buzz words" today. For 4-H, the youth program of the Cooperative Extension Service system, these partnerships have been a reality for more than six decades.

From early beginnings of association, when business leaders saw the need to recognize and encourage the 4-H learning experience, the tradition of private support has continued and flourished.

In 1982, private gifts to 4-H from corporations, foundations, and individuals through National 4-H Council totaled $3,781,392 — an increase of more than one-quarter of a million dollars over the previous record in 1981.

At the local and state levels, contributions from the private sector help to support all kinds of events, recognition, trips, and other experiences that enhance the 4-H program.

Time, Talent, and Treasure
While funds are important, equally important is personal involvement.

"Donors who give just dollars are getting only half a loaf," says Robert W. Scherer, president and chief executive officer, Georgia Power Co. "It is impossible to give your time and talent to leading youth and developing innovative programs without stretching yourself. And I think a corporation or an executive who misses this point is missing a great deal."

Involvement also brings commitment. Amoco Oil Company, 4-H supporter for 38 years, started with sponsoring the tractor awards program. Their involvement goes beyond the granting of scholarships and trips to National 4-H Congress and the providing of county medals. Along with The Firestone Tire & Rubber Co., another 4-H sponsor of 39 years, Amoco sponsors the U.S. Eastern and Western Engineering Events. And the companies' staff members are right there, encouraging contestants and giving them recognition for jobs well done.

"I was impressed with the active part that you, as a donor, took in the program, and I hope you will continue to show this type of enthusiasm for the 4-H members and their programs. It is important for today's young people to know that our business and civic leaders are also 'nice guys,' " James A. Rutledge, area 4-H agent, Cheyenne, Wyoming, writes to an Amoco district manager who had attended the Western Region Engineering Event.

Amoco staff worked with Extension to develop the tractor program, including new educational aids produced this year. Currently, the company president, Lawrason D. Thomas, serves on the Council's Board of Trustees.

Local Involvement
Many companies not only provide leadership at a national level, but also encourage employees to become involved in 4-H at the state and local levels.

International Paper Company Foundation (IP), a donor of the national 4-H forestry awards program since 1974, supports the program through its field staff. Several years ago, IP supplied instructors to teach forestry and wood products subjects to 1,500 urban 4-H'ers at 5 Louisiana state 4-H camps.

California IP foresters taught a 3-day leadership workshop at Blodgett Research Forest, involving nearly 50 youth.

IP also supported production of an urban forestry member manual and leader guide, which prompted Angelo R. Martinelli, mayor of Yonkers, New York, to write that the publication "What's A Tree To Me?" was a tremendous help at special Arbor Day observations.

"I can think of no finer way to celebrate the values of Arbor Day than with a gift that has true educational value, and 'What's A Tree To Me?' exceeded my expectations," Martinelli writes. "Your generosity in bringing this marvelous book into being is most commendable."

Forestry Invitational
Prospective foresters are encouraged in the industry through IP's support of the annual 4-H Forestry Invitational, held each August at West Virginia's state 4-H camp. The Invitational includes competitive and fun-filled events, in addition to the "Forestry Bowl" quiz contest. As with most donor-sponsored 4-H events, IP staff attend, provide resource support, and award certificates and medals to winning teams.

"Without a sponsor a contest like this would never be a success. No matter who wins, the contest benefits everyone involved," comments Danny Kile, a West Virginia 4-H'er who participated in a Forestry Invitational.

Dairy and Horse Awards
Likewise, Insurance Company of North America (INA), which sponsors the national 4-H dairy awards program and supports the horse awards program, involves its agents in local activities. In Pennsylvania, an INA agent annually donates a dairy calf to a 4-H'er to raise as a project. Across the country, other agents serve as workshop resources and provide meeting space for club and county 4-H events. Each year INA provides the

Left: Michael Fay (middle), manager, community relations, The Firestone Tire and Rubber Company, is representative of many 4-H private sector donors.

Below: Lloyd Besant, vice president, education and public services, The Chicago Board of Trade (right), discusses the national 4-H commodity marketing program at the Citizenship-Washington Focus Program.

guest speaker and computer workshop resources at the annual National 4-H Dairy Conference in Madison, Wisconsin.

"I enjoyed the trip to Madison more than any previous 4-H trip," says Rissa Lynn Greene, a Tennessee 4-H member. "I was given the opportunity to see some of the best cows in America and to observe different dairy systems. I am grateful to 4-H and donors for making these events possible."

Donor Company representatives also go above and beyond the lines of duty in their commitments to 4-H. One such individual, George Wilkins, manager of communications, Carnation Company, was recognized this past November at the 61st National 4-H Congress as the recipient of a National Partner-in-4-H award. Aside from encouraging Carnation's support for the dairy foods awards program, Wilkins participates regularly in national 4-H events. He also has been instrumental in continuing to supply 4-H with free, high-quality dairy foods literature and in garnering support for funding new educational aids for the dairy foods program.

National 4-H Center

One of the most tangible examples of the public-private partnership is the National 4-H Center, built and expanded through contributions from countless 4-H members, leaders, and staff together with corporations, foundations, businesses and individuals.

Mrs. J. C. Penney, widow of the founder of the J. C. Penney Company, Inc., took a personal interest in the building of J. C. Penney Hall, the main administration building on campus. She visited the site frequently as it was being completed, and she participated, along with many private sector representatives, in the dedication of the expanded Center in 1977.

J. C. Penney had taken a personal interest in 4-H. He attended one of the first regional leader forums—now sponsored by the Penney Company annually in all four U.S. regions. Donald V. Seibert, chairman and chief executive officer, has served on Council's board since May 1980.

A former 4-H'er, Seibert says he didn't learn retailing in his 4-H pig project, but he credits it with helping him learn a lot about decisionmaking and recordkeeping "invaluable to career development."

James L. Dutt, chairman, chief executive officer and president, Beatrice Foods Co., recently re-elected chairman of the Council's Board of Trustees, views his work as a personal commitment to 4-H.

Productive Venture

"4-H reinforces my belief that helping people perform to the best of their ability is the best way to run an organization and to build the character of individual members of that organization," Dutt says. "But 4-H is more than allowing individuals to perform. It is a venture between government and private enterprise that has produced great results."

Beatrice Foods, a supporter of 4-H for 15 years, has sponsored the national 4-H home management awards program for the past 5 years. In 1982, the company made a major contribution to improve the National 4-H Center's largest assembly hall.

The donors mentioned here represent a few of the many public-private partners at work. Today, 4-H looks to the future with confidence in its ability to meet youth needs as identified in several recent studies.

Recently, the Council's Board of Trustees approved an expanded effort to increase private support. That way funds will continue to be available to support the steady growth and influence of 4-H. And right along with those funds will be the people, giving their time and talent as private sector partners with 4-H. □

Raising "Woolies" in Cattle Country

Dan M. Crummett
Extension Information Specialist
Oklahoma State University

Increasing the number of sheep in the middle of Cattle Country USA is not easy, but when producers had enough interest to invest in a partnership with Cooperative Extension, it was just a matter of time until "the woolies" were an economic reality.

Oklahoma agriculture has always been known for its wheat and cattle; sheep were usually raised as 4-H projects and by the purebred industry. But north-central Oklahoma, an expanse of wheat pasture, provides a virtually untapped comparative advantage for commercial sheep production.

That vacuum began to be filled in 1977 when the sheep numbers had dipped to 72,000 head—lowest since their peak during World War II. OK Sheep Expansion, Inc., formed that year. Today, there are 117,000 sheep in the traditionally cattle-oriented state, with flocks growing about 10 percent per year. Lamb is finding its way into meat markets and family menus—even at times other than Easter!

A Winning Wool Pool
And, the producers have developed a wool pool strong enough to bypass soft markets in favor of years with higher prices.

The turnaround wasn't easy, nor is it complete. Much educating remains to be done, considering most Oklahomans have never eaten lamb, and those who have remember the mutton served in the military—hardly a reason to support their local lamb producer. But the 172 producers who make up OK Sheep Expansion are not giving up. They can raise the product; now they are looking for places to sell it.

In the midseventies there weren't enough sheep in Oklahoma to warrant an Extension specialist assigned solely to them. Some producers realized the need for additional expertise in the production and marketing of their product, and they went to agricultural administration at Oklahoma State University about a partnership proposal.

Partnership Proposal
The idea caught on, particularly when the producers agreed to put up $5,000 to help hire a specialist. Says Clem Ward, Extension marketing specialist at OSU, "It was a perfect example of what a small, organized group of producers could do with not a great amount of money." They began to see immediate, measurable results.

One result, which has been a driving force in the success of the hybrid Extension program, was that Sid Ercanbrack, sheep specialist, was assigned to OK Sheep Expansion's original six-county area during the first 3-year pilot program.

Ercanbrack, a native of Utah with two generations of shepherds and a sheep production degree behind him, was working at the U.S. Meat Animal Research Center in Clay Center, Nebraska, when he took the Oklahoma position. At Clay Center, he had marketed center lambs by telephone—an activity which would come in quite handy in a beef state with no market for sheep.

Assigned to the new project, Ercanbrack was housed in Enid—the heartland of Oklahoma wheat. OK Sheep Expansion had 3 years to make it raising and selling sheep.

Fall-Born Lambs
With thousands of acres of winter wheat pasture coming on during autumn and the peak demand for lamb set around Easter, producers needed to plan around fall-born lambs. OSU research showed a western Rambouillet/Dorset cross would do well on winter wheat pasture and also rebreed in the spring.

"To start with, we hauled yearling Rambouillet ewes out of the San Angelo, Texas, area to start our flocks," Ercanbrack explains. "We'd buy more than we need, ship them to Oklahoma, and sell the excess as replacements to help pay for the ewes in the flocks. That worked well for a while but the economy began to soften, and we were worried about what to do with the excess."

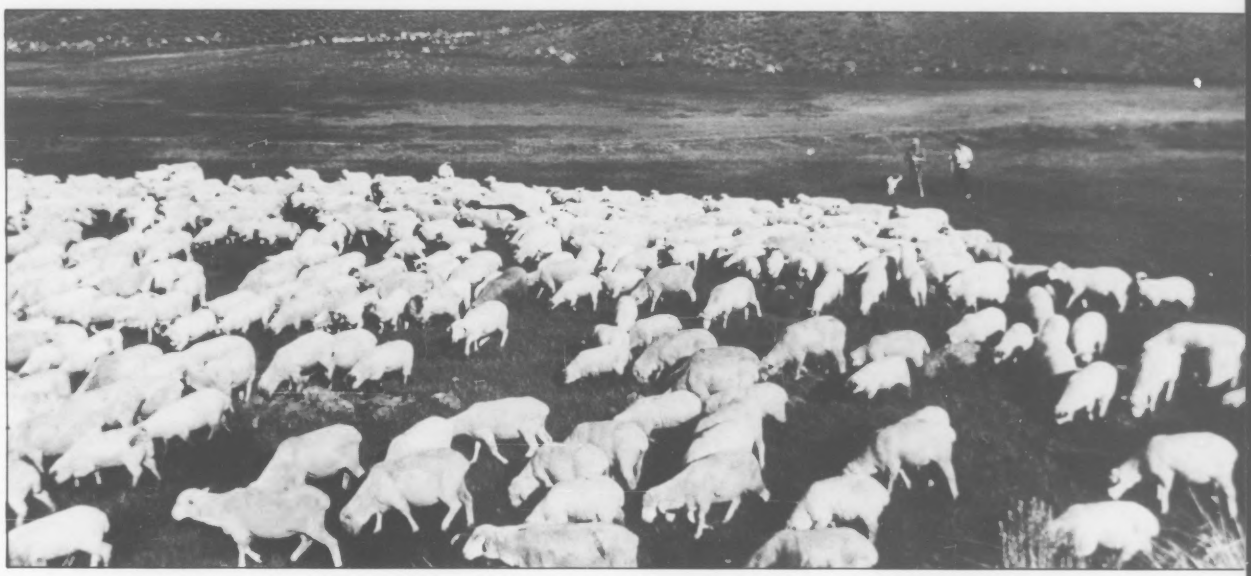
To relieve that worry, Ercanbrack worked with students and faculty of a nearby 2-year college to videotape the ewes available. This was the first video-auction held of Oklahoma sheep. In the meantime, slaughter lambs produced by the growing Oklahoma flocks were being sold through a tele-auction set up as an outgrowth of Ercanbracks' experience in Nebraska.

The tele-auction, now a computer auction, runs 30 times a year. During peak use, in 1981-82, over 15,700 lambs were purchased for out-of-state shipment.

Now that fall lambing is an accepted practice, Sheep Expansion members are working to boost efficiency with twinning and to improve management.

Pushing Lamb
The real problem is what to do with a premium, homegrown product whose traditional market is geared to holidays and is on the East Coast.

"I've always preached for producers to get their fair share of the market price, they have to push themselves up the marketing channel," Ercanbrack explains. "With that, I have urged the producer committees to look at selling lamb for consumption right here in Oklahoma. . ."



So far, that's been a rocky road because most Oklahomans were weaned on beef.

During the past year, OK Sheep Expansion members and their families have visited grocery stores and high-school home economics classes in nearby Enid, Ponca City, Stillwater, and Oklahoma City. There, they handed out lamb samples, lamb recipes, and tips on use in everyday meals.

Some Success

The effort aimed at moving 30 lambs a week in a cooperatively owned refrigerated truck, Ercanbrack reports. "We've found, however, as long as we're in the stores, heavily promoting lamb, the sales are up. When we back off, the sales drop. It's very difficult to get people to incorporate something new into their daily menus. We've had problems keeping the price competitive with pork, beef and poultry."

They have not failed, however. The group is delivering lamb to the stores, although at a lower-than-hoped-for volume, so some Oklahomans are eating Oklahoma lamb.

Also, the wool pool is alive and well.

"With the volume of all our producers, we have a sizable amount of wool for sale in Oklahoma, now," Ercanbrack says.

"In 1980 we sold 70,000 pounds. In '81, 68,000 pounds, and in 1982 we didn't sell because the bottom dropped out of the market," he adds. Producers held their wool until early 1983 when it sold for about 58 cents a pound.

Oklahoma's sheep production weathered a drop in national sheep numbers last year, with a 10-percent increase. That gives OK Sheep Expansion producers optimism.

"The organization has been a proven success so far, and I figure it will be around for a number of years," says Dick Detten, group president. "Merchandising is tough, but we haven't given up. We're going to reassess our progress and determine what to do after that."

Use Elsewhere

Although this particular project created a supply of sheep in cattle country, then set about to create the demand, Clem Ward says the approach could be used in almost any case of a lesser kown commodity.

"If a group of producers with a commodity take it upon themselves to get help from a university, the chances are good they'll be successful if they put up some funds themselves," states Ward. "It doesn't always take a lot of money, but the investment can 'purchase' some research and Extension effort which usually is channeled toward the more popular commodities."

So Dick Detten and other OK Sheep Expansion members will continue to believe in, raise, and market their "woolies" in cattle country. □

Business Conference for Working Women

Louellen Wasson
County Extension Home Economist
University of Vermont

What do women want to know about establishing a business? These were some of the topics listed by 170 participants at the "Women + Business 1983" Conference in Vermont:

- Business Management Skills
- Role Models and Mentors
- Training for Re-entering the Job Market
- Job and Career Counseling While in School
- Supportive Families
- Equitable Pay for Comparable Work.

The day-long series of workshops and general sessions was sponsored for the second time in 2 years by the Extension Service, in cooperation with several business and community leaders, and other agencies.

Why This Conference?
Extension programming has responded traditionally to identified needs and economic trends within the community. A growing number of Extension homemakers and other women in Chittenden County, Vermont, are returning to work or using their skills in small or home business enterprises. Small business workshops, cosponsored by Extension Service and the Small Business Administration, have already been assisting potential business owners, but no events have been directed specifically to the needs of inexperienced, underpaid, and overburdened working women.

Attending a conference in Boston on these concerns, I learned a lot about educating women in business. For example, women need opportunities to learn good business skills rapidly to catch up with men long in the business community. Women also need business networking contacts to reinforce their business ventures economically. So our two Vermont conferences have maintained these central themes while addressing local economic and social trends.

Throughout the "Women + Business 1983" Conference, these issues were central for working women and were treated through general sessions and small group discussions such as:

- Family Support
- Success Ladders
- Career and Job Changes
- Self-Presentation Assets
- Problems in the Workplace.

Workshops, lasting 1-2 hours, were presented in the morning and afternoon with some, such as Career Options, being repeated. A town meeting-like atmosphere existed, while concerns such as how to talk to bankers, and the future of recreation-related businesses, were addressed. Blocks of time for small group discussion and individual networking were slotted throughout the day—a continental coffee hour in the morning, a round table luncheon, and an evening reception. This conference design proved to be workable for participants because it gave many opportunities for learning and sharing ideas.

Why Do Some Succeed?
Why do some women succeed in business while others fail? Speakers agreed that ability to succeed is based on family support. A co-founder of the widely known Bennington Potters, Gloria Gill says she was fortunate enough to grow up in a home where "there was strong family support for women in business," and today she believes this led significantly to her success. Through her years in business and in education, Gill recognized that women were not being educated for a life of work in the real world. Colleges were "preparing women for a world that was no longer there," she says. Women were learning to be well-read wives, mothers, and community volunteers. In reality they were working after college and needed career counseling for their futures as working wives and single parents.

How to Move Up the Ladder
Women face lack of advancement. Eleanor Roosevelt once said, "No one can make you feel inferior without your consent." "Remembering this," Doreen Sheridan, Vice President of the Chittenden Trust Company, says, "would help us over the rough places." Women need to learn to take criticism on the job, not to see it as a personal critique, when job performance is the issue.

To develop the skills needed to advance in the workplace, Sheridan suggests that women should: (1) not sit and wait to be discovered, but go after what they want, (2) take risks, (3) play to win, not just play for the exercise, (4) learn who is who in the "zoo," who can help or hurt you to get what you want.

Childhood failures often give conflicting messages to boys and girls, which later presents problems for women in the workplace. For example, when a girl strikes out at bat in a softball game, her father comforts her and says he hopes she'll do better the next time. When a boy strikes out, the same father admonishes him and says, "You didn't keep your eye on the ball." The girl is learning that it is acceptable to fail, while the boy is learning that to gain approval, he must succeed at the assigned task.

So men and women often approach challenges and criticism in the workplace differently.

Career Options
Women often do not know how to get a better job or how to find one. Ellie Byers, a career counselor, provided job seekers with step-by-step instruction. for example, workshop participants filled out, "Are You Ready?", a job hunt preparation checklist; "My Ideal Working Condition," a wish list; "Work Values Clarification: What Do You Want From A Job"; and, a "Career/Life

Ellie Byers, a professional career counselor, provides Vermont women who are inexperienced job seekers with valuable career advice. She taught one of the popular workshops at the "Women + Business 1983" Conference in Vermont.

Planning Chart." Participants also received a "nontraditional job hunting strategies self-help bibliography" for further readings on career help (contact Wasson to see these handouts).

Self-Presentation
How women express themselves in family and work situations often dictates how they are perceived. The failure to understand the differences between how men and women speak was examined in one workshop, "Finding Your Own Voice." Women think of themselves as helpers and care givers. Many women are at ease with this and it is carried over into the workplace.

Workshop participants learned that more women than men take relationships into account in decision-making. This difference could result in two alternate viewpoints about one situation. For example, a man would decide to appoint committee members based on their political influence, while a woman would tend to appoint people with whom she could work effectively and cooperatively.

Another aspect of self-presentation was addressed in the workshop, "Packaging Yourself: Your Graphic Image." As women in small businesses frequently present themselves and their products poorly in a self-effacing manner, this slide-tape presentation showed the participants how to achieve a better image. By using bold color, creatively spaced letter type, telescoping graphics, good photography, and simple layout, they could change their image from obscured to important. They learned how to redesign their business image to be more dynamic and competitive.

Brochures and pamphlets women put out sometimes depict a less than professional image. An example is mimeographing covers for publications. For a little more money, a much better cover can be produced in print, sometimes using two or more colors. The brochure for the conference was designed based on these principles of improving the image of Extension programs.

Problems in the Workplace
Women continue to face inequity in the workplace, such as unequal pay for comparable worth. More than 50 percent of women perform traditional women's work. In the workshop, "Money and Work," women learned that they would need to change occupations or redefine the jobs they had to gain equity. Pay inequities are staggering: At 1981 pay level, the typically female occupation of registered nurse averaged $15,000 a year, while the typically male occupation of doctor averaged $80,000 a year.

Another problem women deal with is the lack of ability to gain and manage power. Power provides a means for getting things done. Inexperienced women should prepare themselves well before seeking positions of power.

Power and its effective use call for skill and judgment; without these, power will not last.

Evaluation
At the end of the conference many participants stated that they felt the day had been filled with opportunities for personal development and business skills training. Of those attending, 93 percent filled out a comprehensive questionnaire that we will review and analyze. The data will show a profile of the participants, their educational needs, personal goals, and business objectives.

Throughout the planning of this year's conference, many agencies and businesses contributed to the overall success of "Women + Business 1983." The Small Business Development Center of Vermont, the Small Business Administration, the Vermont Retail Association, and Business and Professional Women's Club provided major direction on the planning committee. Other influential members included Extension Advisory Board representatives, home economists, real estate and advertising executives, human development specialists, attorneys, and small-business owners.

With this expertise, Extension produced an exceptional educational opportunity for working women. Extension is helping to fill a gap for many women who have been struggling to acquire business skills and career planning techniques. If lack of knowledge on these subjects is typical of women's educational preparation for life, as one of the speakers pointed out, we could conclude that today's frustration among many working women results from yesterday's education, or lack of it, and of having grown up during a time when few women were seen as achievers in the business world. Extension will continue to address the needs of this audience as we plan future programs. □

A Model of Program Image Development

Stu Sutherland
Public Information Officer
Extension Service, USDA

The nationwide 4-H educational program for youth is a classic example of "private sector involvement."

That is, at the national level there has been, and continues to be, historic support by corporations, foundations, organizations, and individuals willing to share resources of time, talent, and money. They provide supportive printed materials, competitive activities awards, and in many other ways, they assist this youth-oriented program.

On a different scale, but just as enthusiastic, is the support for 4-H by the private sector at both state and local levels. Such support may range from a "national" scholarship award sponsored by a state association, to a 4-H boosting advertisement in a small town weekly newspaper that's sponsored by a local business during National 4-H Week.

An Idea Is Born

The private sector corporations of our country commonly advertise their "wares" in almost every possible media. They spend "megabucks" to hire the creative talents and services of "ad agencies" to "market" their products.

In very general terms, a company with a product will invite "ad agencies" to: see what the product is; prepare a prospectus or portfolio of how they would advertise the product; and, to then bid on the amount it would cost the company to avail themselves of the services offered by the "ad agency" to "sell" the product to potential consumers.

The "model" to be discussed below relates to all this: marketing, "ad agencies," and "selling" something—4-H. It began as a simple idea: get some help to promote the 4-H program in one (Virginia) county. That help came from a marketing student in a college close to the county.

The Megabucks-Saving Idea Grows

James M. Orband, Extension agent in Yorktown, Virginia, a town near the College of William and Mary campus in Williamsburg, remembers how in 1979 he needed a speaker for a district-wide Business Management Workshop. He contacted professor Bill Rice of the School of Business who was willing to help out by giving a talk on "promotion."

"I later thought," Orband recalls, "of how the college students (in marketing) might assist us in promoting our services. I talked to Bill about having one of his senior students do a study project for 4-H. He agreed and assigned me a student and that student prepared a great program for York County. This led, in 1982, to talking to Bill about his class doing a national marketing program for 4-H."

Even though a college class is not a private sector "ad agency," it would still cost the students some money to buy the supplies and services (such as photographic development) if they were going to create samples of their marketing ideas and show them to anyone, and particularly to their professor for a final grade.

The 4-H budget in York County could not absorb the extra cost, and neither could the state 4-H office at Virginia Tech. They suggested Orband contact the national office at USDA since it would be a "national" marketing program.

Thus, I and others in the Extension Service-USDA 4-H-Youth office held a conference call involving the agent, the professor, and ourselves. We liked the basic idea, we were pleased with the realistically low $2,500 figure for needed funding, and we certainly saw the potentials involved.

The Idea Develops Into A Plan

What was our $2,500 going to buy for us? It turned out this way. There were students in two marketing classes who could focus their scholarly and creative talents on the project. The classes were senior-level courses, but the students involved were a mixture of juniors and seniors, most in the School of Business curriculum. The two classes were each divided in two, so the total of 86 students were assigned to one of four groups.

Their assignment was to consider themselves as "private sector" advertising agencies who would make formal presentations (with a fully developed portfolio of marketing methods) to a panel of judges as their "potential clients."

One of four marketing student groups prepares a 4-H advertising promotion based on the national 4-H theme, "4-H . . . Building On Experience." This group's promotional package included slide shows, display/exhibit structures, and story-boards for TV spot advertisements.

The "Client" Provides Backup

Prior to the first class meetings, as a coordinator I delivered background items to the campus in January so the students could "bone up" on the 4-H program and all its aspects. There were slide sets, publications, two Gallup surveys on 4-H image, celebrity and other more program-oriented television spots, historical background, and a listing of what the students were to focus their marketing skills around.

Besides media elements, necessary for a nationwide campaign, we specified that the major objective was to "create a greater awareness" of the 4-H program. That is, to help people understand that: 4-H is for all youth; 4-H is up-to-date; 4-H significantly impacts the lives of members, volunteers, alumni, families, and communities; 4-H builds character, develops leadership and decisionmaking skills; and, the strength of 4-H comes from the wide variety of volunteer and professional people who back it up.

We wanted the students to develop "marketing methods and materials" that could be adaptable or useful at the county office level, though they might be produced in bulk at either the state or national levels. We offered to consult via phone or during student visits to our Washington, D.C., offices.

Since most of the materials would be for county use, and since the enthusiastic originator of the idea was only a few miles away in York County, Jim Orband got the brunt of the student questions and visitations. It was the action, activities, and the youth and adults involved at the local level that interested the college students most. After all, local people would be the "audience to sell" with the four groups' promotional marketing plans. It also helped that the professor and a few of the students were former 4-H'ers—though a big majority of the students had not been.

A Panel of Judges

As a "company with a product" (the 4-H program) to market (by creating a greater awareness), we needed a panel of judges. The panel would consider each of the four "ad agency" (students) presentations as the four groups each vied for our "You Are The Best" determination. Each judge, either during or immediately after every presentation,would be writing both criticism and praise responses—and professor Rice would use those written remarks in his critique with the class members.

Creation of a panel made the presentation situation faced by the students as realistic as possible, as they would be facing exactly that (the real world of advertising) shortly after their graduation.

Faced with four groups who would give rapid-fire presentations lasting somewhat less than an hour in length for each of the groups, it was

Reviewing a slide set for their 4-H marketing presentation are students at the College of William and Mary, Williamsburg, Virginia. Marketing students gained class credit while developing a "national marketing program for 4-H."

decided to have two sub-panel teams of 5 judges each. Five persons per team would keep us away from any problem of a tie vote, and as the facilitator and 11th person on the panel I would move the responses of the judges along as we switched back and forth from group to group.

The Student "Ad Agencies"
The official national 4-H theme to be implemented later in 1983 is, "4-H. . .Building on Experience," and one of the four student groups used that as their theme. The other three groups chose different themes, with supporting materials for them, for their attempts to "sell their potential clients" (panel of judges). In a year or two, one or more of their suggested themes might be used, but many of their innovative ideas will be put to good use as soon as feasible.

"Picture the Possibilities"
The first group's theme, "Picture the Possibilities," was chosen and developed by the 20 students involved to create awareness of the 150 or so project areas within the total 4-H program, and designed to create a "greater understanding" of the opportunities which 4-H provides to all youth. The thematic message was to make both youth and adults aware of all this, and to get them to "picture the possibilities" for themselves (put themselves in the picture) when they chose to get involved.

The "package" they presented included two interesting visually cohesive ideas, one of which was fully developed and used—a "flying clover" 4-H "logo" which was seen throughout most of the presentation and related materials. The second, less developed idea was a caterpillar yearning to mature into a 4-H butterfly.

For print media, the group developed items for magazines and newspapers, brochures, fliers, yellow pages ads, a letterhead, clip art for local use, a listing of other slogans, and a slide show script. They presented a slide show, produced in six interrelated segments, with music and narration. For non-print media they designed and built three display/exhibit structures, provided ideas on use of non-print media, and provided "how to" ideas to solicit business support in the promotion of 4-H. They noted that all of the above would be for use at state-county-local levels.

For national-level advertising, they presented newspaper "fillers," sketches of possible clip art ideas for national use, 10- and 30-second radio spots, and an example of a 30-second length television commercial in "storyboard" form. The radio spots sound effects were very well done, including a mooing cow in the back seat of a car—which brought chuckles from judges and all others attending, and certainly would have caught the interest of listeners.

"4-H: The Ace of Clubs"
The theme chosen by this group brought mixed reviews from the panel of judges—ranging from: "Emphasis on 'club' is refreshing;" to "(theme) approach is negative, focus on 'club' (is) limiting since 4-H members may be outside of the club delivery mode;" and, to "Ace of Clubs is great!" Most judges did agree that the way the theme was developed and used throughout the total presented "package" was well done, making the approach much stronger.

It became quickly clear that this second group was a more audio and visually minded group of 19 students than the first. Their strongest contributions to the day were radio spots for young people and for Spanish-speaking audiences as the major thrust of their marketing campaign, with other media forms and uses in support roles. This group also developed some potentially interesting television storyboard ideas, and some professional looking artwork. They were the only group to provide an expenditure budget to cover production costs for campaign materials.

"4-H: Building on Experience"
This group was the first of the afternoon, following a "student catered" lunch. As the panel of judges walked in they could easily see this would be the "showboat" group of the day. The front of the lecture room (where the blackboard would

be) was covered with red, yellow, orange, and blue balloons arranged in rainbow form.

These rainbow colors were carried throughout this group's campaign presentation and materials. It was later pointed out by more than one of the judges that 4-color use in almost all their supporting materials was an overly expensive situation in a time of tight budgets. They did provide potentially useful things, amidst all their glitter. One of them was a free-standing exhibit made by connecting two interior house doors with hinges into a "V" shape, with attached materials on both sides in support of 4-H program efforts at a local or state level.

They were also strong in direct-mail materials and provided a professionally done and interesting slide presentation. Somehow the "theme" got lost in all the color and gadgetry, but several excellent individual ideas emerged.

"4-H: A Chance to Explore"
This was the most "graphic-minded" of the four presentations, including a graphic contemporary version of the well-known and recognized 4-H clover. The group also presented a too long but visually strong slide show.

Their radio spots which were unique, up to date, and had great music, were tied to their chosen theme in such a way that they would be attention getting (very important on radio). They also developed very good magazine and newspaper advertisements that would, with some changes, provide an updated image to 4-H.

Student Presentations
One student, while discussing his group's new logo idea, commented that present (or existing) promotional materials for 4-H (of what he had seen in background material furnished, and in county offices visited during the project) was "one step above dull." Reflecting on all four of the student presentations there was very little dull about any of what the judges saw that day.

We were interested in variety of ideas, materials and other things which could be adapted for use—and there was a wealth of that. It will be sifted, sorted, discussed, and quite a bit of it will find some use.

Was It Worth It All?
Yes! Speaking of one of the offered themes, one of the judges commented that it "lends itself to strengths of 4-H—but puts it in modern dress." The fresh ideas of these college students, some of their new ways of looking at things and life around them, and the focusing of their talent, ambitions, and various skills on the single problem of how to make people more aware of one (though multi-faceted) youth-oriented program was well worth it.

What they have given us to ponder over and use is more than equal to our expectations, and exceeds in potential value to 4-H the relatively few hours and dollars that we and our private sector judges contributed before and during the "day of judgment."

Would this Model Work for You?
That's a little harder to answer, but there is every reason to think it would.

It is most likely, should you want to do something along this line, that in your (or the closest) land-grant university or a more local university there probably is a professor and students willing to tackle a project like this.

Due to the professor involved in our project, the students were thinking marketing, advertising, and promotion. . .as were we. Other colleges and universities have journalism schools, so perhaps something along the lines of helping (through a class participation project) county offices with student-generated ideas for press releases that are up-beat and "dressed in modern clothing" might be another approach.

Good, attention-getting artwork of all kinds can help support any program effort and many higher education locations hold potential for student involvement. Skits are often effective in aiding educational efforts.

It really depends on your own needs and the arrangements you could make to involve a single student, or a class of 100. The slide set that one student prepared in the original William and Mary contact with York County, Virginia, is good and "sells" the idea of 4-H in that county to both youth and adults.

Last Words on this Project
There's no intent to write a formal step-by-step report as a conclusion to our project with William and Mary. The illustrations used here may perhaps give an idea of the involvement and the end results—some of them are sure to show up down the line in our new 4-H promotional efforts. By the way, we judged the first group to have done the best presentation of the day.

It is an intense experience for the students involved. As one said to me after their group presentation was done, "that's the hardest final I ever took in my life." Then added, "Thanks for helping make it happen for us all." □

Log On With LOGIN

Theodore Maher
Program Leader, Local Government
Natural Resources & Rural Development Unit
Extension Service, USDA
and
Philip Favero
Extension Economist
Community & Resources Development
University of Maryland

More and more often, scientific and technical issues are appearing on local government agendas. Racing against time, strapped for professional staff support, and facing too many demands for decisions, local officials strive to deliver the efforts that are needed and expected. Electronic means for handling information can help these local officials make decisions and solve problems.

To find solutions to problems involving scientific and technical factors, local officials require better information. Often, answers, or, at least alternatives, already exist. What is lacking is not the know-how but the *system*, or arrangements, for local officials to find information when they need it.

Cost-Cutting Technologies Needed
Under the "New Federalism," local governments are turning to the private sector for information on cost-cutting technologies and innovations. Increasingly, local officials are seeing the benefits of an information base about alternative technologies (management methods, equipment, organizational arrangements).

One such public-private sector partnership for information exchange is LOGIN, the Local Government Information Network. Extension Service-USDA and the Maryland Cooperative Extension Service are serving as catalysts for local use of LOGIN.

Control Data Corporation (CDC) is a private sector supplier of technical information. By linking in partnership with CDC, Extension makes use of already existing operations that provide electronic-based information about technical management, equipment, and institutional solutions and helping apply these solutions to local government problems.

LOGIN to the Rescue
As intermediary for LOGIN, Extension quickens the flow of technical knowledge between local governments and industry on these and other issues and can match the universe of technical assistance to user needs.

For local officials, the need for information is immediate. Crisis politics call for fast responses. Take the case of waterborne waste reuse. The local official wants to know what technologies are available? How thoroughly have they been tested? What risks are involved? What alternatives are available? What are the capabilities and limitations of different sizes of system? What can go wrong? These answers and others are available from LOGIN.

LOGIN, the most generalized of existing local government information bases, contains summarized experiences and case studies from other jurisdictions; technical data and "how-to" information; a constantly updated bank of new technologies, products, and information resources; and contacts for further information. LOGIN information topics include: economic development, education, the elderly, electronic data processing, energy, equipment, finance, procurement, solid waste, transit, waste water, and water supply. LOGIN's 14,000 pages of information encapsulate specific local government experiences. This private sector system available to Extension could not be duplicated for many times the original investment.

Many communities have found useful information in LOGIN's files. For example, Lewis and Clark County, Montana, through its Extension agent, received timely information with cost-saving potential to help officials decide on disposing of public facilities, some of which were on the historic register of buildings. North Carolina Extension obtained information on sewage treatment alternatives and the use of sewage effluent for irrigation.

Speeding Innovation
Local governments implement new technology slowly. Individuals or a set of individual innovators within local governments who work with decisionmakers can introduce information, assess its expected consequences, encourage internal support and promote the necessary conditions for initial use of the new technology. Extension specialists and agents can identify and assist local innovators to enhance this key factor. Extension personnel become the catalysts and brokers between innovation and its potential users.

Technology Transferers
Extension workers can assist local governments through electronic information service in several ways. First, they can meet existing demand created by fiscal pressures for accurate, objective, timely, and relevant ideas. State Extension specialists can access electronic information services, identify useful innovations, adjust the technologies for local conditions, and introduce them to local government audiences. Field agents, also working with technologies, can identify and assist innovators within local government.

Offering electronic information services to local governments also lets Extension introduce related educational programs, in public finance, economic development, natural resource planning, or other subjects designed within Extension specifically for the local government audience. Other Extension programs, less obvious yet not less relevant to local government needs, include those in the physical and

biological sciences, engineering and consumer services—programs traditionally provided by Extension to private sector audiences.

Many Programming Methods

Extension workers wanting to meet demand for new technologies within local government by using electronic information services such as LOGIN can choose from three levels of programming. First, they can disseminate information with a minimum of analysis. Specialists identify relevant units of information stored in data bases and work with agents to convey those units to local decisionmakers who have information demands. Agents identify and assist local innovators.

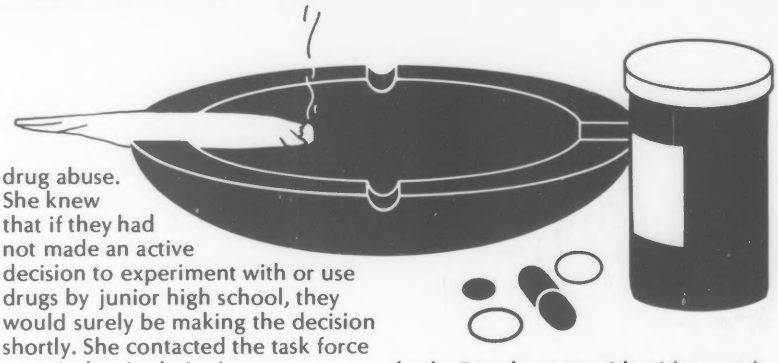
Second, Extension could supplement information dissemination by providing inhouse educational programs to local governments. Programs to meet educational demands could include obvious offerings such as government budgeting methods or innovative offerings such as horticulture advice for municipal parks' managers.

Third, Extension could link information and education needs of local governments in a form of networking to resources located within and outside Extension, universities, government, and the private sector.

Providing information and educational programs to assist technology transfer in local government is not simple or easy. But Extension can use an emerging tool—electronic information services from the private sector—to meet the rising demand of local governments increasingly squeezed by fiscal constraints. □

Attacking Teen-Age Drug Abuse

Peter E. Shumway
Extension Community Development Specialist
University of Georgia



Drug abuse is a tough topic. Parents want it to go away. Kids want to avoid being hassled with questions concerning their drug activity, if any. What used to be an urban problem has become universal. In the face of this situation, what does an Extension agent do? That is what Shirley Greeson in Taylor County, Georgia, asked herself as drug-related news reached her county newspaper and questions began filtering into her office.

Since a Drug Abuse Task Force had started work at the state level to determine the Extension agent's role, she began there. Drug surveys had been carried out with Extension assistance in two rural counties in Georgia. Volunteer leaders in each community had blitzed the school system in their county. They surveyed all 8th through 12th graders in school on that day, using a survey formulated by Doug Bachtel, Extension rural sociologist.

The survey was designed to determine actual illegal use of drugs, including alcohol, by teenagers. This information could later be used to develop a program to combat drug use by high school students. Volunteer leaders were used in the classroom with the schoolboard's blessing to make the situation as nonthreatening to the youngsters as possible.

Survey results showed when, where, how, and why kids used drugs. Moreover, it established that drugs were prevalent in these communities and that, although use was slightly below national averages, experimentation with and use of drugs were widespread among these youngsters.

Start With Junior High

Greeson decided her best role would be to educate the 7th and 8th graders in her community about drug abuse. She knew that if they had not made an active decision to experiment with or use drugs by junior high school, they would surely be making the decision shortly. She contacted the task force to assist her in designing an educational program to teach her community's youngsters about decisions concerning drug use and abuse.

The local high school principal showed her confidence and faith in Greeson by allowing the time during school for this serious subject. The project was expanded beyond teaching to include in-service training of teachers after school, and a community program at night so concerned parents could hear what their children had learned during the day.

Greeson and Community Development Specialist Pete Shumway worked out a three-pronged series (available from the author). They would ensure that hazards of drug abuse were brought vividly to the attention of the youngsters. They wanted youngsters to be aware of what it is like to become addicted to drugs, and of how their learned values enter into decisions regarding drug usage.

The program was piloted with the idea that any county in the state, given this direction, can find the resource people available, close to their communities, to provide the proper educational material for youth to make valid decisions on drug use.

Telling 'em Like It Is

A man who worked for a nearby mental health clinic addressed the group on the hazards of using drugs. He also assailed the myths about drug abuse, emphasizing that drugs, when abused, harm the body. People react with widespread differences to drugs. Marijuana is several times more harmful than cigarette smoke. Drug purity is not regulated and there is no way to determine the potency of street drugs. Illegitimate drug use is illegal, can be a rip-off, and is just plain stupid.

Restored Life

A former addict-turned-counselor gave a stirring personal testimony of his drug use, abuse, and turnaround in his life. He now helps kids deal with drug-related problems. At the evening meeting, concerned citizens not only heard the counselor's tale of collapse and comeback, but also realized that they are role models for kids and that their personal use of drugs affects their youngsters.

The final session, a self-help program, showed how to clarify the kids' own values. The program stressed the fact that while parents have influence over the youngsters, *the youngsters make their own decisions.*

Taylor County, through Shirley Greeson, has learned an important community development lesson. When a community works together toward a common goal, it makes progress.

Note: For outline of this series and actual drug surveys, contact Pete Shumway, Community Development Specialist, University of Georgia, Athens, Georgia 30602. □

Oklahoma's Young Agricultural Leaders

Dan M. Crummett
Extension Information Specialist
Oklahoma State University

Thirty young Oklahoma farmers and agribusiness professionals are developing leadership skills and broadening their horizons through a 2-year private fund/university project.

The Oklahoma Agricultural Leadership Program, like similar programs in Michigan, Montana, California, Pennsylvania and Washington, started life through a $200,000 private grant from the Kellogg Foundation of Battle Creek, Michigan.

Keith Scearce, Oklahoma State University (OSU) Extension farm policy specialist and director of the OSU program, says the objective is to develop better leaders for Oklahoma agriculture.

"It's not to start another farm organization," Scearce states. "These young men are already members of other organizations, and they will go back to these institutions and use their leadership make them better."

Seminars and Travel
The participants, carefully screened nominees from age 25 to 40 years, spend about 28-30 days in seminars and selected travel experiences during their 2 years in the program.

The first year, the group traveled within Oklahoma, to the state capitol, among other spots, and outside the state to Kansas City; Albany, New York; New York City; and Washington, D.C.

On tour, the young leaders met with state and national representatives, research scientists, the Secretary of Agriculture, delegates from the Soviet Embassy, consumer advocates, and producers in Oklahoma, New York, and Virginia.

The second year will include more seminars and touring—this time an international trip, Scearce reports.

An educational program of this sort is expensive, however.

"We're talking about a $275,000 or $300,000 project," Scearce said. "Each participant is paying $500 tuition, but this is just a small part of the cost of the program. We look at it more or less as 'earnest money'."

Charles Browning, dean of the OSU Division of Agriculture, stresses direct funding for the program does not come from the university. OSU's contribution to the program is in the form of assistance with seminars and Scearce's time spent directing.

Unabashed Advocates
That's where the Kellogg money comes in.

"We are unabashed advocates of leadership development," says Gary King, Kellogg Foundation representative. "We try to assist in getting these programs started, then phase out financial support as local support increases."

Scearce states that the idea for the program came from a meeting OSU representatives attended in Spokane, Washington, where a presentation was made concerning young farmers in leadership training in another state.

"After the group returned, and sought input from various ag leaders, it was apparent the need was great in Oklahoma for a similar program," he reports.

An advisory council was formed, guidelines were set, the course of the program was developed, and the first participants were sought.

The 30 selected came from about four times that many applicants.

High Hopes
"I think it's the best program to come out in Oklahoma since the Extension Service," says Lloyd Long, member of the advisory council. "We're going to train the real leaders in their communities. These young men don't all think alike, but they can agree, and that's what we need in Oklahoma."

With high hopes for the program, and the desire to see additional private funding channeled into its support, participant Richard Lee of Guymon, Oklahoma, looks to the future. "If we can turn out 30 leaders every 2 years in Oklahoma, we can help shape the agricultural policy of our country," Lee believes. □

Reach Out To Antigua

John Mann
Director of Publications, Clemson World
Clemson University, South Carolina

A Peace Corps volunteer on a West Indies island—isolated from life as we know it—sent out a cry for help. The call eventually reached Clemson University and, as a result, over 5,000 South Carolina Extension Homemakers went into action.

More than a year later, their efforts bore fruit.

Jeanne Brown, a recent teacher of adult education classes in Columbia, South Carolina, 3 years ago signed up with the Peace Corps to do rural Extension work overseas.

Brown ended up on Antigua, a 100-square-mile dot in the Atlantic east of Puerto Rico, and was assigned as a teacher of high school home economics in a new school, with 136 boys and girls, aged 11 to 16, as students. She found Antigua an idyllic setting, with year-round tropical climate and 365 beaches—but she also found plenty of problems in paradise for a school teacher.

Poverty is a way of life for the natives in this independent nation, formerly a British possession, and Jeanne Brown found that most food and other necessities had to be imported at exorbitant prices.

Cry for Help

In November 1980, shortly after arrival in Antigua, Brown wrote to South Carolina Congressman Floyd Spence, requesting information on textile manufacturers, swatches of material from industry, and any other educational material available. The letter reached Judith Kline, a clothing and textiles specialist with the South Carolina Cooperative Extension Service, and she collected more than a dozen texts on textiles and home economics. Sending these to Brown, Kline asked for a list of things she needed.

At the same time, Kline suggested to the South Carolina Extension Homemakers' Council's clothing and textiles and international committees that they sponsor a service project to help Jeanne Brown and her students. Tom Mounter, assistant to the state leader of Extension home economics programs and advisor to the group, approved and notified Congressman Spence.

Gift from the Gods

Meanwhile, Jeanne Brown wrote back to Judy Kline in February 1981: "Your offer of help is like a gift from the gods. We can use everything; when you have nothing, a crumb is like a cake." She said they would welcome fabrics for aprons, pillowcases, and summer clothing; also needles, thread, seam binding, buttons, and zippers, plus books on simple sewing techniques, dressmaking, ironing, nutrition, and food preparation and preservation.

At the state meeting of the South Carolina Extension Homemakers' Council in June, the call went out for help. Over 5,000 women in the clubs went to work under the co-leadership of Edna Ivey of Travelers Rest and Mary Berkaw of Summerville.

"I thought at first we would get 300 to 400 pounds," recalls Kline, "but as reports started coming in, I was staggered. The people of our state have really gotten behind this project and made it go." By February 1982, more than a ton of material, carefully boxed in accordance with specific instructions, had accumulated.

Meanwhile, Council members had to tackle another problem: how to get together the money to ship this mountain of goods by air. "Those ladies, bless their hearts," says Kline, "raised more than $2,000 through bazaars, bake sales, solicitation, and personal gifts. We were able to pay the freight and even had money left over."

At last everything was ready to go. Extension staff members at Clemson University loaded 2 vans with 176 boxes—3,247 pounds of cargo—bound for the airport. Shipment was made on March 24, 1982.

The Big Day

To illustrate the impact of, and reaction to, the massive gift, here are some of Brown's comments in her letter to Kline of April 2:

"Words cannot express the great big 'Thank you' I would like to communicate to you and all the wonderful women and their Extension groups in South Carolina. I'm so proud to be from South Carolina I could burst!" □

Extension Stars On TV

Janet Wilson
Extension Consumer Education Specialist
University of Nebraska, Lincoln

Gaining national television exposure for the Cooperative Extension Service was not a conscious goal when I wrote some news articles last summer on impulse buying and compulsive spenders. But because consumers are looking for ways to limit spending, to get more value for money spent, and to stretch the proverbial dollar, I thought that articles on this subject would interest everyone. In addition, compulsive spending is a behavior that is easier to hide from others than drinking, overeating, or gambling; it is also a behavior that, in more affluent times, has been associated with "financial success" or "keeping up with the Joneses." So I thought that compulsive spending might be more of a concern than anyone realized.

It certainly was! The storyline was picked up by the wire services, as many Extension releases are, and used coast to coast. To my surprise, it aroused intense interest from news reporters nationwide and several persons from radio talk shows who requested live interviews.

Donahue Show Calls
Then came another unexpected phone call—from the Phil Donahue Show. One of the producers had seen the article in the Chicago *Sun-Times*. Her challenge to me was to "find a panel of compulsive spenders and then call me. We might be interested in doing a show on that theme."

I suggested that a psychologist could make a valuable contribution to the discussion. Because compulsive spending is often accompanied by other compulsive behaviors, a psychologist could provide insight to the problem.

Finding Compulsive Spenders
With full support and cooperation of Extension administrators and co-workers, I set out to find "compulsive spenders." We called Extension agents who conduct financial management programming, nonprofit Consumer Credit Counseling Services in the state, credit unions, and counselors in general.

And the old domino theory worked again! One compulsive spender knew and recommended another and we soon had several candidates. A man in the original list was rejected based on "not being introspective" and being "too rough around the edges." Others were "too meek" or their problem was not sufficiently severe.

Preparing for the show took 7 weeks; dozens of phone calls; extensive library research; interviews with prospective panelists; and countless conversations with administrators, co-workers, and the show's producer to finalize plans. My first contact with the producer had been on October 11; the show aired live in Chicago on November 29.

On the Show
Appearing on the Donahue Show was quite an experience. During our briefing before taping, Phil Donahue told Dr. Fawcett (the psychologist) and me that the audience is the key to his success.

If either Fawcett or myself had something to say, we were to interrupt, talk over, be aggressive, "get in there."

Of the panelists, only Dr. Fawcett and I were introduced by full name and "place of origin." For me that meant being introduced as "Consumer Expert—University of Nebraska." The show's staff said "Cooperative Extension Service" was too long to put on the screen. So, it became a special challenge to me—to emphasize that the Cooperative Extension Service is an educational source for individuals and families, available in every county in the United States.

Being on the show let us alert a national television audience to the subject of compulsive spending, as well as acquainting them with the Cooperative Extension Service.

The show's popularity came home for me when I learned that there is a 2½-year wait for audience tickets.

If interested, you can get a printed script for $3.00 and a tape for $50.00 from:

The Multimedia Program
Productions, Inc.
140 W. Ninth St.
Cincinnati, Ohio 45202.

Restrictions for the tape include: It *cannot* be duplicated; *cannot* be used for commercial purposes; *may not* be shown to an audience where admission is charged; and *may not* be broadcast in any manner.

Tips for Showtime
" 'How you say it' can be as important as 'what you say.' " Although that's not a new idea, it has particular relevance when working with the media. And "you gotta have a gimmick" to get attention. Both held true in my experience with the Phil Donahue Show.

When asked, "Are you a compulsive spender?", people often say "Oh, I am." But on further discussion, they find they really aren't. *Impulsive* spender—yes.

Appearing on the Donahue Show was both a fascinating experience and also an excellent opportunity to present information on an important topic. I encourage others to seize the same opportunity if it comes along. □

Parallel Partners

Betty Fleming
Program Leader
Information and Communications Staff
Extension Service, USDA

What do an educational, outreach organization and a trade association for life insurance companies have in common? The answer is plenty!

Cooperative Extension Service home economists have long been aware of the American Council of Life Insurance (ACLI). Both organizations have some parallel educational mission and interests. Both organizations have some specialized resources and expertise to bring to a working partnership. The CES-ACLI relationship has grown through the years. It's "blossomed," you might say, and the "fruits of their labors" are sweet!

Getting Started

"We've long recognized the Cooperative Extension Service as an effective delivery system for information," says Barbara Bey, ACLI Director of Community Services and Consumer Relations. "They're the biggest user of our *Family Economist* newsletter which dates back to the '50's." Bey says until the midseventies, however, the relationship consisted of ACLI supplying their newsletter and doing occasional slide-tapes for CES use.

But in the midseventies, ACLI and Extension started to explore mutual concerns for helping people manage their finances in the midst of a changing and volatile economy. A variety of programs, literature and activities resulted. Cooperative efforts involved ACLI, CES, Extension Service (ES)-USDA, and the National Extension Homemakers Council (NEHC), each making a unique contribution to the partnership.

"In 1976, we started working with ES family resource management specialist Josephine Lawyer," says Bey. "An advisory committee of Audrey Guthrie (West Virginia), Georgia Smith (North Dakota), Denise Mateiic (New Jersey), Bea Paolucci (Michigan), Ed Graham (Director, ACLI Education Services), and myself was formed."

Worksheets Produced

The advisory group identified inflation as a problem affecting everyone. They also recognized that many Extension home economists needed help in teaching resource management. Their first project was to develop and produce two matrices—worksheets designed for Extension home economists and volunteer leaders to use in teaching how financial needs and tasks change over the life cycle. "Audit Financial Management Matrix, Part I" and "Adult Financial Management Matrix, Part II" were made available by ACLI, in quantity, to all CES home economists. "These worksheets will remain current indefinitely," says Barbara Bey. "We use them with many other groups and organizations, too."

"After we'd developed the matrices, I knew we could do more," says Bey. "The advisory group had spent 3 days in New Orleans, working day and night, to get those materials put together."

More Joint Efforts

A 20-page handbook for program leaders, "Adult Education In Financial Management," described how to choose, develop, and conduct an effective program in financial management for adults. No longer available, the publication was distributed to every county professional and was targeted at CES audiences.

ACLI produced with ES input and review a program guide called "Money in Our Children's Hands," targeted to Extension homemakers. Introduced by NEHC as part of their program of work, the material was used by hundreds of clubs and is still available.

Also available, "Guiding Your Group," is another joint effort. This attractive packet contains resource materials to be used in financial planning workshops and went to all CES and NEHC people.

North Dakota state specialist Georgia Smith, on the ES staff for a year as family resource management specialist, cooperated with ACLI in producing *A Consumer's Guide To Life Insurance*. Published by ACLI, the booklet describes the rapid changes in life insurance coverage. It is being made available to CES staff and other groups.

During the late seventies and early eighties, ACLI participated in several national meetings, such as the National Association of Extension Home Economists (NAEHE) national sessions held in West Virginia and Virginia. New materials were introduced to the agents and suggestions exchanged on how CES staff might use the materials.

Multimedia Approach

"We did some public service spots for radio and TV," recalls Jo Lawyer, now retired from ES. "The TV spots were slides produced by the West Virginia information staff. Those spots are still available from ACLI."

More recently, "Images of Aging" has been transferred from film to a slide/tape production through a partnership of ACLI and ES. This 15-minute production, available with user's manuals for Extension professionals or NEHC club leaders, shows viewers how the growing number of older persons affects our society, and why we need to combat negative stereotyping, and plan for lifestyle changes. Jeanne Priester, ES, assisted in development of the

Kids and Food

Preparing four publications concerning the nutritional status of children–the series called "Kids and Food"–are Nancy Meitus (center) and Andrea Jensen (left), of the Communication Service, CES, Purdue University, Indiana, while Ann Hancook (right), advisor, National Young Extension Homemaker Advisory Committee, looks on. The series will be funded by the American Council of Life Insurance (ACLI).

slides, manuals, and introduction of the program at the 1983 National Extension Workshop on Aging.

Current Directions

In the early eighties, the advisory group disbanded, believing its job was finished. ACLI, meanwhile, was exploring interest areas such as aging and health. "We needed a more interdisciplinary advisory group," says Barbara Bey. One has been formed.

ACLI shares and supports work of young homemakers on a children's health through nutrition project. They focused on this topic at their July 1983 NEHC national meeting. Four publications on the subject are being prepared with the help of Indiana staff and ACLI funding.

"Also," says Marge Griffin, NEHC president, "the young homemakers are working with the March of Dimes on a "Healthy Mothers/ Healthy Babies" project; again, another shared interest with ACLI."

ACLI Sponsorship Role

ACLI provided funds to the 1983 Young Extension Homemakers Advisory Committee (YEHAC) to hold a midwinter meeting. YEHAC, formed with ACLI help, designs ways to bring younger women into NEHC, and it has introduced family financial programs to young homemakers and is beginning a series of nutrition newsletters.

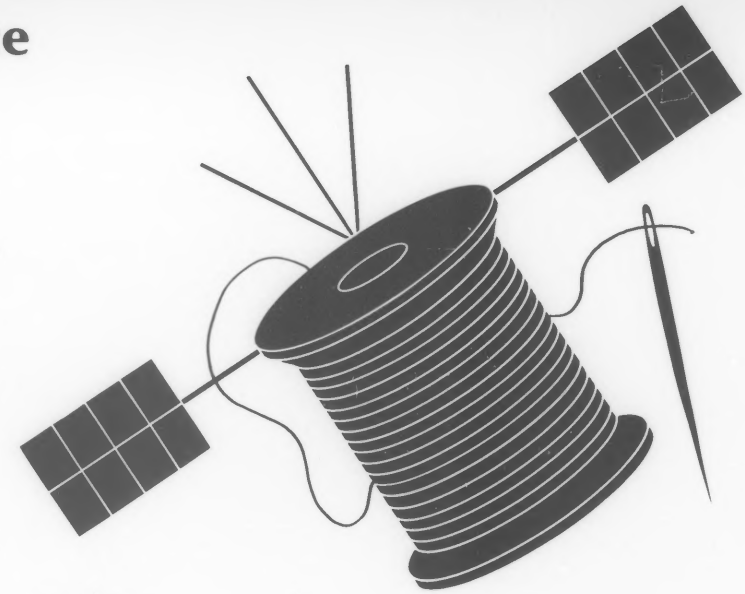
"We sponsor other things for Extension, too," says Barbara Bey. "Speakers on aging or health, for example, have been provided for Extension national workshops. We occasionally sponsor receptions or meals for Extension state leaders when meeting to discuss new and needed resources. NEHC leaders and others, for example, benefit from ACLI-sponsored luncheon meetings to discuss the new Certified Volunteer Unit (CVU) program in which volunteers get credit for the time they volunteer."

Secrets to Success

What makes this partnership work? Ava Rodgers, ES Deputy Administrator for Home Economics and Human Nutrition, says, "We each have resources and similar interests and needs. ACLI can fund and produce educational materials and make important speakers available when Extension does not have the funds or flexibility to do this. Extension has depth and breadth in subject matter expertise, methodology, and educational experience it can contribute. We're better and more effective educators together than when we work alone. It's that simple!" □

A Stitch in Space

Velda Rankin
Program Leader, Textiles and Clothing
Home Economics and Human Nutrition
Extension Service, USDA



Sewing by Satellite was only a dream a short 10 months before its airing on November 6, 1982. On that day, 6,000 professionals in 31 sites across the nation experienced the 6-hour program beamed live from New York City. This first endeavor was a teaching/learning experience sponsored by the American Home Sewing Association, Extension Service, USDA, and the American Home Economics Association. Enrollment was the first surprise. Plans were based on an estimated audience of 4,000 but 6,000 registered!

Extension personnel, resident faculty, homemakers, and retailers were eager to overcome communication barriers by the use of space technology. A two-way phone hookup facilitated the exchange between participants and teachers.

Planning the Production
Success depends on well-developed plans. When air time arrives, the show is on its way and there is little opportunity for change. Timing and competent personnel are essential. Major planning responsibilities, for Sewing by Satellite, were carried out by a commercial consultant contracted by American Home Sewing Association (AHSA); the National Program Leader in Extension textiles and clothing; and advisory committees representing industry and Extension. State Extension textiles and clothing specialists were site facilitators.

The choice of sites for our show was based on geographical location, physical facilities, and interest indicated by participants. Choosing facilities suitable for an efficient arrangement of equipment and seating cannot be overemphasized. Audience participation, provided by interludes for discussion and exercise breaks, is needed to relieve the 6-hour viewing period.

Program Tips
The moderator plays a key role. Securing a professional for this responsibility is good business. Key figures from industry, research, and education are excellent choices for program participants. Use the opportunity to engage personalities not available for multiple meetings because of travel, schedule and the dollar value of their time. Expectations should be clearly understood by each participant. Guidelines may be needed on the use and placement of visuals, choice of clothing, and similar suggestions. Don't assume an expert in one field is comfortable in another.

Content
Allow enough time for each topic. Too many topics and participants result in a hit-and-run effect. Also, do not underestimate the understanding level of the audience.

Funding
Satellite I was underwritten by AHSA. Extension contributed staff time, which translates into hard dollars. Income was produced by participant registration fee. Other groups contributed dollars and time.

The cost comparison is phenomenal between transportation for 6,000 professionals to New York City for training compared to receiving the same information by satellite. AHSA estimates it would have taken 10 years and many additional dollars to contact the same number of participants with onsite workshops.

What Have We Learned?

- Joining with industry enhances both efforts. Responsible industry supports reliable products and information. Extension has the network to facilitate getting that information to the ultimate consumer.

- The video medium is ideal for teaching techniques. Word pictures allow individual interpretation.

- Audience outreach is exciting and worth the effort. Emphasis on the use of television, computers and video tapes used in unorthodox settings is increasing. Predictions indicate the frequency of experts appearing electronically across the country may change the motto "publish or perish" to "perform or perish." Extension is well equipped to make the transition from the industrial age to the information society.

- Will we try it again? Yes! Watch for Satellite II, November 5, 1983. □

Safety for Nevada Bikers

Deborah Lee Payne
Former County Extension Agent, Communications
University of Nevada, Reno

Bike safety is everyone's business in Nevada. This spring, Washoe County 4-H Clubs along with local law enforcement agencies and the Washoe County School District teamed up to promote bike safety among youth. The organizations provided training to over 15,000 youngsters in 42 Washoe County Schools. Many private school students also received training.

Community concern over bike safety and security is supported by the record. In 1981 over 85 bike-related accidents occurred and over $100,000 worth of bikes were stolen in Washoe County.

Team Effort
The Sparks and Reno Police Departments and the Washoe County Sheriff's Office coordinated their efforts this year, visiting all elementary schools in the county. Two of the police departments also registered bikes.

Cooperative Extension Service is involved in bike safety in several ways. The Washoe County Extension office has been used as the central meeting place for committee meetings. It has also served as the major coordinating unit bringing organizations together to work toward the goal of teaching youth about bike safety. Extension staff coordinated bike safety publicity and designed a training certificate, which police officers presented to all youth completing the bike safety program.

4-H Work Pays Off
One local 4-H club has been particularly active. Members of Southwest Community Club (SWCC) and their leader, Chuck Burr, served on bike safety committees. They invited private schools to participate, made bike safety posters for all elementary schools in the area, and explained the program at a PTA meeting.

The club also approached the Independent Insurance Agents of Northern Nevada for funds to provide educational materials to youth. The Insurance Agents donated over $2,500 for printing the "Ghost Rider" comic book, which gives bike safety tips. The comics were distributed as part of bike safety programs. The club also got educational booklets from AAA Insurance Co., and used money they raised for bike course signs.

Other organizations also actively helped promote bike safety. Camrac, a local television studio, filmed two 30-second public service announcements for television using 4-H'ers and police officers. The public service announcements were shown on local TV stations. KCBN radio announcers provided daily public service announcements. KTVN featured a bike safety demonstration on their "Live at Five" program.

Road-e-o
This spring, the bike safety program "took off" with a youth bike road-e-o during Washoe County's Achievement Week activities. Youth tested bike riding skills at an obstacle course set up in the fairground parking lot.

Community concern over bike safety in Washoe County, Nevada, led to a safety drive coordinated by Extension and 4-H. Law enforcement agencies now register bikes for youth, and 4-H tested riding skills with an obstacle course. McDonald's Corporation sponsored entertainment at the bike safety games.

During the event, KCBN radio held a live remote show and provided safety games. The KCBN safety squad was on hand, and Luther Mac, of McDonald's Corp., sponsored Ronald McDonald, who met the youth.

McDonald's employees helped youngsters in the safety games. An entertainer from Circus-Circus Hotel and Casino rode the world's smallest bicycle, and a "human-powered vehicle" was brought in from Oregon for the event. Some youth rode on the vehicle, which goes up to 50 mph!

Since the bike road-e-o, 4-H'ers continue to emphasize bike safety in their community. The Southwest Community Club put on four other bike road-e-os during the summer and they plan more! So Nevada bikers can ride freer and safer these days on Nevada highways and byways. □

Creating Public Awareness

David W. Dik
Assistant Director of Cooperative Extension
and
Robert Topor
Assistant Director
Media Services
Cornell University, Ithaca, New York

New York State residents will soon be hearing, "We are Cooperative Extension. . .helping you put knowledge to work."

Agents have heard these comments for years:

"What is Cooperative Extension?"
"I thought Cooperative Extension was just for rural and farm people."
"I never knew 4-H was a part of Cooperative Extension."
"Do you mean to tell me you have Cooperative Extension programs in New York City?"

Cornell Cooperative Extension needed to answer such questions to help people in New York State understand its valuable programs. How could marketing, communications, and advancement principles be used to bring better public understanding of Cooperative Extension? What about funding such an ambitious effort? Could we agree on a definition of Cooperative Extension?

The idea for a public awareness effort was a simple one: promote the generic idea of Cooperative Extension. Past promotion of program areas had been effective, but the overall *idea* of Cooperative Extension had yet to be promoted. Perhaps it had been fragmented, instead, and left the public confused. Creating a public awareness program that would help the public understand Cooperative Extension was a totally new concept.

Lucinda Noble, director of Cornell Cooperative Extension, was instrumental in getting the program launched. Many people cooperated to develop and refine concepts and provide direction.

Start Where You Are
The question of where to begin was answered rather quickly. Start with the tools that are already available. County staff, Extension administration, and Cornell faculty had been conducting public awareness efforts for years by taking materials, combining funding, and focusing on one segment of the organization.

A simple combination of methods was outlined, and mass media would provide a statewide umbrella of information to support related county-identified materials. In essence, the program would use television, radio, and news to paint the overall picture of Cooperative Extension in New York State. The statewide message would be general; the county message, specific.

Obtaining funding and creating specific materials were the next activities. Lay advisory committees, agent-faculty reactor panels, meetings with county staff, and discussions with Extension administrators produced a commitment to the public awareness program. County Cooperative Extension associations agreed to fund three-fifths of the cost over a 2-year period. Cornell Extension administrators supported startup and production cost.

Decide on Your Message
The real challenge was deciding what the message would be. We held additional meetings with many program leaders, agents, county coordinators, faculty, and administrators. The emerging message was simple: describe individual program areas—agriculture, home economics, 4-H, community issues, and Sea Grant—and communicate the description through visuals and words. After considerable debate, the reactor panel chose a slogan: "Helping You Put Knowledge To Work."

Choose the Medium
Television videotape was selected as a medium for images of the Cooperative Extension organization in action. "Freeze frames" converted to photos formed the basis for graphic materials, primarily for posters. Taking this "backward" approach produced television spots that related directly to printed images and ideas.

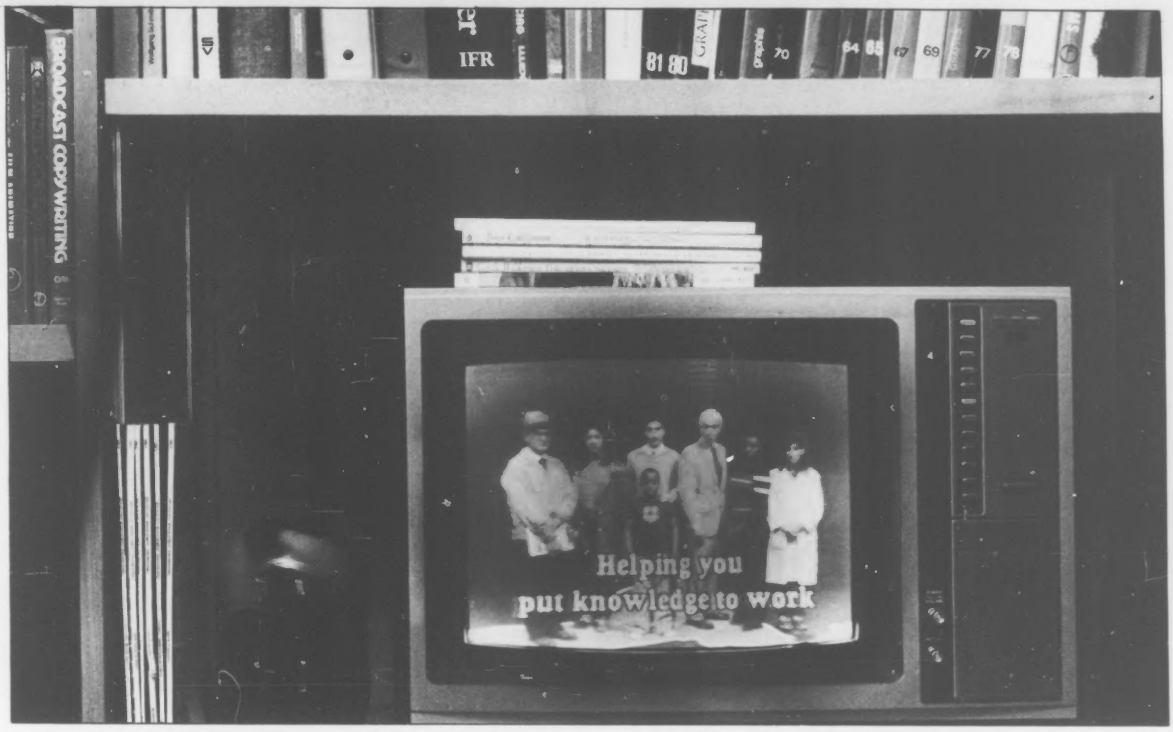
It was easy to convert television images to photos that were used to mock up the poster. The images worked well together. Roughly sketched ideas were shown to others in the organization. Everyone seemed to like the concept. Work began on the finished artwork. Bob Dorsey, formerly a greeting card illustrator and now teaching illustration at a major university, prepared the finished presentation, recreating the rough layout in photos based on the television "freeze frames." The finished art was magnificent. The poster, the cornerstone of the public awareness effort, went into production.

Select the Components
One of the aims of the public awareness program was to give the county Cooperative Extension associations materials that would be easy for them to use. So the illustrator converted the full-color painting into simple line art. This then could be used for many pieces the county would need. A "menu" of graphic support components was outlined:

- The Poster—a large (20 x 30 inch) poster includes the slogan, artwork in full color, and identification for each county; posters were printed for each of the 57 counties and New York City, and for Extension administrators at Cornell.

- The Small Poster—duplicates the large poster in smaller size, again with county identification.

- Clip Art—reproductions of the poster art, the slogan, and parts of the poster art in various sizes; because clip art is popular, these were made ready for all county associations.



• Advertisements—"institutional ads" in reproduction form in two sizes can be used by counties in their monthly newsletters and are easy to reproduce in one color.

• Annual Report—a report cover, using the poster, was customized for each county's annual report to county government; these reports are also used as an information piece for other community leaders.

• General-Purpose Brochure—suggested designs and copy for a simple brochure; oversize mechanicals were also developed.

• Outdoor Fabric Banner—outdoor banners (5 x 3 feet) use the slogan and identify the county.

• Pocket Folder—generic two-pocket folder replaces an old folder; it was developed using the artwork and information about the overall Extension organization.

• Color Slides—artwork photographed and converted to three types of 35mm color slides: program identity slides, county identity slides, and a slide of the slogan.

• Exhibit—a high priority; exhibit components can be mass produced very economically; an exhibit was made of light Velcro-covered material, printed images were reproduced from the poster, and counties can use these as they deem appropriate and can add materials.

• Slide Show—photos for a slide show include ideas from the artwork and from mass media; the slide show is an important part of the public awareness program.

• A one-hour videotape containing tips on Marketing Cooperative Extension, for use with the guidebook, *Marketing Cooperative Extension*, is now being offered by Cornell University Media Services. The videotape features Robert Topor, assistant director, Media Services, Cornell University, offering marketing concepts such as image building, audience segmentation. It can be ordered from:

David O. Watkins
Cornell University
Media Services Television Center
B-27 MVR
Ithaca, New York 14853
Phone: (607) 256-5431

The illustrated 92-page guidebook, *Marketing Cooperative Extension*, contains basic marketing principles and can be obtained from:

Media Services
B-10 MVR Hall
Cornell University
Ithaca, New York 14853

Make checks payable to Cornell University. The cost for New York State Cooperative Extension is $1.20 per copy plus postage; for New York State residents, $2.75 per copy (price includes postage); and for out-of-state residents, $3.25 per copy (price includes postage).

Proof Is in the Pudding

Working collectively, Cooperative Extension in New York State will help residents identify and understand its programs. When residents hear, "We are Cooperative Extension. . .helping you put knowledge to work," they will have a better appreciation for the organization and impact of Extension's program throughout the state. □

Team Project Solves Community Problems

Comprehensive program design and teamwork, involving Extension agents in Community Development, Home Economics, 4-H, and Horticulture, and people from appropriate county agencies, are having a significant, positive impact in the lives of residents in a low-income housing project in Montgomery County, Maryland. Goal was to improve the living environment of residents at Washington Square Apartments, including the housing complex, grounds, health and solidarity among residents, recreational opportunities for children, life-coping skills of children and parents, transportation opportunities, and communication with the County Housing Commission.

About 240 people live in Washington Square, of which 20 percent are white and 80 percent, black. About 100 are adults; the remainder, children under age 18. The site was opened in January 1970 as a "turnkey" project of 50 units in which residents would be able to purchase their residences. Later, it was converted to a "leased" site project.

Project Starts

This project began when the Montgomery County Housing Commission contacted the local Extension CRD agent for assistance in reducing the housing maintenance rate. Cost of maintenance was considered too high compared with that of other housing projects.

The agent and a specialist designed a survey to determine needs and perceptions to provide a means for developing rapport with residents. The survey was designed to provide local housing authority officials with data to assist them in evaluating their management practices as relates to services, and information which could be used to establish programs with residents to meet the needs for services and facilities which were inadequate. Based on survey findings, the Cooperative Extension Service initiated programs to address residents' needs.

Residents thought that they were being charged an excessive amount for maintenance repairs that they considered normal "wear and tear." They wanted a course in minor maintenance so they could save money by doing many of their own repairs. An evening course was offered. The Montgomery County Board of Education provided the funds to pay for a course instructor. At the end of the training, all participants could make minor repairs, resulting in approximately 40 percent savings.

Extension presented awards to residents with the best-looking apartments, as an incentive. Representatives from the County Public Health Department met with a group of residents because health care for small children was found to be a primary concern. As a result, a weekly well-baby clinic was established at Washington Square Apartments.

A breakdown in communications between the County Housing Commission and the residents had brought about frustrations and bad feelings. A meeting was arranged between the Commission and the residents resulting in the Commission learning that two of its employees were not doing their job, which was taking care of residents' complaints. One employee was dismissed and the other, transferred.

Working Together

The residents had never worked before as a group toward achieving common goals. To provide a structure for organization, apartment unit representatives were established. Helped by the CRD agent, unit representatives worked with residents to express and resolve their concerns and organize a tenant board of officers. Relations between the Commission and the residents improved.

Residents expressed their concerns about the lack of shrubbery, the need for beautification, and the erosion of the surrounding landscape. The Extension horticulture agent provided information resources and the CRD agent organized a demonstration project on fertilizing, planting grass seed, and laying sod. This help, along with trees and forsythia bushes, was funded by the Housing Commission and donations from local plant nurseries. Teams of residents planted the nursery items.

Better Facilities for Children

Noise of children playing around the apartments and their damage to grass and shrubs aroused frequent complaints from residents. A playground for the children was built in the center of the apartment cul-de-sac, and surplus recreational equipment was donated by the County Recreational Department. Providing

Onnie Privette
Community Resource Development Agent (Retired)
Montgomery County, Maryland
and
Bruce Sorter
Community Resource Development Specialist
Cooperative Extension Service
University of Maryland

recreational opportunities for children lowered the noise. The youth also lacked enough to do. A vacant lot next to the housing complex was obtained by Extension through the Maryland National Capital Park and Planning Commission and developed into a main recreational area for youth. The 4-H agent taught educational courses on arts and crafts to the young people.

Mothers stated they could not obtain or afford babysitting services so they could shop or work part time. An exchange of babysitting responsibilities was organized, by the residents, into a babysitting cooperative and an overseeing of children's programs for the apartment complex. The cooperative not only saved residents money on babysitting costs but also gave them the chance to work part time or shop for bargains.

Many families asked to learn more about consumer topics such as budgeting and comparative shopping. The Extension home economics agent offered the families courses and materials in consumer education subjects. The Consumer Education program provided for additional money savings through wise shopping.

Many residents wanted better bus transportation to where they worked, mainly in Rockville, Maryland, a nearby suburban community. A trial bus run from the complex to Rockville was initiated, but the bus did not arrive on time, and residents were late for work. Before the problem could be worked out, the residents refused to ride and bus service was discontinued. This difficulty is probably not uncommon as it takes a long time for regular bus ridership and routes to become established.

Followup Report

Six years later (1981), the project was revisited by the CRD agent and the specialist to determine if the initial results had been maintained over time. Followup evaluation revealed the following:

- Residents have become increasingly motivated and take more pride in keeping up their housing and doing their own maintenance. The Housing Commission 6 years ago charged residents $7 an hour for minor maintenance. Now approximately 60 percent of the residents do their own maintenance with materials supplied by the Commission, saving money for themselves and the Commission and taking more pride in their units.

- Organization of a tenant council has made resident attitudes more positive toward the Commission. Approximately 70 percent of original residents still live at Washington Square. The Commission has provided additional lighting and other improvements to the facilities. Because of residents' pride and upkeep of the area, the Commission is planning to permit residents to purchase their units this year as a cooperative arrangement.

- Residents have continued to maintain the grounds and have replaced plantings as needed.

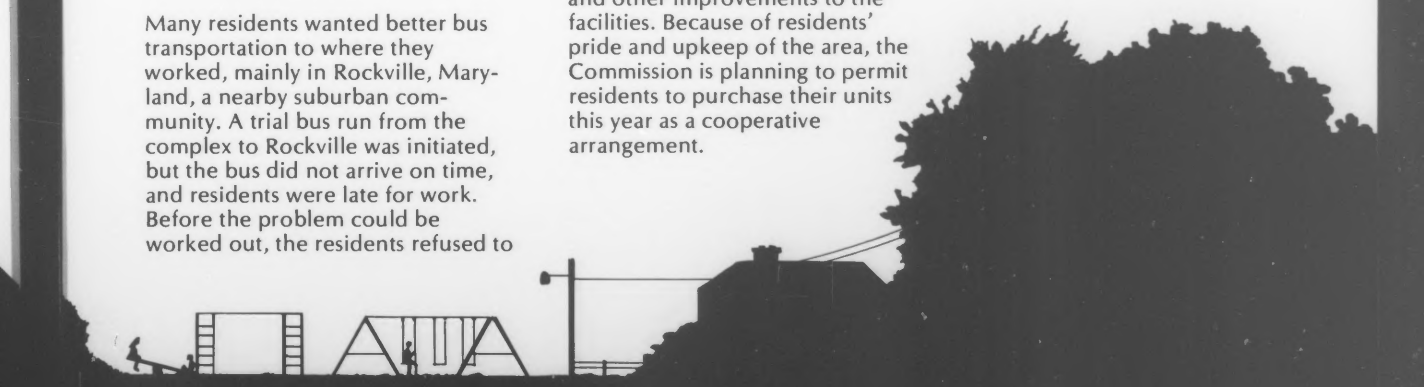
- The cul-de-sac play area is kept clean by the residents and is used as a place to babysit the children. More equipment has been added by the Planning Commission to the larger recreational area.

- The cooperative babysitting service is functioning and has helped to develop interaction and trust among residents.

- Through Tenant Council efforts, a Metro bus runs between the apartment complex and Rockville, Maryland (35 cent fare) connecting most of the residents with their place of work.

A unique aspect of this project was the team effort among Extension program areas and between agencies that provided a critical mass for a comprehensive program that improved Washington Square residents' living environment.

As a result of this pilot project, the County Housing Commission uses this Extension model in all its housing projects. □



Joint Ventures: Developing Public Policy Leaders

Inge C. McNeese
Extension Project Assistant
and
Carol J. Culler
Extension Home Economist
Family Community Leadership
Oregon State University, Corvallis

A young Colorado mother just off welfare. . .
A state legislator from Hawaii. . .
Three women from the Warm Springs Indian Reservation in Oregon. . .
The president of Hawaii's Extension Homemakers Council, Inc. . . .
A day care operator from Washington. . .
A pastor's wife from Alaska. . .
A mother of eleven from an Indian Village in New Mexico. . .

What do these people have in common? They are participants in a leadership program for women interested in public policy and acquiring leadership skills.

Called Family Community Leadership (FCL), this regional program for greater, more effective participation by citizens blends community involvement, home economics, and public policy with an emphasis on issues affecting families. FCL was launched as a cooperative venture of Cooperative Extension Services and the National Extension Homemakers Council in six western states. Now in its second year, the program has resulted in partnerships and spawned networks, and it is closing the gender gap in community activism.

Teamwork a Foundation

"Partnership is the organizing spirit of FCL," says Carol Culler, regional coordinator of the project, which is based at the Western Rural Development Center, Oregon State University in Corvallis. "This program succeeds because of teamwork. It is the synergistic principle in planning, funding, managing, and implementing the program."

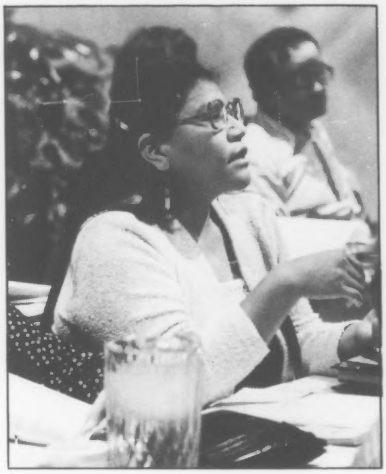
Volunteers and Extension staff are partners in all stages of FCL. Although Extension programs have always operated under advisory boards, FCL's boards have a novel composition, half staff and half volunteers. The volunteers, many for the first time, make policy and operational decisions. On the FCL Regional Board, two representatives from each state work together, one an Extension staff member and the other, a volunteer. The board's chairmanship is shared by Charline Warren, past NEHC president, and Yukio Kitagawa, assistant director for the Hawaii Cooperative Extension Service. Board members set program guidelines, employ staff, determine evaluation procedures, and budget expenditures. In short, they shape the program.

The board of directors in each state has a balance of Extension staff, Extension homemakers, volunteers at large, elected officials, and representatives from companies and corporations who work together as equals. Including members from the private sector in decisionmaking roles is another unique component of this project.

Shared Funding

A three-tiered funding package translates the partnership of the public and private sectors into dollars and cents. The W. K. Kellogg Foundation awarded a $1.9 million grant to 6 states over 3 years. In these states, Alaska, Colorado, Hawaii, New Mexico, Oregon, and Washington, Cooperative Extension Services have committed over $7¼ million in staff support and in-kind donations. Support from volunteers in the program adds another $3¼ million.

Extension homemakers in the 6 states continue to contribute financially—funding the keynote speaker for New Mexico's training, starting a



scholarship fund in Washington, and pledging $3,000 for grant proposals in Hawaii.

The partnership of public and private sector in the program's planning and funding sections, the very heart of FCL, is paralleled in program management and implementation.

Team Teaching Works

FCL's commitment to the team concept is most obvious in the teaching teams. Community volunteers and Extension staff work side by side in regional or intra-state training institutes. During FCL's first year, over 600 women and men became trainers, pledging 2 hours per month for 1 year in return for instruction that was paid for with grant funds.

Public policy analysis, group dynamics, communication skills, and sensitivity to community issues are some of the subjects covered in the 30 hour or more course. The basic block can be taught in modules, which are easily separated and can stand on their own merit. Skill

Banti Winslow, family community leadership trainer, Oregon, lectured at the National Extension Homemakers Conference in Laramie, Wyoming. Carol Muniz, left, Warm Springs Indian Reservation, Oregon, is now determined to participate in the all-male tribal council. Both are active participants in Family Community Leadership (FCL), a leadership program for women interested in public policy with an emphasis on issues affecting families.

training, confidence building, and practical application are central objectives of the training institutes.

FCL training graduates gain skills which they can use in other organizations. On library boards and advisory committees to government, in neighborhood groups and PTA's, in the Wheat League, the Wool Growers' Association, in a Peacemakers group, FCL volunteers are expanding the role of women in community decisionmaking.

Networking

Networking with other community groups is a natural for a program whose beginning depended on the cooperation of many individuals and agencies. Conceived under the leadership of Charline Warren, past president of National Extension Homemakers Council (NEHC), the FCL plan was formulated by an interstate steering committee and representatives from ES-USDA, American Association of University Women, YWCA, Business and Professional Women, the Farm Foundation, Community Action Council, Extension homemakers, and leaders in Extension home economics and community development.

The project's team spirit has forged partnerships of volunteers and staff in specific program management components. The regional training evaluation, for example, is a team effort by Lois Bassett, an Extension homemaker who co-chairs the Washington State FCL Board of Directors, and Anne Williams and Lee Faulkner from the Center for Data Systems & Analysis at Montana State University.

FCL involvement provides an opportunity to link with professional associations. FCL coordinator from New Mexico, Mary Ellen Payne, will make a presentation at the National 4-H and Youth Conference in Portland; and Oregon's coordinator, Greg Tillson, will explain the importance of cultivating political skills to Extension agents as part of program on public policy. Carol Culler, regional coordinator, will head a team of Extension agents and Extension homemakers in a half-day workshop at the National Association of Extension Home Economists annual session.

Executives from business and industry and on FCL committees bring private sector realities and recommendations to operation of the FCL program. Barbara Bey of the American Council of Life Insurance and Howard Smith, formerly of Kodak, provide insight and advice for continuing Family Community program efforts through their participation on the FCL Regional Futures Committee.

Women As Community Leaders

Women have begun to apply the lessons from FCL participation to their personal growth, to community education, and in individual involvement in the public policy arena. "Their success stories are examples of looking to self-help instead of institutions as an answer to solving community problems," notes Inge McNeese, regional project assistant. Women are working on concerns which are close to them and important in their communities: to renovate a community center (Ellen Takazawa, Hawaii), to build a child-safe playground (Anna Mayeda, Hawaii), to start a community library (Fail Saxowsky, Alaska), to pave a neighborhood street (Doris Greig, New Mexico, and Marilyn Williamson, Washington), to hold forums on legislation (Donna Wasneski, Colorado), to sponsor a radio talk show on values (Alice Richards, Washington), and as appointed members to boards and commissions (Isabelle Rogan, Alaska, Plating Commission, and Helen Popa, Oregon, Library Board).

Four have become candidates for public office, and two have been elected to school board positions (Sheryll Baca, Oregon, and Blanche Wagoner, New Mexico). All of them are leaders, convinced that they can make a difference.

FCL teamwork, a composite of individual initiative and collective action, has proven a fertile ground for partnerships. The joint ventures between the public and private sector illustrate the synergistic principle that the total is more than the sum of its parts. □

Profile of A Family Counselor

Betty Fleming
Program Leader
Information and Communications Staff
Extension Service, USDA

What does it take to be a successful Extension specialist these days? Jim Van Horn is an associate professor and Extension specialist in the Department of Agricultural Economics and Rural Sociology at The Pennsylvania State University, University Park. He has a B.A. from a small liberal arts college, M.S. from Catholic University, and Ph.D. from Ohio State. "I have a family development/marriage counseling background," he says. Early experience in teaching and marriage and family counseling led him to Penn State in 1969 where, he says, "I found the Cooperative Extension Service the better way to help families."

"It took me a good year to get the CES system figured out," reports Van Horn. "I traveled, talked to county Extension staff, decided to start out slowly, focusing on parent education. I thought people would feel most comfortable with that."

Resources for CES Staff
In the early years of his CES experience, Van Horn conducted many in-service education programs and developed many training materials but few publications.

Now, Van Horn's materials are known, not only in Pennsylvania, but in other states as well.

Every month, something called the "Memo Pack" goes out to field staff (and state specialists in other states). It contains training material he writes, or requests from other key resource people. In his first year at Penn State, he developed a filing system for agents so they would have ready access to these materials.

Toddler Topics
In 1971, Van Horn worked with a group of county home economists to start "Toddler Topics," a series of six learn-at-home program materials for parents of children ages 6 and under. "Field staff have had a big hand in developing these materials," he says. "They write the material on a regional basis so we tap resources of many field staffs. I knew early on, if this program was going to go, it couldn't revolve around me." Van Horn provides backup state program material, ideas and methods to evaluate the effort, and a yearly index of materials. Some 50,000-60,000 families are reached in their homes this way every year. Many are also reached through county meetings.

"We ask physicians, allergists, librarians, ag agents, horticulture agents, nurses, language development people, and others to write articles for the series," says Van Horn.

Other Learn-at-Home Materials
A more recent effort is the "Off To A Good Start. . .You And Your Baby" series of self-mailer, learn-at-home programs. "These are *not* newsletters," says Van Horn. "People save them, put them in notebooks. They're not just current happenings!"

"Helping—The 5th H" is the title for a program kit of audio tapes developed by Van Horn on interpersonal communication. It is designed to help a 4-H agent conduct a small-group meeting for 4-H leaders.

"Mini programs" are also developed by Van Horn. Designed for organizations that need a program, they're packaged programs, such as "What To Do When The TV Is Off."

Special Efforts
When the nation celebrated its Bicentennial in 1976, Penn State and Jim Van Horn were right in the middle of it! He obtained $39,000 in Bicentennial Commission funding to design a "Heritage Horizons" program. It included: (1) "Heritage Horizons" filmstrip (500 copies) for CES, schools, and libraries tracing the history of Pennsylvania families, with original musical score; (2) Artist's panorama of Pennsylvania history and families (printed 500,000 copies)—started at one end with Independence Hall and wound up, at the other end, with computers; (3) Manual for groups to use in studying Pennsylvania family history.

In 1979-80, Van Horn served as project director for the forums held prior to the National White House Conference on Families in 1980. He saw to it that informal, family forums were held all over the state with the help of CES staff. "We wanted to give as many people as possible a chance to air their views," he states.

Input from field staff is constantly requested from Van Horn. "I schedule a parent education meeting in every region each year. I ask staff, what do you need to do the job?"

Operating Style
When Jim Van Horn's expenses are paid for a teaching/consultant type situation, they go into "salary savings," a fund he invests in exhibits, publications, and additional teaching tools.

Personal Philosophy
Jim Van Horn is a communicator. He has some strong beliefs and a way of summing them up:

> "I never see a failure. If something doesn't work, I can modify. It's the first step in progress and an eventual success."
>
> "We've got to believe in what we're doing. People want to grow. Our staff has tremendous

potential. It's exciting to see that in relation to our clientele needs."

Success Factors
Van Horn credits these success factors for helping him do an effective job:

"A sense of comradeship" among coworkers in his department, other university professionals, and field staff.

"Having the best of three worlds: Extension, research, and resident teaching." Not only is Van Horn recognized as an outstanding Extension specialist, he has also served in a leadership role for 12 research projects since 1972.

Primary Goal and Future Direction
What's Van Horn's primary goal? "To get people to accept ownership of (not simply do) family life programs and feel comfortable and good about them."

Future programs will carry out the overall theme of Pennsylvania programs based on national recognition of the need for emphasis in this area, and Van Horn's personal belief that this is the direction that CES needs to follow.

Home Life
Van Horn is married to Barbara Van Horn, an English professor on the Penn State staff. Their 5 children range from age 3 to 12. "I look for ways my family can be involved in my work," says Van Horn.

Van Horn is well aware of the heavy load many CES professionals bear. "We all need to schedule family time as effectively as we schedule professional time," he says. It is not unusual for him to ask volunteers and others, "What are you doing about *your* family?" □

Infrared for Energy

Jerry Grooms
Extension Writer
Information and Applied Communications
The Ohio State University

Making infrared photos of all the houses in metropolitan Columbus and then inviting everyone to workshops to see the heat loss from their homes may seem like an ambitious project to some. But it is just the kind of project that people have come to expect from county agent Tom McNutt from Franklin County, Ohio.

Admittedly, though, this project received national attention. It was a major reason McNutt was chosen Grand National Winner in the 1982 Environmental Quality Recognition Program, cosponsored by the National Association of County Agricultural Agents and Velsicol Chemical Corporation.

"We did a cost-benefit analysis of the home thermography program and found that a $46,369.42 investment by the county through the Extension Service yielded benefits to the community of about $546,900," says McNutt. More than 8,500 people came to the workshops to see where they were losing heat from their homes and how to insulate to save dollars.

Thermograms Show Heat Loss
Tom and his associates hired an aerial photography team to take the pictures. That job took over a year, off and on, because specific conditions were required—a clear night, low wind, and temperatures below 36 degrees.

The infrared photos show cold surfaces as black, warm areas as white, and in-between temperatures as shades of gray. A white roof, then, is giving off a lot of heat whereas a black roof is well insulated and not losing heat.

White areas around homes might indicate heat loss from windows and side walls, but they might also be shrubbery and trees around a house, which can hold some heat and look white.

So in the newspaper articles and radio/TV announcements about the workshops, workshop participants were asked to bring information on location of their trees and shrubbery. They also brought data on type of roofing material; how many inches of insulation are in the ceiling; how many rooms are not heated; how many stories the house has; whether, if they have them, storm doors and windows are in place; whether walls are solid brick or block, brick over frame, or frame; the age of the home; whether they have a fireplace and if it has a damper or glass door; if there is a basement or crawlspace; what type of heating the house has; and what their heating bill was in January.

Energy Conservation Workshops
The workshops were held by zip code areas, to keep traveling time and distance to a minimum. Staff members from a cooperating city agency, the Columbus Department of Energy and Telecommunication, attended and interpreted the photos, working one on one with each person who attended a workshop.

Besides interpreting thermograms and answering questions about heat loss, workshop advisors talked to residents about how to solve energy problems. Participants could view videotaped programs about home insulation, weather stripping, caulking, and so on; and they could obtain free brochures and "how-to" booklets.

Twenty-seven workshops were held throughout the county, generally conducted in the same format. On the first evening, a general discussion was held on home energy conservation. Participants saw slides showing how heat loss occurs in a home. The next four evenings were devoted to discussion, one on one. About 70 percent of participants planned to make major conservation improvements in their homes.

A spinoff of the workshops was the heightened interest in energy conservation countywide. We have received hundreds of phone calls on energy problems. We installed a special information line to handle these inquiries.

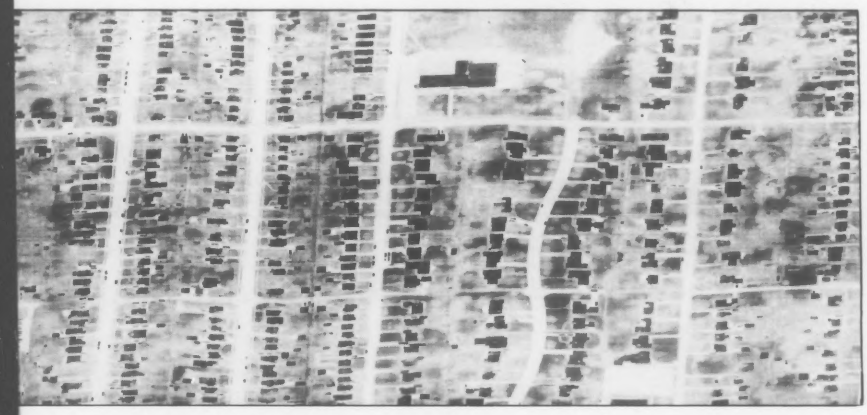
McNutt responds quickly to opportunities like the energy information line—new opportunities to serve the public. For years his office has handled horticultural and home economics hotlines which get hundreds of calls each day during busy seasons.

County Agent Communicates
Sharing ideas, goals, and information points up McNutt's outstanding communicative abilities. McNutt is often quoted in the press and interviewed on radio and television. He was recognized in 1982 as state and North-Central Region winner for radio programming in the National Association of County Agricultural Agents (NACAA) Public Information Awards program.

The county agent's commitment, credibility, and communicative abilities led to his receiving the 1982 National NACAA Distinguished Service Award in "recognition of 20 years of accomplishments in Extension education."

McNutt asks for, and receives, excellent cooperation from the mass media. "With a limited budget and a million people in our metropolitan

County agent Tom McNutt, Franklin County, Ohio, (right) explains which areas of a couple's home might require energy-saving materials. To do this, he uses a thermogram, an aerial infrared photograph whose white areas can indicate heat loss from windows and side walls. McNutt's nationally recognized 1982 environmental quality project was cosponsored by Velsicol Chemical Corporation.



area, the mass media is the only way to reach a significant share of our clients," he says.

Nor does he wait for public service time. "The best time to be on TV is during the news segment, preferably next to the weather, because that's when the most people are watching," McNutt reports. He and his staff convince producers, directors, and others that we have unbiased information the public wants and needs.

Our Extension information is not hard to sell because of a reputation of credibility and unbiased facts based on research at The Ohio State University. People look to the Extension Service for answers to their questions.

They also watch television for information, in great numbers. One channel reaches 250,000 households in Columbus; cable TV goes to 120,000 homes. "I was appearing on a Columbus Alive program on a cable channel, offered a lawn bulletin we have available, and before I left the studio they handed me 500 gummed labels printed with names and addresses of people who wanted them," McNutt states. He mailed them out the next day.

For radio, McNutt feeds spot messages to disc jockeys about activities, events, and subject matter. Extension staff appear on call-in shows where clientele can ask questions pertaining to subject matter being stressed by Extension personnel. On one Saturday afternoon show that lasted from 12:15 until 3:00, McNutt received more calls than anyone else had in the history of the show.

McNutt recommends that feature articles submitted by Extension personnel to newspapers and magazines be in depth, tell the whole story instead of just skimming the surface. "That's what people want from the press—constructive, indepth journalism," he says.

Working with the mass media is an important way to get Extension information out to the people who can use it, but there is a price to pay if you do it well. "You must be available, almost all the time. If you generate good copy and good programming for them, the media will call you anytime from 6 a.m. to midnight," McNutt says. He suggests that you "promise only what you can deliver and deliver on all your promises. We have something that is unique, that is good, but we've got to be able to cooperate with the media when they want the information. That doesn't mean 'call me in the morning after 8 a.m.' " □

Great American Family Awards: A First

Jeanne M. Priester
Program Leader, Home Economics and Human Nutrition
Extension Service, USDA

The first annual "Great American Family" Awards, a program sponsored by the nonprofit, D.C.-based American Family Society, were made this year. On June 24, 1983, four of the nine winning families were honored at a reception and program in the USDA patio. They were honored by USDA because of this achievement and their connection with Extension Service and the National Extension Homemakers Council.

A week of recognition in Washington, D.C. for "Great American Family" award winners included a ceremony on June 22 at the White House. In remarks to the winners, First Lady Nancy Reagan said, "My own family is the most important aspect of my life. Regardless of age, I'm still my parents' daughter and the family is very central to my life." She quoted: " 'The person who understands the meaning of life plants trees under which he knows full well he will not sit.' You are here planting trees."

Exemplary Achievements

These families were selected based on exemplary family life and community service achievements. Organizations making the selections were National Extension Homemakers Council, the Armed Forces YMCA, Family Service Association of America, General Federation of Women's Clubs, National Association of Life Underwriters, National Urban League, and the United States Jaycees. Included were single-parent, two-parent, foster, and adoptive families.

Honored at the U.S. Department of Agriculture during the first annual "Great American Family" awards program were Neva and Stephen Black and their children of Kenai, Alaska. They were greeted by Ray Lett, Executive Assistant to the Secretary of Agriculture, (left), Orville G. Bentley, Assistant Secretary for Science and Education, (right), and Mary Nell Greenwood, Administrator, Extension Service-USDA (right foreground).

Recognized at USDA were Neva and Stephen Black and their 3 children from Kenai, Alaska; Rebecca and David Kaluna Keala and their 10 children, grandchildren, and great grandchildren from Pukalani, Hawaii; Nellie and John Madison from Echo, Oregon; and Ramona and Larry McCord and their 4 children from Deatsville, Alabama.

Greeting these families were Ray Lett, Executive Assistant to the Secretary; Orville G. Bentley, Assistant

Nellie and John Madison, Echo, Oregon, were one of four Extension homemaker families honored with a "Great American Family" award.

At White House ceremony, First Lady Nancy Reagan presented a certificate to Ramona and Larry McCord, Deatsville, Alabama, and their children for being one of the winning families in the first annual "Great American Family" awards program sponsored by the American Family Society, a nonprofit organization based in Washington, D.C.

The family of Rebecca and David Kaluna Keala and their children, Pukalani, Maui, Hawaii, received a certificate for being a "Great American Family" from Nancy Reagan, First Lady, honorary chairperson of the awards program, at a White House ceremony in June.

It's nap time! Smallest member of the Kaluna Keala family from Hawaii counts sheep despite the excitement of winning one of the "Great American Family" awards.

Secretary for Science and Education; Mary Nell Greenwood, Administrator of the Extension Service; Denzel Clegg, Associate Administrator of Extension Service; and Extension Homemakers Council members from four nearby counties.

This project creates excellent public relations and media coverage at the local, state and national levels. The Alabama family was interviewed on the "Today Show."

Next Awards Planned

The process for the second annual "Great American Family" Awards begins with the celebration of National Family Week during Thanksgiving Week 1983, when families are honored locally. Their names will then be submitted to the American Family Society by participating organizations. White House recognition is targeted for June 1984.

Information on the process will be shared with State Extension Homemakers advisors by ES-USDA Home Economics and Human Nutrition and by NEHC family life chairmen with NEHC members. You may order a kit with all details for $5 from American Family Society Order Department, Box 800, Rockville, Maryland 20851. Please use official letterhead to receive the kit. New editions are planned: a recorded message and slide of the First Lady; comments by 1983 winners; and a musical phonograph record.

NEHC, whose goal is building better families, exists in 44 States, Puerto Rico and the Virgin Islands. Its membership numbers over 500,000 in 31,500 community clubs. □

Citizenship Caravan

Clyde T. Mounter
Assistant to State Leader-Home Economics
Clemson University, South Carolina

A powerful voice for Extension was heard in South Carolina on March 9, 1983. On that date, 1,052 Extension Homemakers club members, from 43 of the state's 46 counties, traveled to the state capitol as part of a Citizenship Caravan. The idea for the Caravan began with comments made by Myrle Swicegood, state leader of Extension Home Economics Programs, at a spring 1982 meeting in Kershaw County. The Citizenship and Community Outreach Committee of South Carolina Extension Homemakers Council (SCEHC) under the chairmanship of Vivian Sowell, Kershaw County, developed the idea through to the final event this spring.

Objectives
The committee set several objectives:

- To provide an opportunity for learning more about the capitol and resources in Columbia.
- To encourage EH club members to become more active in public affairs at all levels (local, state, and national).
- To provide an opportunity for EH club members to go to the state capitol to discuss state issues and visit their legislators.
- To learn how decisions are made and how to affect those decisions.

Flexibility a Key Word
Initially, we thought that 200 to 300 homemakers would visit and tour the capitol, see the legislators in action, and lunch with their individual legislators.

As enrollments began to pour in, we saw that participation had been underestimated greatly. With 1,052 signed up, the word went out, "Don't take any more registrations; we don't have enough space."

Sowell asked for help from Extension. Judy Brock, county leader in Kershaw County, June Carroll, Pee Dee associate district Extension leader, and I responded and worked with Sowell and her committee to replan the event to handle the overflow response. We subdivided the total group into 10 smaller groups, set up additional tour stops, and trained guides to handle the overwhelming number of people involved.

Important Day for Extension
Governor Richard Riley declared March 9, 1983, South Carolina Extension Homemakers Day. He signed a proclamation, read at the luncheon by the Lieutenant Governor, who stated: "I certainly want to congratulate the South Carolina Extension Homemakers Council on your many activities throughout the year, but especially for the Citizenship Caravan. We indeed feel fortunate that you have chosen to come and visit with us, learn with us, so in turn we could learn from you."

The Proclamation
"Extension Homemakers, a unique South Carolina volunteer organization, encourages and aids individuals to improve their standard of living through quality educational programs.

"Members give their time and skills to help people improve their self-esteem and self-worth. The organization, almost 5,500 strong, helps spread research and practical information from Clemson University Cooperative Extension Service and USDA through trained volunteer leaders at meetings in homes, clubs, communities, and counties."

In his proclamation, the Governor states: "Therefore, I, *Richard W. Riley*, Governor of the State of South Carolina, recognizing that members of the Extension Homemakers Council represent a significant and beneficial element to enhance quality of life for all families in South Carolina, do hereby proclaim March 9, 1983, as South Carolina Extension Homemakers Day."

Following remarks by Governor Riley, Betty Buff, president of SCEHC, presented three resolutions, approved by the Board, to the homemakers and legislators present.

The Speaker of the House of Representatives, in concluding a response to the resolutions, said: "Your resolutions calling attention to research needs in the area of home economics and underlining the need for the continuation of the Clemson University Extension Service educational programs are extremely important statements, with which I agree. Your collective voice and advocacy, even though money is tight, ensures that these issues will receive due consideration during the budgetary process."

Postscript
Within 2 days after the event, a $60 million state deficit for state agencies was made up by reallocation of funds and speeded-up collections. Twenty days later, the House Ways and Means Committee agreed to budget an additional $195,000 to fill seven vacancies in the Clemson University Extension Service. □

Extravaganza for Skilled Shoppers

Joyce H. Jenkins
Extension Family Resource Management Specialist
Clemson University, South Carolina

Today's American teenager represents big stakes in the consumer marketplace: $42.6 billion.

That's the sum he and his brothers and sisters between the ages of 13 and 19 spend each year for school lunches, dates, grooming, clothing, jewelry, movies, records, sports, hobbies, transportation, savings, and other goods and services.

In addition, teenagers influence the spending of billions through their parents for essentials and luxuries.

Teen spending money comes from part-time jobs and allowances well above the 25 and 50 cents so popular a few decades ago. National surveys indicate the average weekly allowance of boys between the ages of 13 and 15 was $8.18 in 1981. Boys 16-19 pocketed an average of $17.86.

Girls cost parents a bit more. Allowances for those 13-15 averaged $8.40 and for those 16-19, $18.03.

Often young people follow the lead of many adults in taking advertising bait instead of being critical consumers. Not so for 89 Hopkins Junior High School students in Richland County, South Carolina.

Local Mall As Classroom

These youngsters participated in the Skilled Shopper Extravaganza, a consumer education experience sponsored by the Richland County office of the Clemson University Extension Service. A local mall became the classroom for this program coordinated by Rhodan McCollom, Extension agent, and the teens became consumer sleuths gathering information needed to make responsible decisions in today's complex marketplace.

After orientation by McCollom, the home economics students of Wilhelmenia, Murdaugh and Pansy Green spent several hours comparison shopping, studying labels, and checking advertising for the best buys in Woodhills Mall.

Students worked in teams as they examined merchandise and made choices.

At the end of the program, the teams examined their findings in a group discussion. These tips on how to be in control in the marketplace are offered:

- Compare prices from brand to brand and store to store.
- Compare quality. Inexpensive goods are often cheaply made.
- Packaging may be deceptive. Look at weights, not just package sizes.
- Read all warranties and keep sales slips.

According to McCollom, "Being a good consumer means using common sense and learning the rules of the marketplace."

Joining Forces

The Skilled Shopper Extravaganza succeeded because business, education, Extension, and parents joined forces to offer young people a realistic look at the marketplace. Various businesses in the Columbia area and mall provided donations for the teens' lunch at the mall. Twelve parents assisted with the field trip. Some took time off from work to help. One parent says, "I learned by following the youngsters around as they completed their activities."

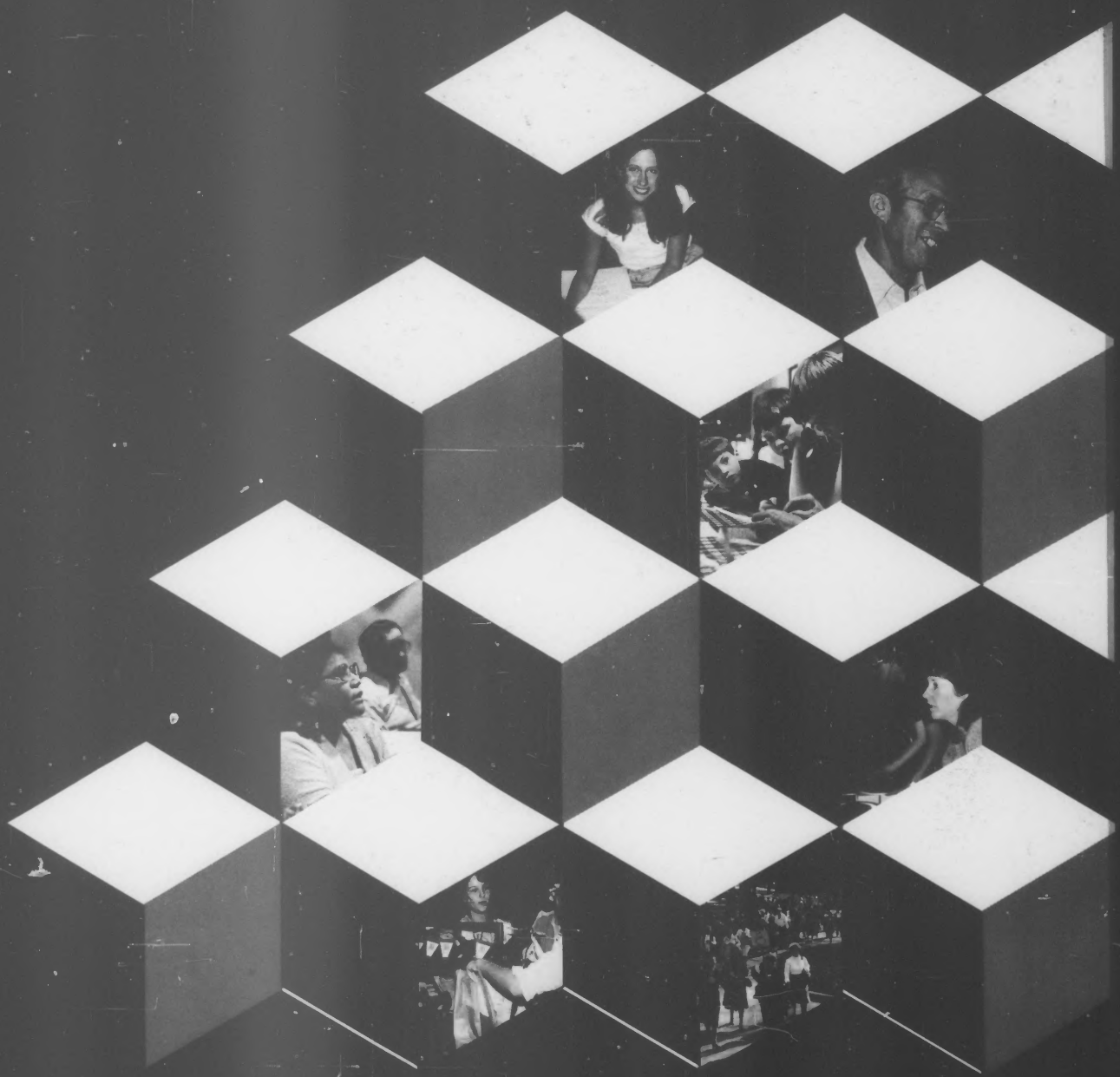
Perhaps the best evidence of success is carryover to other days and other activities. Murdaugh notes that "Students are now more aware of shopping and reading labels. The students relate current classroom topics on foods and clothing to experiences gained during the extravaganza. They ask more relevant questions and are more aware of the vastness of the marketplace."

In reviewing the experience, McCollom says, "the teens took the activities seriously and responded well." She hopes to offer this experience to all schools in her county during the next few years. The materials needed to support the extravaganza have been made available to all counties in South Carolina, and four counties plan to offer the program. For further information, contact Joyce H. Jenkins, Extension Home Economics, 240 P&AS Building, Clemson University, Clemson, SC 29631. □

United States
Department of Agriculture
Washington, DC 20250

OFFICIAL BUSINESS
Penalty for private use, $300

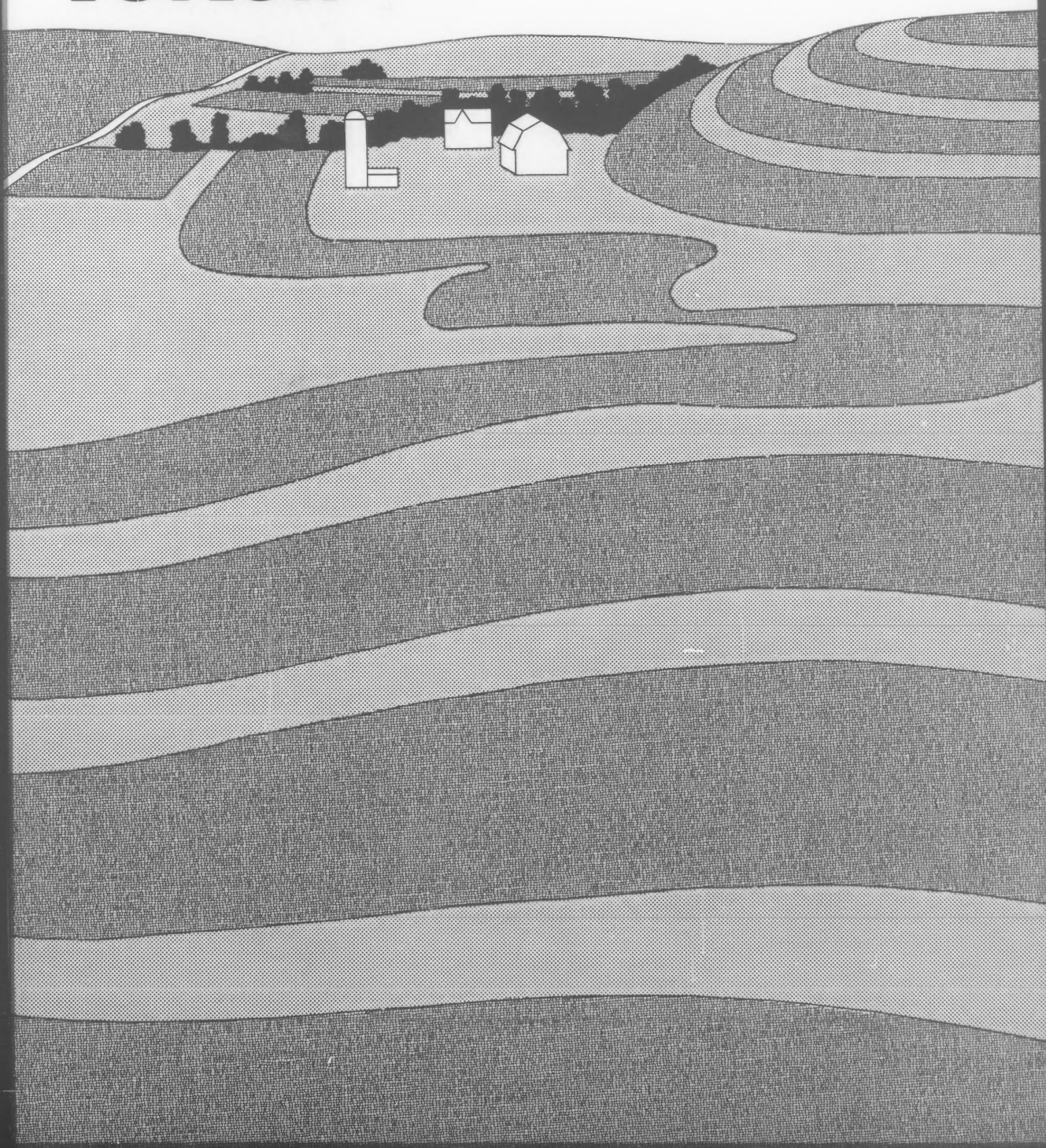
Postage and Fees Paid
U.S. Department of Agriculture
AGR-101



Fall 1983 United States Department of Agriculture

extension review

Land Use Management



review

Agricultural Scotomata: A Limiting Vision of the Future

What is "Agricultural Scotomata?"

"Scotomata" is a medical term meaning "dimness of vision—a blind or dark spot in the visual field" and too many engaged in agriculture may suffer from the impairment today, says *Dr. Russell G. Mawby,* Chairman and Chief Executive Officer, W.K. Kellogg Foundation, Battle Creek, Michigan. He presented the Extension Service Annual Seaman A. Knapp Memorial Lecture at the meeting of the National Association of State Universities and Land-Grant Colleges, Washington, D.C., Nov. 14.

Mawby challenged the land-grant audience: "Do we in agriculture have enough breadth of vision; do we see far enough; do we comprehend broadly enough what agriculture can and should be at the turn of the century and beyond?"

Mawby expressed concern around five points:

1. *The stature of agriculture within the university must be elevated through conscious effort by those in agriculture.*

He stressed that whereas in earlier days, agriculture was recognized as the moving force behind the creation of the land-grant institutions and was dominant in the structure, generally this is no longer the case. Other units of the university have grown at the expense of agriculture.

2. *Colleges of agriculture must continually demonstrate their efficacy in addressing issues of current vital public concern.*

He pointed out that as American society moves to the end of the 20th century, the issues at the top of its agenda have changed... to such things as concern for environmental quality, and nuclear arms, and the concept of health promotion/disease prevention.

He said: "As regards to physical well-being, an adequate supply of nutritious food is essential. While the primary mission of colleges of agriculture is the production and processing of food stuffs, implications for human nutrition is seldom a major element in programs of teaching and research. More often, curricula and courses emphasize productivity and profitability of the agricultural enterprise."

3. *Land-Grant colleges of agriculture should assure the coordinating leadership role in our nation's programs of agricultural research.*

Mawby said that the U.S. Department of Agriculture was essentially a research and education organization from the passage of the Hatch Act in 1887 through the 1930, but that beginning with farm programs initiated in the depression years, the USDA has been transformed into a conventional, governmental, bureaucracy managing varied programs of direct benefit to specific groups of farmers, consumers, and other special interests. He said that in 1930 USDA agricultural research activities accounted for a large part of its budget, but today they account for less than two percent of the USDA budget.

4. *Colleges of agriculture should contribute more actively to the processes of agricultural policy development.*

"As in the instance of agricultural research, agricultural policymaking has been altered substantially by farm programs which began in the 1930s," analyzed Mawby. He pointed out that for a hundred years farmers took the initiative in determining agricultural policy. Today those who want to influence decision-making and define policy agenda in agriculture must cooperate with non-farm sectors of the economy. It is apparent that the scope of traditional farm policy has expanded. Unfortunately, while the process of policy setting agriculture has become more tumultuous and the issues more urgent, the engagement of colleges of agriculture in this area of public concern seems to have lessened.

5. *Colleges of agriculture should launch new initiatives in continuing education, augmenting their traditional commitment to life-span learning.*

Mawby concluded: "I think it is fair to say that the land-grant universities have not been at the forefront in the development of external degrees. This seems particularly true in agriculture. Your college of agriculture is probably the only college in your university which has

Mary Nell Greenwood, Administrator, Extension Service-USDA, presents the Bronze Medal of the Seaman A. Knapp Memorial Award to Russell G. Mawby, chairman and chief executive officer, W.K. Kellogg Foundation, at the meeting of the National Association of State Universities and Land-Grant Colleges in Washington, D.C.

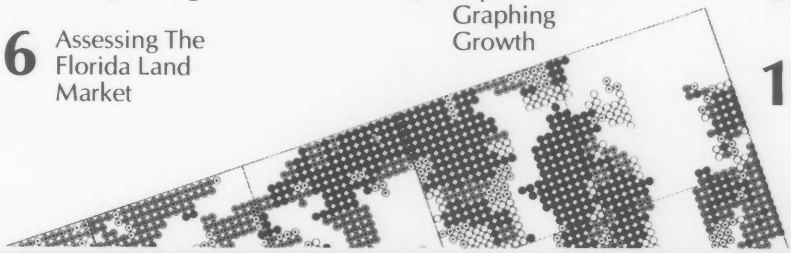
faculty members resident in every county of the state. Yet, typically, and in fact with only one or two exceptions to my knowledge, colleges of agriculture have done nothing in the creation of external degree programs of study to enable practitioners to complete the requirements for baccalaureate or advanced degrees."

Mawby recognized Dr. Seaman A. Knapp, founder of the Extension demonstration system of education for adults, with this summary:

"By vote of Congress, the two major buildings of the USDA in Washington are joined by a pair of graceful arches. One on the east is a memorial to Seaman A. Knapp and the one on the west commemorates James Wilson, who brought Knapp into the Department and supported his work. Whenever I see these arches, particularly the one on the east, my spirits are uplifted, but I know that the true memorial to Knapp is not there. It is to be found in part in the colleges of agriculture in the teaching, research, and Extension functions which they sponsor and which he helped to create. Even more powerfully and directly, his influence is to be found in the agricultural enterprises of this country, all of which in some measure rests on the bedrock of his thought and effort.

"May we be as adequate in our time as Knapp was in his."

contents



extension review

Vol. 54 No. 4
Fall 1983

John R. Block
Secretary of Agriculture

Orville G. Bentley
Assistant Secretary for Science and Education

Mary Nell Greenwood
Administrator
Extension Service

The *Extension Review*, quarterly publication of the Extension Service is for Extension educators in county, state and USDA agencies. The Secretary of Agriculture has determined that the publication of this periodical is necessary in the transaction of the public business required by law of the Department. Use of funds for printing this periodical has been approved by the Director of the Office of Management and Budget through September 30, 1985. The Review is issued free hy Law to workers engaged in Extension activities. For sale by the Superintendent of Documents, Government Printing Office, Washington, D.C. 20402. Send manuscript inquiries to: The Editor, Extension Service, Room 3135-S, USDA, Washington, D.C. 20250. Telephone (202) 447-4651.

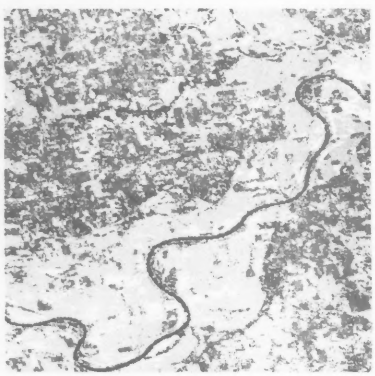
Reference to commercial products and services is made with the understanding that no discrimination is intended and no endorsement by the Department of Agriculture is implied. Extension Service of the U. S. Department of Agriculture offers its programs to all eligible persons regardless of race, color, sex, or national origin, and is an Equal Opportunity Employer.

Director of Information Ovid Bay
Editor: Patricia Loudon
Associate Editor: Judith Armstrong Bowors
Associate Editor: James Wolfe
Design Director: Deborah Shelton

Mapping for the Computer Age

Gail S. Ludwig
Extension Geographer
University of Missouri-Columbia

Above: Geographer at the Geographic Resource Center analyzes satellite data for land use mapping.



Left: Satellite imagery from LANDSAT, a land resource satellite, depicts a computer-generated land use map of Missouri river bottomland. Extension geographers at the Geographic Resource Center, University of Missouri-Columbia, use the invaluable data from LANDSAT for land use mapping projects and for monitoring land resources.

Many people experience confusion and disbelief when returning to their childhood home after a lengthy absence. Often the landscape has changed so drastically that locating something as simple as the family farm may not be an easy task. An interstate highway may have replaced the gravel road, a convenience store may mark the location of the neighbor's house or the silhouette of a shopping center may dominate the horizon instead of a forest filled with childhood memories.

Origin: Biplanes and Cameras

Changes in land use occur continuously and often it takes an extended absence from an area to clearly see how much has changed over the years. Prior to the development of cameras and recording systems, the majority of mapping was done on foot by surveyors and explorers. World War I brought together the airplane and camera and the development of aerial photography for mapping purposes began. Technological advances in aerodynamics, photography, mapping equipment, and the advent of computers and satellite systems have ushered land use mapping into the high-tech fields of remote sensing and computer cartography.

A major headache encountered when preparing land use maps is updating the information on a timely basis. The cost of gathering land use data "on foot" is often prohibitive, so much of the data is collected using aerial photography. Because of the time necessary to photograph, process, and interpret the results, the information is frequently out of date before mapping can be completed. This problem brings into light a major issue faced by geographers, planners, and all Extension personnel involved with land use. What is the fastest and most economical method of preparing and updating land use maps for an area?

Geographic Resources Center

Since the early 1970's the University of Missouri Extension Division has assisted state and federal agencies, businesses, and industry in land use mapping projects. The map products and data being produced captured the interest of enough individuals so that an interdisciplinary center for applied research was established in 1980. The Geographic Resources Center (GRC) provide expertise and assistance to those involved in land use mapping and applied cartography.

GRC focuses much of its research on data generated by the series of land resource satellites called LANDSAT. The first satellite—launched in 1972—caused a revolution in mapping and land use research.

LANDSAT is calibrated to record information on land cover and land use from an altitude of over 500 miles. The recording system on the satellite is designed to distinguish land use patterns of areas greater than 1.1 acres. The advantage of this system is that land use data would be collected monthly, if not more often, when more satellites were made operational. Since the first launch in 1972, three other LANDSAT satellites are in orbit and the technology for interpretation and application of the data has increased significantly.

Inventorying the Earth

As an arm of Extension the Geographic Resources Center works with

North and Central America from the viewpoint of a weather satellite.

many state and federal agencies and industries using the wealth of information generated by LANDSAT. Sample projects include: inventorying and monitoring soil, water and related resources in various counties for the Soil Conservation Service; analyzing ground cover for the wild turkey population in the northern portion of the state for the Missouri Department of Conservation; completing a trade area analysis for a state based farm cooperative; and analyzing forest lands for a private timber company.

The role of GRC as a major state research facility for monitoring land resources has proven to be a valuable addition to the Extension program in Missouri. Work on test projects has progressed steadily. The potential for developing a land monitoring system that can be based at the GRC facility with "dial-up" access via microcomputers in county Extension offices throughout the state is excellent. Thus Extension personnel could have immediate access to land use and land cover information.

Monitors Vegetation

Recently, GRC has worked with the National Oceanic and Atmospheric Administration (NOAA) to use weather satellite data to monitor vegetation throughout the world. There are several advantages to using this data for land use monitoring: it is cheaper to collect and process; daily images are available for most parts of the world; and products can be obtained within three weeks of the collection date. This satellite is being tested as another possible method of collecting and analyzing land use and land cover data.

Future Projections

The changes in land use mapping that have occurred in the past ten years are not showing any signs of abating. Like the development of the computer, land use mapping has progressed at an unbelievable rate since satellites were first used as monitoring systems.

In the future, it may be common place to have a continuous land monitoring system available in every Extension office in the country. Changes in land use may be detectable as soon as they occur. Determining answers to questions about land use changes or the number of acres of wheat, corn or any other crop being grown in your area may be as easy as turning on your computer and placing a telephone call to hook up with the satellite overhead! □

Assessing The Florida Land Market

David Mulkey and Rodney L. Clouser
Food and Resource Economics Department, CES
University of Florida, Gainesville

Since the midseventies, preservation of agricultural land has received a great deal of attention in nationwide policy debates, and increasingly this debate has resulted in concrete policy actions. Forty-nine states have some form of use value assessment for agricultural lands, 38 states have some form of "Right to Farm" legislation, 22 states have adopted agricultural zoning, 15 states have enacted agricultural districting programs, 10 states have adopted transfer or purchase of development rights programs, and 11 governors have issued executive orders encouraging the minimization of farmland conversion.

Many city and county governments have also taken steps to discourage the conversion of farmland. The 1981 Food and Agriculture Policy Act specifically addressed farmland preservation. It requires all Federal agencies to determine the impact of their programs on farmland conversion and to develop plans to minimize those impacts. Thus, farmland preservation is a reality that dictates a broader focus for Extension programs.

The Land Market System

Each individual landowner, guided by self-interest, makes decisions regarding the use of land under his or her control. Thousands of individuals making such decisions results in a process loosely referred to as the "land market." Parcels of land are bought and sold for a variety of uses over time. A particular mix of land uses in any area comes about due to the interaction of supply (soil types, climate, location, water availability, transportation systems, and so on) and demand (amounts people will pay to use land).

Some government control exists in the land market. Landowners must consider rules and regulations designed to ensure that the market works in an orderly manner or to influence the outcome of the process. Just as governmental rules and regulations effectively constrain or limit the actions of landowners, the governments are subject to the constraints imposed by the state and Federal constitutions.

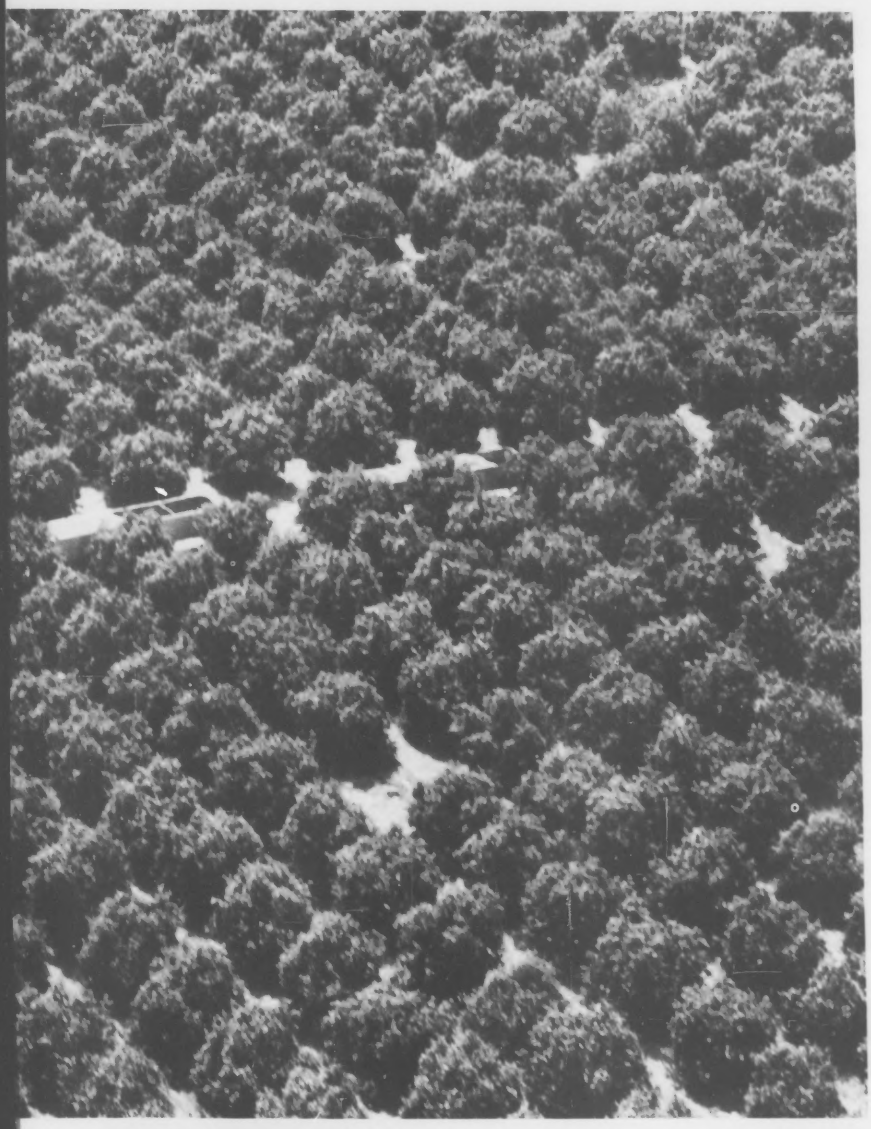
Implications for Extension

At least three levels of decisionmaking are represented in the land market: (1) landowner, (2) legislative/administrative, and (3) constitutional. Changes at any of these levels affect the amount of land devoted to various uses. Landowners constantly change their actions in response to rules and regulations and to changing market conditions. Administrative and legislative bodies often change rules in response to political pressures and perceived social needs. The constitution itself is subject to judicial interpretation and change through the amendment process.

Extension education programs involving agricultural land preservation should operate within the framework of land markets and government rules and regulations. They need to focus on rule changes and how they affect the way in which farmers/landowners operate. Agricultural landowners have a vested interest in these rule changes—they stand to gain or lose as their rights to use land are expanded or contacted.

Nonlandowners have a less direct but equally valid interest in rule changes. Quality of life in local communities, environmental quality, food prices, and food availability are related to the amount of land in agricultural use. Agricultural land preservation education programs need to reach producers, elected officials, planners, and public agency administrators.

Extension programs for the agricultural producer may be made useful by a focus on understanding the policymaking process and evaluating alternative outcomes of the process. Farm clientele (landowners) have a vested interest in the outcome of farm perservation programs and need to be involved in the policy process. It is essential for them to understand current land use policies at the local, state, and Federal level. Once basic information has been disseminated, Extension programs can address how farm groups and individuals can get involved in the policy process.



With traditional farm audiences, Extension programs should present and evaluate farmland preservation alternatives. Agents should provide information that allows the farmers to deal with program costs, who pays the costs, level of government involved, potential changes in property rights, and compensation for changes in those rights.

Useful for Clientele

These program suggestions could also be used for nonfarm Extension clientele. These groups attempt to influence agricultural programs yet they often have little knowledge of agriculture.

Extension should attempt to provide material to enable these clients to gain a broader understanding of agriculture, and its problems, and the impacts of various policies. Numbers and types of crops, agriculture's contribution to local jobs, income and tax revenues, and needs for inputs such as water and energy exemplify this type of information.

For the best informed decisions, all participants in the policy process need to be aware of current rules, understand how the rules are changed, and realize the farm and nonfarm implications of changes in existing rules and regulations. □

Economic Impact Models—Graphing Growth

Leon E. Danielson
Extension Economist
North Carolina State University, Raleigh

Dubbed a "rural turnabout," population and housing growth during the early 1970s shifted greatly from metropolitan to nonmetropolitan areas throughout much of the nation. Growth pressures were greatest in the South and West.

The shift was welcomed and often promoted by many who had observed the decline of rural areas for decades. But it has also raised land use issues associated with growth and development that are receiving increased attention throughout rural and small-town America. Some of these issues are retention of farmland; nuisance suits and complaints over farm odors, noises, dusts, and chemicals; and water quality.

Also being questioned is the ability of local governments to respond to changing demands of a rural population that is becoming increasingly more nonfarm oriented. A recent survey of 320 university faculty in the South by the Southern Rural Development Center identified the number one rural development issue as the "impact of growth and development on the demand for and cost of services." Extension is aware of these changes and is developing programs to meet these needs.

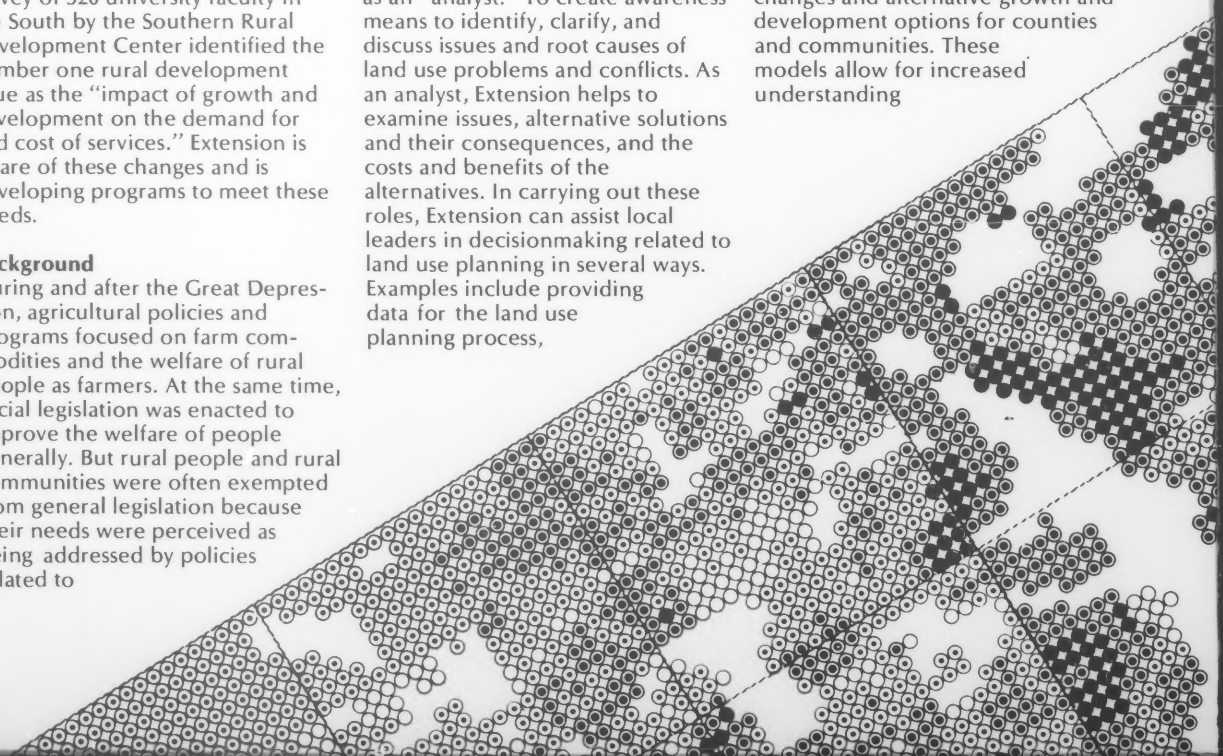
Background
During and after the Great Depression, agricultural policies and programs focused on farm commodities and the welfare of rural people as farmers. At the same time, social legislation was enacted to improve the welfare of people generally. But rural people and rural communities were often exempted from general legislation because their needs were perceived as being addressed by policies related to farm commodities. With the primary focus on agricultural producers on the one hand and urban workers on the other, many issues of concern to rural people and communities were often overlooked.

Today rural residents want their small towns and counties to provide a higher quality and much wider variety of services and facilities than in previous years. They want improved school programs and facilities, emergency health care, and a host of other services. Local funding must be adjusted, especially as "new federalism" becomes a reality, and different amenities must be provided. To a large extent, these services will be of an urban nature, but they often must be provided by rural, not urban, institutions.

Extension Roles
Alternative roles that Extension might play in land use planning are to "create awareness" and to serve as an "analyst." To create awareness means to identify, clarify, and discuss issues and root causes of land use problems and conflicts. As an analyst, Extension helps to examine issues, alternative solutions and their consequences, and the costs and benefits of the alternatives. In carrying out these roles, Extension can assist local leaders in decisionmaking related to land use planning in several ways. Examples include providing data for the land use planning process, identifying and clarifying issues, identifying alternative land use policies available to solve issues and problems, assessing the impact of alternative land use policies, and analyzing the net impacts of alternative types of future growth and development.

Extension analyzes the impact of growth and development on small towns and counties in a variety of ways. Studies of specific resources have provided estimates of water and sewer systems demands expected if certain levels or types of growth and development occur in the area. Analyses of fire protection alternatives, school location options, and waste disposal systems help officials make cost-effective decisions.

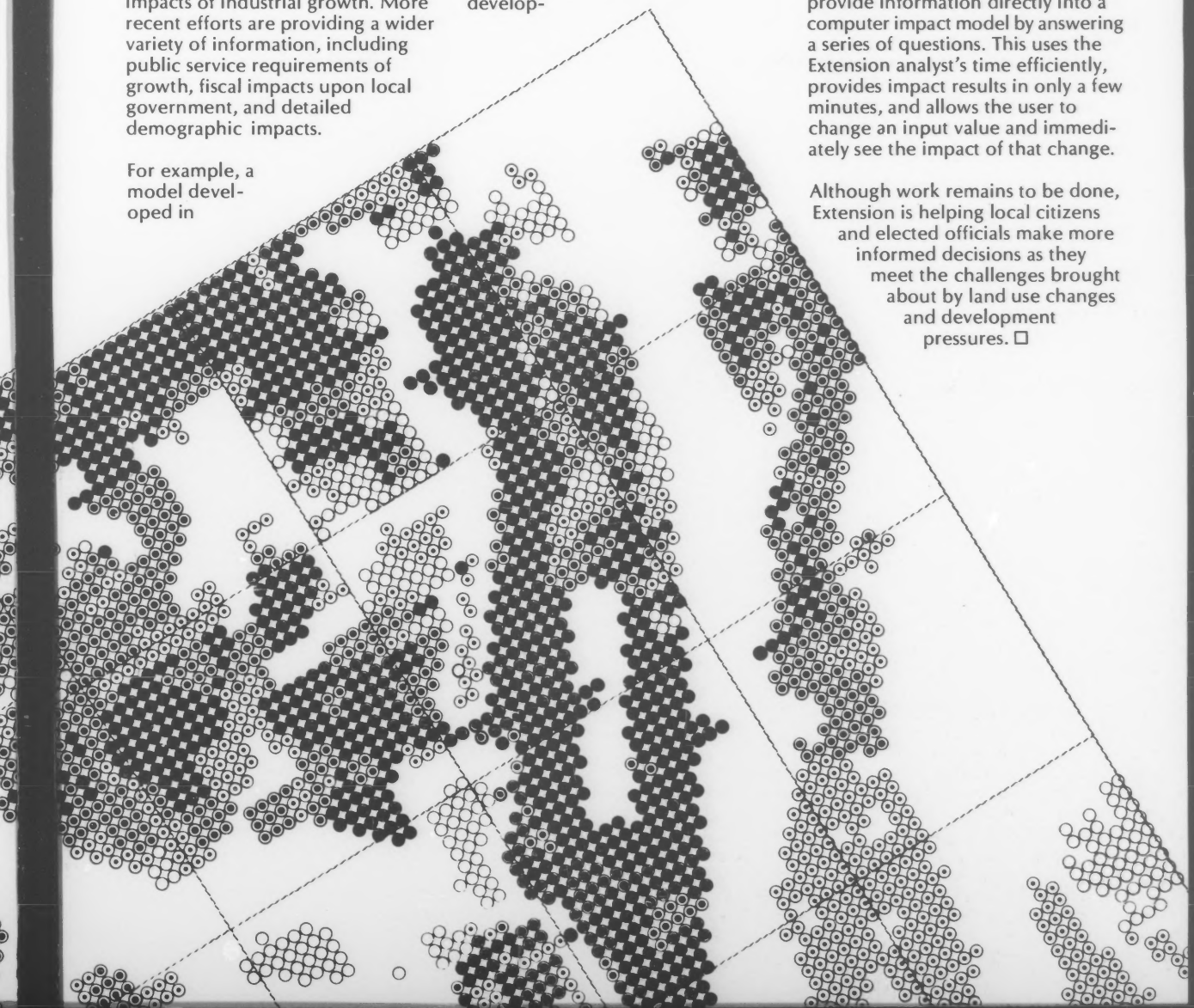
Economic Impact Models
Recently several states have constructed economic impact models to assess the impact of land use changes and alternative growth and development options for counties and communities. These models allow for increased understanding



of the complex linkages between various sectors of the economy and the overall net impacts of growth. Without such information, there is a tendency to concentrate solely upon the gross benefits of development and to overlook costs and unforeseen impacts that might also occur. Early models focused upon estimating employment and income impacts of industrial growth. More recent efforts are providing a wider variety of information, including public service requirements of growth, fiscal impacts upon local government, and detailed demographic impacts.

For example, a model developed in Oklahoma has four components: an economic account, a capital account, a demographic account, and a government account. The models can be quite detailed. A recent study of a North Carolina county projected household income, household employment, and governmental revenues resulting from growth and development. Governmental revenues were estimated from impacts upon the level of business and residential property tax, sales tax, utility franchise tax, intangible tax and motor fuel tax. On the other hand, local public sector costs were estimated from the projected increase in population. Kentucky has developed an interactive approach whereby users provide information directly into a computer impact model by answering a series of questions. This uses the Extension analyst's time efficiently, provides impact results in only a few minutes, and allows the user to change an input value and immediately see the impact of that change.

Although work remains to be done, Extension is helping local citizens and elected officials make more informed decisions as they meet the challenges brought about by land use changes and development pressures. □



Land in Agriculture

Verne W. House
Extension Economist
Montana State University, Bozeman

A few farmers have told me: "The most effective way to keep land in farming is to raise prices for what we sell." Ask a farmer if he or she wants to keep land in agriculture and the most likely answer is "You bet I do!" And I believe them. However, farmers also believe in preserving property rights. Farmland with conversion potential is unlikely to stay in farming unless government intervenes. The potential for capital gain dominates decision on land use. As for protecting property rights, farming tends to be a risky and personal business. The retirement fund is often in the form of salable land.

Mixed values produce mixed motives and, in turn, a variety of methods of keeping land in farming. So, the current situation represents a compromise among measures. Attempts to maintain land in agriculture are categorized below. I define planning as information gathering with potential recommendations. For example, planning may utilize a Soil Conservation Service (SCS) soil survey to develop recommendations but planning itself does not implement those recommendations. Planning is defined in each state's laws.

Regulations
Several methods of maintaining land in agriculture are regulations based on government's power to police as defined in our national and state constitutions. In this group are commonly known often controversial methods—zoning, subdivision regulations, and building codes.

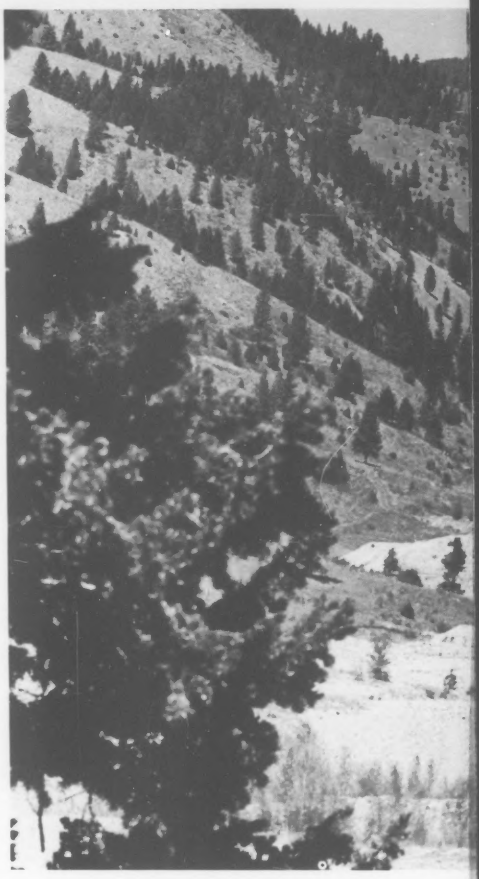
Incentives and Subsidies
A second group includes incentives and subsidies implemented through our tax systems. The most common (and least effective) of these are the so-called "Greenbelt laws" which tax farmland on its value as farmland regardless of its potential for housing, industry, or other use. Most states have some type of "Greenbelt law." While these tax breaks may be justified, numerous studies have documented their ineffectiveness. The sliding scale capital gains tax could keep land in farming but it is not commonly used.

Alternatives
Controversy over some of the regulatory and tax methods has encouraged planners to search for alternatives. This search has gone in two directions. One is to combine methods into approaches that work and are acceptable. In this group is Wisconsin's Farmland Preservation Program; it provides some income tax credit to farmers in counties with an agricultural preservation plan and more if it also has exclusive agricultural zoning.

Other states and organizations are using and promoting a combination of public and private incentives. For example, the Montana Land Reliance has a "donor-assisted management program". The organization purchases agricultural properties and leases them out. Investment capital comes from private donors who receive significant tax deductions.

Units of government can sometimes influence private investment locations by designation of business/industrial parks and control over arterials, highways, and schools. More often, government responds to rather than influences private development.

Another category of methods requires development of literature, lobbying, and organization. These include education, persuasion, and propaganda. No one is likely to admit using propaganda (every interest group calls its effort education), but much intentional slanting of information occurs. For



example, when the USSR and China bought large quantities of grain in 1972–73, some people predicted domestic food shortages and hoarding. The longshoremen responded by refusing to load the grain.

Nonregulatory Techniques
Whether we call it education or persuasion, "nonregulatory techniques" are being used to encourage people to be "stewards of the land," and to consider alternatives to market-dictated growth patterns. In general, education, persuasion, and propaganda pit "land ethic" against "the profit motive."

High interest rates contribute to retaining land in agriculture by dampening demand for homesites. High interest rates have been rationalized on other grounds. So we do not usually consider monetary policy among the alternatives.

What methods appear to be both effective and acceptable? Wisconsin's official reports claim success. Oregon's complex system of mandatory local planning, exclusive farm zones, and urban growth boundaries has been controversial but seems viable.

LESA

The new acronym to know is LESA, Land Evaluation and Site Assessment, a significant advance in SCS's well-known methods of land evaluation (LE). Land evaluation is based on soil productivity regardless of location. LESA includes site assessment, too.

LESA has been favorably received.

In summary, LESA is much more comprehensive and useful than its predecessors for local land use decisionmaking. It provides a consistent, technically defensible method of evaluating agricultural viability, yet it has flexibility to encompass a variety of local conditions and circumstances.

LESA could potentially be useful with several types of farmland retention policies. For example, it could be used in conjunction with agricultural zoning, agricultural districting, or purchase of development rights.

This system also has other potential uses. For example, it could be used for farmland property tax assessments, particularly in states with a use-value assessment program. State and federal officials could use the system in making environmental impact statements or environmental check lists. And the system could be used to help determine the best location for new water, sewage, and transportation systems.

Secretary Block has issued an official policy statement that USDA programs will protect agricultural lands. A statement in the Congressional Record of July 12, 1983, announces his intent that LESA be the method used. Although LESA depends on soil surveys (which have not been completed for many counties) and the methods of implementing LESA are not yet determined, LESA is a method worth studying. At least, it should improve our information base, our understanding, and our involvement in determining how our agricultural land will be used.

Extension agents and specialists are educating people about agricultural land use in many ways. For example, they suggest (1) increasing understanding about the role of agriculture in the economic base; (2) developing and disseminating accurate estimates of conversion of agricultural land to other uses; (3) helping citizens identify and evaluate alternative public policies to reach their objectives. □

Plowout: Cropland Conversion in Montana

James B. Johnson
Extension Farm Management Specialist
Montana State University, Bozeman

Converting traditional grazing lands to cropland has aroused strong interest and emotions in Montana and several other western states. Major reasons for conversion include provisions of the federal farm commodity programs, and certain federal income tax provisions.

Example of a Conversion
In preliminary study, we looked at these factors: capital costs for converting rangeland to cropland; differences in tax rates on capital gains ordinary income; investment credit; and an increase in wheat price. Economic effects of these factors were estimated for a 2,000-acre conversion in eastern Montana:

Year 0 (now)—purchase rangeland at $100 per acre and plow rangeland;
Year 1—leave fallow the plowed land and plant 2,000 acres of wheat in the fall;
Year 2—harvest (obtain some crop) and summer fallow;
Year 3—leave fallow entire area and plant in the fall;
Year 4—harvest 2,000 acres of wheat (obtain reasonable crop) and fallow;
Year 5—sell the 2,000 acres as cropland.

Break-even cropland prices for the investor in the fifth year were calculated for several marginal income tax rates.

Impacts on Tax Rates
In the example, when initial capital outlays were doubled for converting rangeland to cropland, the break-even selling price for cropland rose only slightly. Investors at the zero percent marginal tax rate would incur all of the increase in conversion costs. Those at the 50-percent marginal tax rate would incur only half the increase, as they could deduct conversion costs immediately against their tax liabilities on other income.

An investor at the zero marginal tax rate does not benefit from reduced tax rates on capital gains versus ordinary income. However, investors at higher marginal tax rates can deduct costs they incur in transforming rangeland to cropland against tax liabilities on ordinary income. The investor with a high marginal tax rate defers taxes. Eventually, the investor pays at the lower capital gains rate, which is only 40 percent of the marginal federal income tax rate on ordinary income. The reduced capital gain tax rate means that the break-even selling price of cropland is reduced considerably for investors at the higher marginal tax rates.

The potential investor at the zero marginal tax rate cannot take advantage of investment credit. However, investors at all other marginal tax rates can obtain about the same benefits from investment credit. Therefore, no matter what the investor's marginal tax rate is, investment credit has about the same impact on the break-even selling price. (We assume the investor has enough tax liability on other income to use the investment credit.) All taxpayers with tax liabilities generated by other income could reduce their liability by 10 percent of the depreciable assets, subject to investment credit in the first year they use the qualifying assets.

Programs Affecting Conversion
Government programs have two possible effects on the investor who converts rangeland to cropland. First, the investor gets greater revenue from government payments during the period in which the investor owns the land. This impact could be viewed as a price increase. As long as government payments are relatively small (that is, similar to a wheat price increase of 50 cents a bushel), the influence would be relatively small and more beneficial investors with a higher marginal tax rate than to those with a lower one.

Second, the investor could get a higher selling price for cropland if it is likely to qualify for future government programs. The increased profits would be capitalized into increased selling prices. The higher selling prices for cropland would be about the same in any marginal tax rates.

So the capital gains provisions of the Federal income tax code provide a major incentive for investors in the higher marginal income tax brackets to convert their rangeland to cropland. This finding does not mean that government programs would not benefit an investor who intends to sell converted land if the new cropland qualifies or is expected to qualify for the farm program.

Possible Policy Options
People attempting to limit conversion of rangeland to cropland by decreasing incentives may wish to consider revising certain Federal tax features pertinent to land conversion. The ownership period required for asset sales to qualify as capital gains could be lengthened. Or deductions of conversion costs from tax liabilities could be disallowed. It is important to consider how these changes would affect both farm and ranch sales by farmer-owners and also investments in land and water conservation improvements. □

Oregon Defines Commercial Agriculture

James R. Pease
Extension Land Resource Management Specialist
Department of Geography
Oregon State University, Corvallis

Underway in Oregon is a major program to protect the state's commercial agriculture land base—a program that affects more than 18 million acres of privately owned land.

As this program progresses, two problems are increasingly apparent: 1) an inadequate data base and criteria for determining which land to protect exists, and 2) data to identify characteristics of commercial agriculture is lacking. This information is needed by each county in order to comply with statewide standards on agricultural land use.

Local planning agencies turn to county Extension offices for help with defining commercial agriculture or in evaluating farm management plan proposals so that they will meet the commercial agriculture standard specified in the statewide land use goals. This standard requires that land divisions or farm dwellings in "Exclusive Farm Use" zones be of such size as "shall be appropriate for the continuation of the existing commercial enterprise within the area."

The confusion and litigation over what scale of operation contributes in a substantial way to the agricultural economy has been expensive to some counties. In 1981, the Land Resource Management Program of Oregon State University Extension Service undertook a study, funded by the Western Rural Development Center through the Rural Development Act, to establish a data base for use in describing the characteristics of commercial agriculture throughout the state. The study was undertaken in three phases: (1) a review of existing data; (2) a contract with the U.S. Bureau of Census to provide new data tables for Oregon; and (3) a county level survey of farmers.

Study Phases

In phase one the staff reviewed published census data and completed county surveys and other reports to determine the usefulness of existing data. From this information, staff members identified and outlined six characteristics of commercial agriculture pertinent to the study which required additional data. Extension then contracted with the U.S. Census Bureau to prepare a computer model for tabulating this raw census data at the county level.

The new data tables, compiled by the Census Bureau, were delivered to the land resource management specialist in September 1982. The data are tabulated by Standard Industrial Classification (SIC) Codes for 11 types of agriculture and by 6 size categories.

The tables can be used to obtain the scale of operations that make "substantial" contributions to the market; to determine the dominant types of agriculture in a county by number of farms, by number of acres, and by value of products sold; to determine the percentage of leased and rented lands; and for a number of other interpretations.

Table Dissemination

The OSU Extension Land Resource Management Program disseminated these tables to each county Extension office in the state. The staff discussed their purpose and application through seven regional workshops, several other presentations, written communications, announcements in newsletters and journals, and in radio spots on the Extension radio network.

The Bureau of Census will keep the computer program on file for other states to use. Costs of running the program for a county, region, or state are quite modest. Inquiries on costs and time frame should be addressed to: John Blackledge, Agricultural Division, Bureau of Census, Washington, D.C. 20233, telephone 202-763-5819.

To supplement these data, the OSU land management staff is also working on a county level survey of commercial agriculture. We have completed the survey for three counties and will use the results as baseline data for three state agricultural districts.

The data from these county surveys is keyed to the SIC codes (as used in the census tables), to types of agriculture, and to geographic areas of the county. For example, if a person wanted to know about field crops in bottomlands or Christmas tree farms in foothills, the county survey data show average farm unit size, gross income, field size, annual operating costs, capital investment, marketing, and other information. The data can be used in a variety of ways. County Extension agents can prepare profiles of individual types of agriculture (similar to enterprise data sheets), a summary of description of agriculture in an area of the county, or agricultural statistics for the county as a whole.

The census tables and the county surveys provide, for the first time, a data base for agricultural land use policy and for zoning decisions. The data are now being used as the primary source of documentation for county land use plans and for state review of the plans.

While other land use issues are languishing, many states have enacted agricultural land legislation in the last 2 years. Defining commercial agriculture for land use decisions will remain a significant problem in the future for other states with agricultural land preservation programs. □

The Prairie Tree Project

Gary L. Hergenrader
Head and State Forester
Department of Forestry, Fisheries and Wildlife
University of Nebraska-Lincoln

The Prairie Tree Project, a cooperative effort focused on windbreaks planted in the thirties, has strong roots in the past and high potential for the future. Initiated by Nebraska and Kansas Extension specialists and staff members from other natural resource agencies in the two states, the project stems from the Prairie States Forestry Project, a major undertaking of the U.S. Forest Service to establish windbreaks in the Great Plains in the thirties and early forties. The intent is for residents of Kansas and Nebraska, yet unborn, to enjoy the benefits of windbreaks as a result of the current project.

A Brief History
The Prairie States Forestry Project, better known as the Shelterbelt Project, was the brainchild of President Franklin D. Roosevelt. The idea for the project was supposedly conceived during a presidential campaign visit to Butte, Montana in the summer of 1932. Reportedly, Roosevelt was dismayed at finding no tree there to provide him shade on a hot July day. He was also deeply concerned about the rampant soil erosion, the failed crops, and, later, the economic troubles in the Great Plains produced by the drought of the mid-thirties.

Roosevelt's plan was to plant shelterbelts in a strip 100 miles wide stretching from Canada to the Gulf of Mexico. Although not fully completed, the plan resulted in the establishment from 1935 to 1942 of 18,600 miles of linear plantings occupying 240,000 acres on 30,000 farms. All together, nearly 220 million trees were planted in North Dakota, South Dakota, Nebraska, Kansas, Oklahoma, and Texas. Nebraska and Kansas were the leaders in the effort with 4,169 and 3,541 miles of windbreaks, respectively. Conservationists recognized the value of windbreaks for protecting crops, reducing soil erosion, and conserving soil moisture. Windbreaks protect farmsteads and livestock from the harsh winds typical of the Plains environment. Some conservationists believed that planting trees increased precipitation. Carlos Bates, a Forest Service forester, recognized in 1911 that crops protected by windbreaks produced increased yields.

Need for the Prairie Tree Project
Today these mature shelterbelts need renovation to restore their vigor and function. Demands of modern agriculture, particularly the incompatability between shelterbelts and center-pivot irrigation systems, have caused removal of many windbreaks established in the thirties. Over 206 miles of windbreaks in Nebraska were removed during 1970-75.

Enormous production of the American farmer has not been exacted without negative impacts on the natural resources that sustain it. Soil erosion is increasing above acceptable levels. Water resources are dwindling. Costs of non-renewable energy sources are becoming extremely expensive. Thus, the time is ripe for the Prairie Tree Project.

Project Development
Project objectives are to encourage proper management of existing windbreaks and to stimulate the planting of new ones. Extension staff will provide materials with latest available informaiton on benefits, design, planting, and care of windbreaks to landowners.

Information will emphasize multiple benefits, including crop and livestock protection, increased yield, conservation of soil and water resources, conservation of energy, and production of fuelwood.

In the first phase of the Prairie Tree Project, Extension specialists from Kansas and Nebraska brought together experts from resource agencies in the two states to develop educational materials with state-of-the-art information about windbreaks for Extension agents, Soil Conservation Service personnel, Fish and Game biologists, and Natural Resource District technicians. These materials include Extension circulars and other printed information, slide-tape programs, TV and radio spots, and in-service training workshops. Later, staff members will use the materials with farmers. Extension materials are being developed.

Economic Benefits of Windbreaks
Much has been learned over the past 50 years about the economic benefits of windbreaks. Researchers are documenting the magnitude of the benefits resulting from increased crop yields, energy savings, snow management (living snowfence), and improved livestock performance. For example, Jim Brandle, research forester at the University of Nebraska, has shown that fields in eastern Nebraska protected by windbreaks have yielded 23 percent more soybeans and 18 percent more wheat than unprotected fields. Based on the relationship between maintenance energy requirements and windchill, David Hintz, National Windbreak Forester for the Soil Conservation Service, has shown that at 0°F and winds of 25 mph, common winter conditions in the Great Plains, a 660-pound beef animal protected by a windbreak requires 20 percent less feed for maintaining energy than if the same animal were exposed to the wind.

Below: John Schleusener's son Lyle stands in the shade cast by the first Nebraska windbreak trees as they look today.

Bottom: In the mid-1930's these seedlings—planted on the John Schleusener farm near Orchard, Nebraska—represented the first windbreak planted in that state as part of the Prairie States Forestry Project.

Doak Nickerson, District and Extension forester at the Panhandle Station, University of Nebraska, compared costs of erecting and maintaining slatted snowfences along Nebraska roads for snow control with costs of living snowfences (tree windbreaks planted along roadsides that prevent snowdrifts from closing the roads). At today's prices, it cost $5,400 per mile more for slatted snowfences than for living snowfences. Average life span of a slatted snowfence is 5-10 years while that of living snowfence is around 50 years. Over 50 years, living snowfences could produce savings of more than $70,000 per mile.

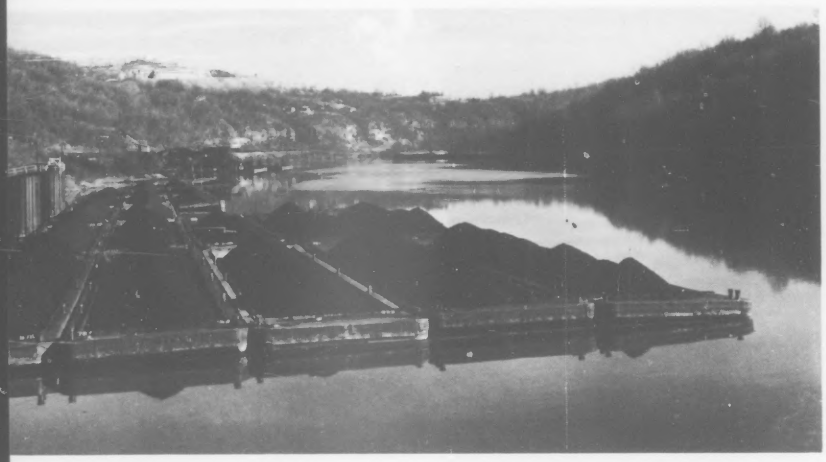
New windbreak design requires taking much less land out of production than was needed by the windbreaks planted in the thirties. Windbreaks then often contained 10 to 12 rows of trees while today two rows of trees can provide effective protection. Some modern designs allow for the harvest of fuelwood without impairing the windbreak's protective function. The favorable economics described above form the basis for the optimism that the objectives of the Prairie Tree Project will be realized.

A Cooperative Effort

Today, as was true 50 years ago, such an effort as the Prairie Tree Project can only succeed through combined efforts of Federal, state, and local conservation agencies. Those pledging cooperation and support are the governor's of Kansas and Nebraska, the state foresters, the state conservationists, the state directors of the Cooperative Extension Services, Game and Parks Commissions, Departments of Agriculture, Agricultural Stabilization and Conservation Services, Natural Resource Districts, the regional forester, Region 2, U.S. Forest Service, and the executive director of the National Arbor Day Foundation. Future generations will be assured of trees to shield them from the hot summer sun. □

Focusing on the "Pocketbook Issues"

Anthony Ferrise
Extension Rural Development Specialist
Rural Development Center for Extension and Continuing Education
West Virginia University, Morgantown



West Virginia may be a relatively small state, but when it comes to landowners it ranks high. There are over 15 million acres of land in the state; most of this acreage is privately owned and occupied by the 1.9 million residents. Extension educational activities have been refocused on real property issues and have resulted in a more vibrant and useful response from the public.

In 1970, a multidisciplinary statewide land use committee, consisting of representatives of the Farm Bureau, League of Women Voters, and state and Federal agencies was organized. The committee was charged with studying, developing, and making available information on land use issues. The committee has relied upon individuals and small working groups to conduct applied studies, develop publications, and other educational materials, and to conduct forums and conferences. Research support for this work has been strong. Funds to conduct activities have been supplied by the governor's office, state associations, and West Virginia University.

Activities of the committee during the first 8 years were largely centered around the title of land use. About 5 years ago, there was a dramatic increase in such developmental activities as exploration for and production of oil and gas, private recreational investments, farming, use of coal and timber, property taxes, and water rights issues. These "pocketbook issues" have caused a refocusing of efforts with greater emphasis now placed on real property issues. This refocus has prompted a strong public response.

Applied Research Studies

Among the applied research conducted in the past have been such studies in major changes in land use in West Virginia as: public views on land use a.ıd environmental issues in Mineral County; state land use laws; and a 9-county study of rural residents in West Virginia. In addition, there has been a 9-county telephone survey of the views of county officials regarding land use issues; an inventory of state-owned land on a county-by-county basis; and an annotated bibliography on land use in West Virginia.

Twenty-two publications have been developed and distributed to over 50,000 people. Eleven of these publications have dealt with land use and 12 with real property.

A state conference on housing was held following a tragic flood which hit the southern part of the state. Over 200 people attended this meeting.

A series of five public forums, conducted with the state tax department, dealt with topics of real property, taxation, property leases and mineral taxes. Over 500 people attended, including industrialists, rural residents, farmers, and elected officials.

Three public forums were held on water rights, coal slurry pipelines, and the water supply problem in West Virginia. Over 3,000 people participated in these forums. An additional 35 meetings dealing with real property issues on oil and gas have been held throughout the state.

Use of Videotapes

An 11-minute slide script presentation on land use was developed and 12 copies were distributed to groups in the state. The were funded by the Governor's Office of Federal/State Relations and have been viewed by over 5,000 participants at meetings. Video tapes were also devloped and distributed to the state television station.

Demands Increase

One of the primary missions has been to provide balanced information to policymakers and residents in the state's land use issues, alternatives, and consequences of the alternatives. By linking up with diverse interest groups such as the Farm Bureau, county assessors, coal, oil and gas interests, League of Women Voters, homemaker groups, elected local officials, and state government and agricultural experiment stations, we have been able to better fulfill the mission under the constraint of very limited resources.

Issues Must Be Identified

One person cannot effectively conduct a public policy program on such a complex issue. To be successful, one must identify the issues, the relevant target audiences, and at the same time tie this information in with the proper research support—in our case with the Division of Resource Management in the College of Agriculture and Forestry. In addition, relevant state agencies have been involved such as the Department of Natural Resources, Department of Agriculture, Governor's Office, Highway Department, Department of Health and Geological and Economic Survey.

Things will continue to happen in West Virginia in the area of land use and property issues. Information developed will continue to be used heavily by various groups. Demands from members of the legislature, Farm Bureau, homemaker groups, and county officials continue to increase. The legislature in recent years has enacted laws for: the preservation of agricultural land, the right to farm, a property tax amendment to the State Constitution and oil and gas laws.

At present, the legislative judiciary committee is in the process of establishing a task force to examine issues associated with water rights in West Virginia.

Changes will continue in West Virginia. Balanced, objective program activities offered by Cooperative Extension in conjunction with other working groups continue to be useful to public policymakers and citizens of this state or this issue. □

Emphasis on "pocketbook issues" has caused a refocusing of land use issues in West Virginia. Developmental activities such as the use of coal (far left); an increase in private recreational investments (top); and commercial forestry operations (above) have increased dramatically in the last 5 years.

War On Ugliness

Philip Breeze
Writer-Editor
Mississippi Cooperative Extension Service
Mississippi State University

It takes a broadminded person to carryout a statewide program in a way that is unique to each community. All success of an Extension program often depends on a delicate mix of local initiative and state-level direction.

Bob Chapin is accustomed to taking a broad view of things. Currently coordinator of the Mississippi Cooperative Extension Service Land Use Center, Chapin's been a landscape architect and planner for years.

When the chamber of commerce beautification committee came to him for help in making Starkville look better, Chapin set out to design a program for the entire state.

Battle Plans
After declaring his "War on Ugliness," Chapin began to devise his battle plans. Working with the Extension home economist in each county, Chapin enlisted the aid of local organizations.

In some counties help was secured from historical societies, in others it was the garden club or women's clubs that led the fight. Chambers of commerce and Jaycees got involved. Several 4-H clubs organized projects as part of the local effort.

In each area, after a nucleus of soldiers in the fight had been formed, a survey was made. Different counties found different problems. One area might have an abundance of modern buildings, but be burdened by litter and unattractive signs. Another area might have barren streets and decaying buildings.

Frequently the solutions were obvious, and detailed plans were quickly drawn and put into effect. Often, however, the county team needed tactical support from the landscape and design experts in the Land Use Center.

All plans had to meet a set of seven criteria:

Goals established must be achievable. The focus of a plan must be specific, rather than broad and vague. Plans must provide for almost immediate visual impact. Plans must call for and achieve broad-based community involvement. Plans must include followup provisions so that they can be continued from year to year. Activities and programs to educate and increase awareness and sensitivity must be part of an acceptable plan. The appeal of a plan must be positive, as opposed to negative or threatening.

Chapin made a point of developing plans that required as little help from outside sources as possible. "Not because we didn't want the help, but because a do-it-yourself project is most often carried out," he explained.

Now in its third year, the "War on Ugliness" has involved little if any Federal money.

Operations Expand
From an original battle plan of eight operations, Chapin's war has grown to include 13 operations. Detailed outlines for the effective execution of each operation are included in Chapin's "Battle Plan Handbook."

Some of the operations are in effect in almost every county in Mississippi according to the coordinator. And almost every community involved in the war is carrying out more than one operation. Chapin mentioned several towns and cities notable for their efforts in particular operations.

Planning each year in Starkville leads up to a week in the spring when the city provides trash bags to all participants. The city council contributes 25 cents to groups and individuals for each bag of trash collected. A local restaurant provides gift certificates for each bag or specified number of bags collected.

"Operation Bright Spot" is underway in New Albany in northeast Mississippi. This project calls for the beautification of intersections, traffic islands, sidewalks, and roadsides. Garden clubs in the New Albany area chose Red Salvia because of its consistent, enduring color and its tolerance to heat and full sun. Thousands of the plants have been planted along the roads of Union County.

Tupelo has undertaken a comprehensive "Operation Tree Cover." Major thoroughfares in and around the city have been identified and surveyed to establish their need for tree cover. Area residents are encouraged to "give a gift for a lifetime." A $12 donation buys a tree, city crews plant it, and the fire department waters it. No new city funds are needed. The contributor gets a nice certificate and the city another tree. Hundreds of trees have been planted through this program in the last several months.

Poplarville Project
"Operation Downtown" is in progress in Poplarville in southwest Mississippi. Landscape and design experts from the Land Use Center designed a new facade for the entire downtown area of Poplarville. So far, all but 2 of the more than 30 stores have adopted the suggested changes at a cost of about $1,000 or less per store owner.

Extension home economist Mary Hough said the Poplarville project is making a big difference in this town

UGLY

of 2,250 residents. The beautification has begun to attract shoppers from New Orleans, 60 miles away, who come to avoid the hurry and congestion of big city shopping. Two physicians recently moved into the area and both mentioned the appearance of the town as one of the central factors in their decision to move to Poplarville.

"Operation Crepe Myrtle" is underway in the coastal area of the state. More than 2,000 of the salt resistant plants together with oleanders and hundreds of palm trees have been planted along U.S. Highway 90, the gulf coast road running through Mississippi. The three-county effort is just getting underway along the 100-mile stretch from Pascagoula to Pearlington, but eventually the entire route will be lined with crepe myrtle, oleanders, and palm trees.

Chapin said the projects are generally successful and he attributes the success to the fact that the programs are organized, planned, funded, staffed, and carried out at the local level. Poplarville, for example, could have qualified for some Federal money, but they decided they didn't want it with all the strings it comes attached to.

Summary

"We're not showing up and telling these people what they need to do with their town. We're asking their local Extension home economist to tell them that we're here to help them do whatever they decide needs to be done," Chapin said.

And the calls keep coming in. From Escawtapa to Arkabutla, from Pinckneyville to Tishomingo. . .folks call to ask Chapin's help for what they want to do in their town. Together, they're winning the "War on Ugliness!" □

As a result of Extension efforts a state-wide beautification program is underway in Mississippi. "Operation Downtown" enlivens the county court house in Starkville. "Operation Bright Spot" fostered flower plantings at war memorial on campus at Mississippi State University. "Operation Crepe Myrtle" employs crepe myrtle, oleanders, and palm trees to dress up the gulf coast road (U.S. Highway 90).

Rural Land Management in an Urban State

Howard H. Foster, Jr.
Associate Professor of
Community Planning, CES
University of Rhode Island, Kingston

Although Rhode Island is considered one of the most highly urbanized states in the country, significant rural and exurban areas surround metropolitan Providence. There is a marked contrast between older population centers and the outlying towns—in their land use, environmental attributes, and development policy concerns.

There are no counties in Rhode Island, except for judicial purposes, and the local government is divided among 31 towns and 8 cities. These governments maintain close control of their land management prerogatives. State land management legislation has been defeated consistently by the state legislature.

Therefore, while many have recognized a need to plan for the future of the rural areas of the state in a coordinated fashion, the mechanism to do it does not exist.

Rural Development Policies
For the past 4 years, the Community Planning Curriculum Staff at the University of Rhode Island has been conducting research and public information activities involving land management issues pertaining to small towns. This work is funded by Rural Development Act monies and by support from the Rhode Island Cooperative Extension Service. An output of this activity has been publication of several documents on rural land management problems.

"Rural Centers as Development Nodes" a bulletin prepared by this author, emerged from University efforts to assist rural and small towns in dealing with land development problems. The bulletin sets forth potential growth problems facing rural Rhode Island communities between 1980 an 1990. It proposes a direction for these communities to take that would channel or confine population growth into specific areas of the towns that are best

suited for development. Other more environmentally and agriculturally sensitive areas would be undeveloped. This option is offered as an alternative to large lot size zoning districts that encourage sprawl and underutilization of open space and agricultural lands and forests.

With two towns as examples, the report presents the kind of settlement pattern that would emerge if projected 1990 populations for the towns would be channeled into a specified center in each town. The description in the bulletin represents an option for communities to consider in hashing out zoning and subdivision questions which they normally handle ad hoc.

Last year, this information was believed to merit wide exposure in all rural communities, and the district Cooperative Extension offices began to get the information out. However, the context within which these meetings were held did not ignite the interest of local government officials and interest groups either for or against development. Later, a public forum was held at a local public library where the subject of the growth of the town of Coventry, Rhode Island was discussed.

Structuring Policy Meetings
The format of the Coventry meeting suggested an approach to these policy discussions that has proved very successful. It's a format that was used in similar workshops at a number of rural libraries across the state. The structure of the meeting and the library setting encouraged attendance by many local factions and by political officials from town council members to state representatives.

The format stimulated discussion and debate between those who saw the need for further development in the town and those who wanted to maintain the status quo to guard the quality of life and the environmental attributes.

The forums were moderated by the author, which provided a neutral presence and facilitated interaction. The "growth node" policy was also presented as one, though extreme, alternative for allowing growth but also containing it.

A resident historian, known to members of the community for his or her work in local history, made the first presentation of each meeting. The historian gave an overview of the growth of the community and set the context within which to consider current growth issues.

Next, the town planner or town planning consultant traced recent history of land development in the town and described the major planning problems and issues facing the community in the near future.

As a followup to this presentation, the growth node alternative was presented and the meeting was opened to comments by different representatives of development interests. These representatives had been selected in advance of the meeting and briefed on the format for their comment. They included developers, town council members, chairmen or members of the planning board, members of conservation commissions, spokespersons or specialized environmental goups, and in one instance, the Audubon Society of Rhode Island. The town librarian served as coordinator and host.

An important precondition for the success of the session was the ability to attract residnts and speakers with differing points of view. The town librarian chose the date for the meeting, publicized it through local newspapers, radio, and library communications, and persuaded the speakers to participate. This function was critical to the outcome of the meetings; the conventional CES district office informational approach had not proved nearly so successful. District sponsorship may be appropriate and effective in delivering information that people need to know for their own decisionmaking. It is less well-geared, in the Rhode Island communities at least, to encouraging discussion of communitywide issues where the appropriate answer, method, or solution cannot be provided by the district community development staff.

Deriving Rural Policy

The discussion following the presentations centered around issues of future town development as stimulated by a combination of inputs from interests that at times stood strongly opposite in point of view. The sessions produced a sharing of concerns that did not normally occur at meetings of local planning boards and town councils. The library setting provided a neutral, intellectually sound environnment for discussion. Although points of view cannot be expected to have changed radically as a result of the meetings, they did produce a conversation that ranged across the interests of the town. And they involved political officials who had a major stake in solving communitywide growth problems stemming from the town's location adjacent to the metropolitan area.

There is a sense that exploring points of view outside the political context enhanced the town's ability to face planning for future development and to resolve some of the difficult issues that had divided persons favoring growth from those favoring no growth.

Libraries in Cooperative Extension

Libraries can provide important services in association with Cooperative Extension. Too often libraries are thought of primarily as repositories of books. However, in Rhode Island and many other states, program development is a major part of the librarians responsibility. CES and library goals can be furthered by joint programing. This linkage benefit is particularly true in the community development area, where there is a desire to involve the local political system.

Land development policy in rural Rhode Island continues to be an important issue. Further research is being conducted by the University of Rhode Island, Community Planning Curriculum, on the problems of rural subdivision and improving local control over residential development.

This work, along with the previous study of growth dynamics and growth center policies, may also be introduced to the communities through joint CES-library forums. □

Testing for Home Flood Protection

Phil Massey
Extension Editor, Division of Communications
Louisiana State University and A. & M. College, Baton Rouge

It's the age-old story of Extension workers dipping into their own pockets for program materials and testing them before public usage—only on a grander scale.

That's how Ray McManus and Gene Baker of the Louisiana Cooperative Extension Service's agricultural engineering staff viewed protection of the McManus home from floodwater, which inundated the southeastern part of the state earlier this year.

Based on a scattering of methods tried around Louisiana by other flood victims in the past, the two combined their engineering know-how to devise a low-cost protection system around the McManus home, which sits on the edge of the Amite River flood plain near the city of Denham Springs.

A Prove-It-Yourself Project
For less than $1,000 their prove-it-yourself project left some areas of the home dry and other spots with no more than 1 inch of seepage, while the muddy high-water mark on the outside of Ray's 3,000-square foot brick veneer structure reached nearly 3 feet.

This was quite a saving from the $25,000 in damages which occurred when 18 inches of water poured through his home in a 1977 flood, McManus recalls. Six years ago, the home had extensive damage to walls, electrical circuitry, and other fixtures; and almost total loss of furniture, carpets, clothes, major household appliances, and the central air conditioner compressor.

"The key to our success this time was preparedness," McManus says. "I bought all the materials we'd need and had them ready when the water began to rise."

Delayed Wrapping Party
At that, the pre-planning almost didn't work. They were to prepare the area around the house one night and "wrap" it in polyethlyene plastic the next morning. However, a sudden surge in the tide forced McManus and Baker to move their wrapping party to midnight. Some seepage which soaked carpeting was blamed on the haste with which they had to erect the protective shield in the darkness.

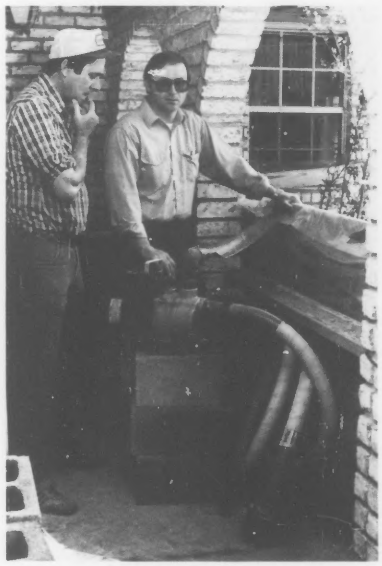
At the heart of the flood-proofing plan were the plastic, a couple of 3-horsepower gasoline-powered sump pumps, and a dozen or so sheets of 1/2 inch exterior plywood.

First, the engineers and their helpers dug a 6-inch-deep trench around the outer walls of the house. Three 100-foot rolls of 8-foot-wide, 6-mil polyethylene plastic were buried on the bottom edge in the trench and weighted with sandbags. The plastic was extended up the walls 4 feet and fastened with masonry nails.

In open areas of the porch and carport, where there was no wall support, 4 x 8-foot plywood, reinforced with 2 x 4 foot stud framing, held the top edge of the plastic film. Ends of the rolls were overlapped by 10 feet to ensure an adequate seal. Sandbags held the plastic in place across the concrete driveway.

Testing Theories
The theory on which the pair banked their plans was that the higher the water rose, the more pressure its weight would exert on the plastic, hence, the better the water-tight seal.

The second crucial factor was the sump pump placed on the carport. Since carport, porch, and patio concrete is laid lower than the house slab to keep driving rain out of the living areas, these lower levels make ideal sumps. Of course, the pump must discharge seepage water over the protective barrier faster than it can enter to keep the home flood free.



When the floods came they were ready! Extension agricultural engineering specialists Ray McManus (left) and Gene Baker check out the gasoline-driven sump pump that operated from behind a water-tight barrier and kept rising floodwaters to a minimum.

"There was no way to keep all of the water out, but staying ahead of it with the pump, which ran continuously for 48 hours during the height of the flood, minimized the damage. We weren't prepared for water which backed up through the commodes. We removed the toilets and stuffed rags into the drain pipes. That's where most of the water goes into the house," Baker points out.

New Solutions
"We learned from that experience and will be better prepared when and if we have to do it again," Baker says.

At around $300, the gasoline pump capable of removing 50 to 100

Three 100-foot rolls of polyethylene plastic sheeting wrapped the McManus home against floods that ravaged southeast Louisiana earlier this year.

gallons of water a minute was the most expensive item on the materials list. McManus also boxed and wrapped his air conditioner compressor, which rested on a ground-level concrete slab outside the house. He used the second pump in an attempt to keep it dry, but the pump failed and the compressor was inundated and lost. Based on experience in the two floods, he believes the solution might lie in mounting the compressor on a 3- to 4-foot platform.

Preparations also included storing 10- to -12 gallons of gasoline for use in the self-priming centrifugal engine that pumped intermittently without overheating. "Any gasoline engine," Baker cautions, "should be operated in a well ventilated areas.

He believes the same principles can be applied to "wrapping" a wood-frame house on piers by using the reinforced plywood to cover the gaps between the columns. "It might not be wise", Baker says, "to try protecting either type house if the water level rises to 4 feet or more because weight of the water could cause structural damage or collapse."

Nominal Costs for Fresh Findings

"What we did at Ray's was no panacea. Our plan needs refinement, but for short-term protection against moderate levels of flooding we think it sure beats doing nothing," Baker concludes. "Considering the extent of damage that can result from a couple of feet of water in a house, the cost of materials is nominal, and most of materials are reusable."

As a result of their success this spring, McManus and Baker have been sought as speakers by community groups and concerned individuals in the flood-prone areas of north and south Louisiana. They have also published a bulletin outlining their protection plan. □

The polyethylene plastic sheeting around the McManus home was attached to the outside walls with masonry nails.

Planning for Energy Conservation

Stanford M. Lembeck
Community Housing and Planning Specialist, CES
The Pennsylvania State University

Extension community planners in Pennsylvania are beginning to adopt an energy-conserving perspective in their land use planning activities. Land use decisions are a major factor in the siting of homes and other buildings, on street design and layout, and on the closeness—or separation—of various activities within the locality. All of these have important energy using implications.

Take an ordinary single-family home, for example. Careful siting of a house can maximize "solar gain" in the winter, while reducing cooling needs during hot weather. In most instances a home sited with its long dimension across the front of the lot, on an east-west oriented street, provides the optimum solar orientation. Since about 70 cents of every energy dollar is spent for space heating and cooling, careful attention to siting and street layout can pay handsome dividends.

With the help of Extension planning specialists, community development agents, local planning commissioners, building contractors, and citizens are learning how to incorporate energy conservation thinking into local land use policies and regulations.

Target: Local Planning Commissions
The primary audience Pennsylvania Extension wanted to reach were the local planning commissions since they work most directly with persons interested in developing property. Knowing that few Pennsylvania communities had the motivation or money to undertake a full-scale energy planning effort, Extension planners decided on a strategy of intoducing an energy perspective into existing community plans and regulations. Although an admittedly piecemeal approach, it was chosen because of the greater likelihood these new ideas would actually be used if tied to what our target groups knew best—their existing planning policies and procedures.

Awareness of Solar Principles
First, we wanted to introduce planners to an "energy perspective" which they could use without having to make changes in existing land use policies or ordinances. For example, local planning commissions would continue to review subdivision site plans under existing standards, but they would be encouraged to look at plans with a new understanding of southerly orientation of buildings, proper use of south slopes, areas having poor solar access because of natural and man-made obstructions. Awareness of solar principles would be added to existing standards as a developer's lot and street proposal was being reviewed by the commissions.

Key Concepts
It was a simple matter to insert energy considerations into Pennsylvania Extension's ongoing planning workshops for local officials and planners. A new audience of small builders and developers was also cultivated and introduced to these ideas as well. Several key concepts were stressed as basic land use planning considerations for these audiences:

- The sun's path is fixed and known; this information should be the starting point for lot and street design.

- South orientation is the key design consideration. South slopes are optimum building sites because they receive solar rays more directly; buildings cast shorter shadows on south slopes. This permits taller buildings and higher densities. Less desirable north-facing slopes can be kept open.

- The area between the sun and the solar user must be unobstructed and unshaded now, and in the future.

By pointing out that east-west streets usually maximize the southerly orientation of houses, workshop participants were able to calculate on sample subdivision maps the amount of north-south streets and the suboptimally oriented building sites they create.

The next step in the strategy was to have local planning agencies modify some of their existing requirements by adopting new energy sensitive standards. Even greater energy conservation payoffs can result when current policies are revised to achieve specific energy goals.

Streets Broad and Narrow
Streets, for example, are major development investments which have long-term energy conservation implications. Wide streets require more energy to build. Narrower streets reduce the initial energy input (petroleum for paving material and construction equipment) and future maintenance costs as well.

Moving to the second level of revising standards involves a much greater planning effort. This was used in the workshops to teach basic planning skills of analysis, evaluation, and communication to local planners and citizens—while they are learning about energy conservation.

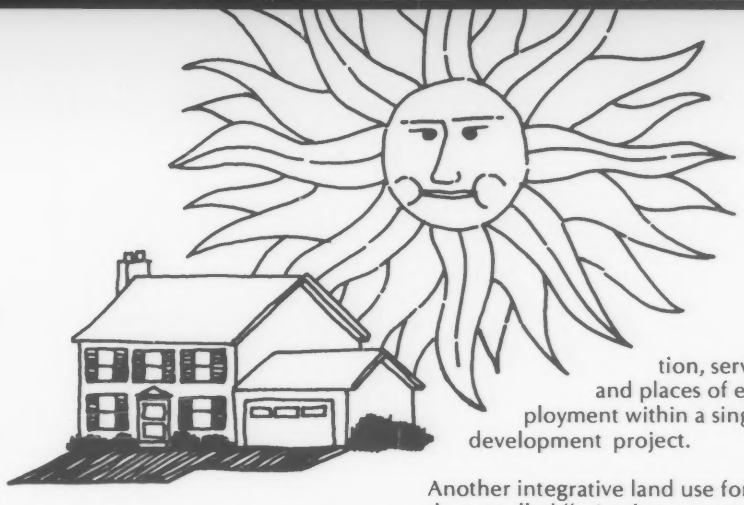
Most important to point out is that every community is different, and that land use revisions should be targeted to specific needs. In some towns the major problem is *infilling*—using individual vacant sites in an energy-efficient way within already built-up areas. Rural and rapidly growing areas need energy-conscious standards for their major problem—*new development*. In other towns, modifications in

ordinances and policies are needed to make energy *retrofitting* of existing structures easier.

Solar Easements
Penbrook Borough, a small town of 3,000 people near Harrisburg, is a good example of sound planning that was done before the local ordinances were revised. The planning commission knew that Penbrook was 95 percent built-up, that one-third of the population was over 55 years of age—with many living on fixed incomes, and that it had a housing stock where three out of four homes were built before 1940. Based on this knowledge the commission prepared revised standards for retrofitting existing homes. Included in the retrofitting standards were guidelines for windmill heights, noise levels, and anchoring to protect the rights of neighboring property owners. The solar easements were needed to ensure that new structures built on vacant sites would not obstruct solar access on existing homes and buildings.

Workshop participants are encouraged to think about the predominant land use patterns, resources, and people in their towns in ways that will focus on opportunities and limitations for energy conservation. For example, they are asked to characterize basic growth and development factors:

- Is the pattern of development compact or spread out?
- Are development densities generally low, medium or high?
- Is the town in a period of fast, slow, or no growth, or is it declining?
- Can the stage of the community's life be characterized as young, mature, or old?
- Is the community usually open to new ideas and innovations, or is it more traditional in outlook?
- What is the age structure of the population, and do people have money, skills, or time to devote to energy conservation activities?
- What is the age, size, and condition of the housing stock?
- Are land uses—homes, stores, employment, recreation—in close proximity, or separated from each other?
- Which public services, such as recreation, water and sewer service, and public transit—are available?



Community Overview
With an overview of the community, it's possible to begin asking critical planning questions. For example, in a mature, slow growing community, would increased residential densities be a feasible way of creating a compact, energy-efficient development pattern? The answer would come from an understanding of the capacity of existing roads, the size and occupancy pattern of existing homes which might be converted to multiple occupancy, and the availability of public facilities to support a more concentrated population.

The third, and most difficult, step in the Extension strategy is encouraging the acceptance of newer forms of development. New and innovative development approaches have the potential to go beyond conservation and *reduce* future energy needs.

One approach to achieve this is through the integration of land uses. In developing areas, *planned unit development* is a technique to integrate homes, shopping, recreation, services, and places of employment within a single development project.

Another integrative land use form is the so-called "*mixed use structure,*" which is the intown version of planned unit development. Within a single structure, apartments, condominiums, offices, shops—and sometimes recreational facilities—are found under one roof.

Modified Ordinances
In the past many zoning ordinances attempted to separate what were considered to be competing land uses—homes, offices, stores, workplaces. Today ordinances are being modified to allow *mixed used districts*, zones in which a variety of different land uses can be located close to each other.

Implementing Conservation Plans
It's important for local planners and officials to become comfortable with this new energy perspective on land use planning before moving on to more complex planning applications. That's why it is important to incorporate energy awareness into the usual and familiar planning commission tasks.

Revising land use standards and development standards is far more complex. Our workshops attempt to anticipate community reactions and help participants prepare a strategy for overcoming resistance.
The serious energy crisis of a few years ago forced us to examine the impact of local policies on energy use, and to seek new land use techniques. Extension community planning programs are exposing local planners, elected officials, and developers to energy sensitive land use planning that will continue to pay big energy dividends year after year. □

Farmland Retention in the Empire State

Kenneth V. Gardner
Extension Land Use Specialist
Department of Agricultural Economics
Cornell University, Ithaca, New York

Agriculture is an important industry in New York State. New York State is more than the "Big Apple"—about one-third of its 30.6 million acres are still devoted to farming.

"Farming enterprises produce nearly 3 billion dollars worth of products and contribute significantly to state employment in the associated businesses that provide goods and services to agriculture," says David L. Call, dean of the New York State College of Agriculture and Life Sciences at Cornell University.

People in the "Empire State" are increasingly aware of the need to fashion harmonious arrangements between the city and country and ensure that farmers have access to the land resources needed to sustain agriculture in the future. The New York Cooperative Extension plays a significant role in helping the citizens of the state understand the issues through educational programs that enable them to more effectively participate in the land use decisionmaking process at all levels of government.

Background
In New York, migration from rural communities, combined with changing cost-price relationships for farm commodities saw nearly 12 million acres of farmland retired over the 1900 - 1970 period, much of which was in the early stages of forest succession. However, during the 1950's, population growth in larger incorporated cities slowed dramatically and rural population experienced new growth. This population trend helped precipitate changes in attitudes about landownership and created an accelerating public dialogue about the future vitality of New York's agriculture.

Time for Action
An awareness of the dramatic impacts that shifts in population and land uses were having on agriculture resulted in a number of legislative and executive initiatives by state leaders. On the legislative front, among the initiatives was the passage of a law to enable local municipalities to obtain fee (full) or lessor interests in land for the purpose of maintaining open spaces. This law has proved to be the basis for a number of innovative efforts by local governments to foster arrangements for retaining farmland in its current use. Suffolk County pioneered a program for the acquisition of development rights to farmland.

This drew nationwide attention during the 1970's. This law also provides local government with the option of negotiating an easement with private landowners for specified periods of time to maintain land in farm use. Such a program is now in operation in the town of Perinton, Monroe County, New York.

On the executive front, the Governor appointed in 1966 a State Temporary Commission on the Preservation of Agricultural Land. The subsequent Commission report outlined a series of recommendations to help agriculture remain viable in the "Empire State" including the designation of prime agricultural districts within the state. After extensive deliberations and the passage of an amendment to the state constitution directing the legislature to protect agricultural lands as part of a state policy, an 1971 state law authorized the creation of agricultural districts in New York.

Benefits of Districts
New York's Agricultural District Law specifies at least five benefits to be derived by landowners:

- Qualified landowners may apply for an agricultural value assessment of their land.

- Local governments are limited in enacting ordinances that restrict or regulate farm structures or farming practices.

- State agencies must modify administrative regulations and procedures to encourage the maintenance of farming insofar as it is consistent with the promotion of health and safety.

- Public agencies are required to demonstrate that they have considered alternatives before acquiring land by eminent domain or before advancing funds for nonfarm development in agricultural districts.

- The power to tax farmland for nonfarm services in agricultural districts is restricted.

Cooperative Extension Involvement
"The passage of the Agricultural District Law provided an unusual educational opportunity for Cooperative Extension agents in most New York counties," says David T. Smith, associate director of New York Cooperative Extension. "The process brought those interested in agriculture together and focused new attention on agricultural resources. Cooperative Extension used this opportunity to demonstrate the effectiveness of a well-planned and executed educational program."

Smith continues, "Agents were instrumental in helping to organize agricultural district advisory committees, which were responsible for reviewing agricultural districts. Close working relationships developed between Cooperative Extension agents, county planners, and county legislators as farmers, farm organi-

zation leaders, and others became involved in the formation of districts."

The educational program conducted by Cooperative Extension staff together with state agency representatives and local officials resulted in leadership development of both the farm and nonfarm communities that were interested in preserving farmland. This sharing of interests and concerns developed mutual respect between both groups. Local officials became sensitized to the needs of farmers and supported the creation of agricultural districts. State legislators as well as farm leaders monitored the workings of the law and "fine tuned" it to effectively serve the needs of agriculture.

Accomplishments

Today, more than 11 years since the Agricultural District Law became effective, New York has 456 separate districts in 49 counties of the state. Over 6.7 million acres were originally included in these districts, which range in size from 535 acres to over 243,000 acres and average about 14,800 acres. While these statistics are important in and of themselves they tell only a small part of the story about what agricultural districts have meant to the farmers in New York.

More important than the number of districts and the acres involved are the people who have participated in the decisionmaking process in the creation of districts. New leadership emerged across the state as district proposals developed at the local level. Cooperative Extension's educational programs enabled local citizens to understand the law and the process for creating districts. And the people responded by taking the initiative and exercising their leadership in carrying the process to a positive conclusion.

The net effect of the 8-year review process was an additional gain of over 589,000 acres to the land in agricultural districts. So that after 11½ years, over 7.3 million acres are included in agricultural districts in New York State.

Henry Stebbins, the administrator of the Agricultural District Program for the New York State Department of Agriculture and Markets summarized Cooperative Extension's role in the agricultural district program in these words: "The record shows that counties with a strong districts program are counties with a strong Extension commitment to program objectives. Districting relies upon an effective educational support system which Extension has provided. The participation and leadership of farmers is vital to the success and continuity of the program."

Looking Ahead

New York remains very complex from an economic, social, and political point of view. With sharp contrasts in urban, suburban, and rural development in the state, it is not surprising that New York has evolved not one, but a number of alternative approaches to farmland retention.

Agricultural districts are clearly the most visible manifestation of public concern over farmland use in New York. Yet, land use policies for the state are also dynamic. Continued experimentation with purchase of development rights, transfers of development rights, contractual easements between towns and landowners, tax incentives between taxing jurisdictions and landowners, and finally, the combination of agricultural districts with these approaches and traditional zoning are on the horizon for farmland retention in the "Empire State."

Cooperative Extension will continue to provide the educational programs to enable citizens to participate fully in public policy issues regarding the allocation of land for continued use in commercial agriculture. □

Protecting Prime Farmland

Gary C. Steinhardt
Extension Agronomist
Purdue University, Indiana

Indiana's prime farmland resources are considerable. Despite its small size, Indiana contributes heavily to the Nation's food supply and provides products for support. Such achievement is possible not only because of skilled management by Indiana farmers, but also because of the tremendous potential of its soil resources.

Prime Farmland Resources
Prime farmland includes soils that are available and best suited to crop production. These are soils that retain enough moisture, are fertile, and are adequately drained for maximum production. They are not frequently flooded or subject to severe erosion.

Of Indiana's 15 million acres of farmland and 13 million acres of cropland, 11.5 million acres are considered prime farmland. About 2.5 million more acres are in pasture or forest. This land, highly productive, meets and exceeds fundamental criteria for prime farmland. It has excellent water-holding capacity, generally good natural fertility, and favorable climate.

Indiana's rural land is fast being converted to urban uses, as shown by studies of land use by USDA's Soil Conservation Service (SCS).From 1960 to 1970, approximately 35,000 acres per year of rural land were converted to urban uses. From 1970 to 1980, 85,000 acres were converted annually.

Maps and Publications
Indiana Extension staff have been looking at the issue of conversion of rural lands to urban uses, occurring statewide. Information has been provided to rural and urban groups as to extent and location of prime farmland and issues posed by its loss. SCS and soil scientists in the Purdue university Agronomy Department have prepared a state map showing prime farmland distribution in Indiana. SCS has prepared individual county maps of prime farmland. Two Extension publications that focus on this issue are: "Protecting Prime Farmland in Indiana" and "Farmland Protection Techniques." These publications and the maps have been used by local groups to study prime farmland protection.

What Has Been Done
Indiana, like 45 other states, assesses farmland for taxation at its agricultural value rather than development value. While this method reduces the tax burden of farmers in developing areas, it has not proved to be an effective method of protecting agricultural land.

Zoning is the only method of protecting prime farmland for which there is enabling legislation in Indiana. In the past, the agricultural zoning classification has been considered a temporary category that could be easily changed to a "higher" developed status. This attitude may be changing; about 70 of the state's 92 counties have some type of plan for zoning new developments.

Several counties have adopted zoning ordinances that strengthen the commitment to agricultural zoning, where agriculture is the permitted land use and other uses are restricted. These ordinances were generally developed and adopted after a careful study by concerned local groups of rural and urban citizens. Their development locally means that each ordinance reflects specific thoughts of the community. Critical to the success of these efforts was the information supplied by SCS, professional planners, and local and university Extension workers. Much of the material used had been gathered previously in the hope that the "teachable moment" would occur.

Several counties in Indiana are using land evaluation systems to determine the quality of land for various uses including agriculture. These studies are vital to consistent development of zoning boundaries. The commonly used systems are the SCS, LESA (Land Evaluation-Site Assessment) system, and the Purdue University Subdivision Impact Model. These approach the problem from opposite points of view, but usually arrive at a similar answer.

The LESA system evaluates the quality of the soils and evaluates the site as a location for agriculture or urban development. Some planning commissions have developed their own system of land evaluation using similar criteria. The Subdivision Impact Model is available in each county Extension office through the Purdue University FACTS (Fast Agricultural Computer Terminal System).

Farmland Protection in Indiana
To date prime farmland protection efforts have occurred mainly at the county level based on currently available methods. At the state level, a Legislative Study Committee of the General Assembly has studied several legislative alternatives. A "Right-to-Farm" law was passed in the 1982 session of the assembly. It provides protection for farms from nuisance suits brought by urban neighbors. A farming operation, not a nuisance at the outset, cannot now be a nuisance, if it has not changed greatly.

In Extension work in Indiana, information is presented on farmland protection in a variety of ways so that a reasonable course of action can be selected. □

Land Use Planning—Hoosier Style

Charles Sargent
Extension Economist
Purdue University, Indiana

Indiana Extension agents wear two hats when they work on land use planning. They are educators and advisors and they serve as decision-makers on countywide planning commissions.

Mixed Blessings
Being educator and policymaker can be a mixed blessing. Agents may find themselves embroiled in controversies ranging from landfill locations to mobile home regulations. Occasionally, a planning commission lapses into "dormancy", a victim of apathy, or it is blocked from effective action by local officials as they respond to complaints of unhappy citizens or special interests.

Products of the planning process are increasingly more comprehensive and sophisticated. Many counties are focusing on farmland protection techniques and policies to contain urban sprawl.

Planning That Worked
St. Joseph County, Indiana illustrates a planning program that has culminated in effective land use policies. A coalition of farm interests and county officials took shape, spearheaded by efforts of the Area Plan Commission, the Cooperative Extension Service, and the Soil Conservation Service.

In 1978 a group of organizational leaders, called the "Agricultural Advisory Committee," started studying the issues and obtained further input from constituents. The ad hoc group came to a consensus on the problem:

- Scattered residential development was wasting valuable farmland, causing conflicts with farmers and boosting costs of extending public services. Urban sprawl was the enemy!

- The county was "overzoned" for industrial and residential uses.

Proposed Solution
County planners and citizen leadership went to work during 1978–79 to delineate an exclusive "agricultural district," where farming would be encouraged and protected from urban growth.

In the resulting proposal, 100 square miles were reclassified from "rural-residential" to "exclusive agriculture" located west and south of South Bend. Thirty-two square miles of unincorporated rural land closer to the metropolitan area would be for rural nonfarm residences, with agriculture as a permitted, but not protected, use. In the new proposed agricultural zone, no new residential subdivisions would be allowed.

Single-family residences were to be on large lots—measures designed to discourage most nonfarm development.

In 1979 and 1980, after dozens of educational meetings and public hearings, county and city officials approved revised ordinances unanimously.

A Potential Success Story
Hendricks County lies straight west of Indianapolis in the heartland of the Cornbelt and in the path of urbanization. Population has tripled since 1950, with most of the growth on the east side close to Indianapolis. A Purdue University study on urbanization found farmers complaining about higher taxes, less land available for farming, pressure to reduce livestock, plus competition and conflict with new nonfarm neighbors.

An informal coalition of the county planning agency and Extension leadership began a comprehensive planning process utilizing a number of volunteer citizen committees. The planning program, extended over several months, has produced a general land use and development plan for the county.

A "Temporary Setback"
Bartholomew County, in south-central Indiana, includes the unique city of Columbus, where many architectural innovations have been championed by progressive industrial and business leaders.

Planners and the local Extension agent teamed up to work with a small group of rural leaders to draft plans and ordinances for unincorporated areas. The intent was to protect the more productive farming areas from urban development and to improve the quality of the rural environment. Controversy erupted and advertisements attacking planners and proposed plans appeared regularly in the local newspaper. County officials first vowed to pass the necessary land use controls to implement plans, then later changed their minds.

The highly qualified planning director left for other employment in a southern state. The rest of the plan proponents are now showing a "lower profile" but hope to salvage some of the recommendations they have made.

These three examples typify what goes on in the 70 or more counties where planners, Extension agents, citizen leaders, and local officials attempt to hammer out appropriate land use policies. Policies have considerable impact on property values and future growth, but they are achieved only when the majority of concerned citizens are involved and supportive of the new proposals. To the Cooperative Extension Service involved in the planning process, the effort presents a real challenge. And it is no place for the fainthearted. □

Built-In Erosion Control

K. L. Wells
Extension Soils Specialist
University of Kentucky, Lexington

Farmers' intensive agricultural use of farmland in Kentucky means most of them must protect their land from erosion. About three-fourths of the state's agricultural land base slopes enough to present a potential erosion hazard. Implications of this hazard became apparent during the seventies as cropland acreage of corn and soybeans nearly doubled from that of the Sixties. Although Kentucky's land base could support production of 2 million more acres of row crops than in use in 1980, some of the expansion of corn and soybean acreage took place in areas unsuitable for their continuous production.

UK Agronomists Develop System

To find a way to alleviate this situation, University of Kentucky agronomists devised a cropping system to test intensive grain production on sloping land, with adequate erosion protection. This system is a corn-soybean rotation in which small grain is seeded for winter cover, double-cropping and no-till planting are used, and strip cropping occurs in relative narrow bands.

The system was field tested in western Kentucky on a 6 to 12 percent sloping soil for 4 years. Corn and soybeans were grown in alternate parallel strips, generally on slope contour. After harvesting corn and soybeans, the field staff disked and seeded the land to wheat. The following spring, corn was planted without tilling into the strip which had produced soybeans the previous year (wheat in this strip was killed in the no-till planting procedure to provide a mulch cover for the corn). Wheat growing in the strip which had produced corn the previous year was allowed to mature for harvest. Immediately following the combining, soybeans were planted without tilling into wheat stubble. Relatively narrow strips (20 to 50 feet wide) are an important part of the scheme.

After the second harvest, the field was disked and planted to wheat. The process of the first year was repeated, except that corn was rotated in place of the previous year's soybean strip, and soybeans were rotated onto the previous year's corn strip. A resulting 1.5 acres of grain are produced from each acre in the system if double-cropped soybeans are grown (0.5 acre of corn, 0.5 acre of wheat or barley, and 0.5 acre of soybeans). Grain sorghum could be used instead of double-cropped soybeans in some areas. If soybeans are not double-cropped, each acre produces 0.5 acre of corn and 0.5 acre of full-season soybeans.

Good Yield, Little Erosion

Results from this test, repeated in four strips, exceeded yield expectations. Just as important, erosion was negligible.

Wheat yields, obtained only in 1978, ranged from 30 to 34 bushels per acre; wheat stands from falls 1978 and 1979 seeding were not sufficient to justify grain harvest in 1979 and 1980. Wheat yields from an adjacent field ranged from 35 to 50 bushels per acre during this time.

There remained the question of what erosion control could result from use of this system. There were no tests held of continuous soybeans or continuous corn, with and without seeding a winter cover crop because we were using a farmer's field and did not want to risk serious erosion losses. So there were no check plots against which to compare for erosion control. No appreciable erosion was observed on the strips during the 4-year period. The system was tested severely in the winter and spring of 1978-79; 80 inches of rain fell between December 1, 1978 and December 1, 1979. Despite lack of good cover from the wheat, essentially no sheet erosion occurred on strips which had been in corn. Slight sheet erosion took place on strips which had been in soybeans, but the erosion stopped as it reached the adjacent downhill strip which had been in corn. The odds of rainfall amounts such as those that occurred are about 1 in 100. The system offers adequate erosion protection to justify its use in intensifying grain production from sloping land.

Wide Strips Effective

Although not studying the effect of strip width, it was determined that strips over 50 feet wide would allow overwinter runoff of water from soybean strips to build up enough speed to create erosion problems, particularly on steeper slopes. Strip widths should be of some multiple of a planter width, up to 50 feet. Strips of 20 to 25 feet would enable one round per strip of 4-row equipment, or one pass through each strip of 8-row equipment.

This field study shows, then, that the system could provide good erosion control as the field would not be cultivated except for a fall disking, and both corn and soybeans would be planted without tilling. The weak link was in obtaining enough fall growth of wheat for good overwinter cover. With normal fall weather in our latitude, farmers usually can complete soybean harvest by mid to late October, and they can seed wheat immediately thereafter. Abnormally cold weather, which can occur by early November, could prevent wheat from providing adequate cover.

Left: A planting of loblolly and shortleaf pine stabilizes a stripmine in Hazard, Kentucky.

Below: The vari-tiller and no-till planter at work in Kentucky. Extension agronomists at the University of Kentucky have devised a cropping system involving a corn-soybean rotation for sloping land that has adequate protection against erosion.

Corn grown in narrow strips provides some advantage, as leaf and stalk diseases occurred less and lodging was less. Also, the differential heating produced by the alternating height of corn and soybeans might cause more desirable air flow patterns than is typical in separate fields of corn and soybeans.

The system permits better sunlight, and water, soil, and air management for maximum crop production and minimum erosion. The approach provides the farmer with a strong economic incentive to carry out good soil conservation practices. It should be especially helpful in meeting requirements of the Water Pollution Control Act for nonpoint source pollution.

Spreading the Practice

After the field study, Extension staff held a field day at the site to discuss results with farmers, Extension agricultural agents, and Soil Conservation Service personnel. Based on the high interest shown, we initiated a farm demonstration program to highlight use of these and other agronomic practices in maximizing grain production while controlling erosion. State Extension soils specialists are providing leadership for the program.

Support for the program also comes from the Tennessee Valley Authority, TVA), U.S. Department of Agriculture's Agricultural Stabilization and Conservation Service (ASCS) and the Soil Conservation Service (SCS). TVA agreed to provide a fertilizer discount; ASCS agreed to cost share for recommended practices; and SCS agreed to provide technical help in laying out strips, grass waterways, and so on.

Four Counties to Test Program

A State committee, led by Extension and including representatives from the state ASCS and SCS offices and from TVA, was established to coordinate the program and identify locations for establishing the demonstration farms. Four counties were identified—one in each of the four Extension areas where grain production is most intensive and erosion problems are common. A local selection committee, led by the Extension agricultural agent and including the local ASCS office manager, local SCS district conservationist, and a representative from the county Extension council and the Soil and Water Conservation District, was organized. It was asked to identify and recommend a farm for the program which had land characteristics similar to the surrounding areas, and on which cash grain was the dominant farm enterprise.

The four farms selected were planned for intensive grain production, with emphasis on use of agronomic practices for erosion control. Engineering practices were recommended only where no appropriate agronomic practice was available. Farms were enrolled for 4 years, during which time detailed financial records will be kept so the economics of the cropping system installed can be evaluated. All recommended systems are to be in full use on each farm by the end of 4 years. The farms are to be used as a focal point of educational activities within the areas to demonstrate agronomic solutions to erosion problems faced by cash grain producers.

To coincide with this program, Extension soils specialists have prepared seven publications on aspects of agronomic solutions for erosion problems. These publications will be distributed during the fall and winter of 1983. Additionally, much emphasis on this program will be given in routine Extension use of the news media.

It is too soon to determine any program effect. But farmers' interest in it and their concerns about erosion and impacts on cash grain production are high enough to make us enthusiastic about potential results of the new program. □

Solving Land Use Problems

Gerald A. Miller
Extension Agronomist
Iowa State University

Land use is not a new issue. Most large cities and many towns have had land use plans and an array of ordinances to implement these plans for many years. Most rural areas, however, have not developed such plans. For those that have, actions usually concentrate on some form of zoning which does not reflect any comprehensive land use plan as a guide. Effective land use requires development of a comprehensive plan, one that can be implemented by planning tools, such as zoning and other local ordinances.

Issue: Farmland Conversion
Since the late forties, the dominant land use issue in rural America has been that of farmland conversion to irreversible nonfarm uses. Related concerns include strip development, adequate public services, upgrading of roads, impact on local school districts, disruption of traditional community ties, and changing of the tax base, and distribution of the tax burden.

During the seventies, reversal of the historical trend of net population migration to the cities added another dimension to the farmland conversion issue. Single-family structures housing nonfarm families are commonplace in many rural areas.

Also, during the seventies, society developed an appreciation for the quality of agricultural land that was being converted to nonfarm uses. Americans became concerned about the conversion of highly productive cropland and specialty-crop lands. Much rhetoric resulted about the cropland crisis that may occur in the future.

Three other major concerns receiving attention are the following:

- Loss of the natural soil fertility and potential productivity on croplands because of accelerated erosion and inadequate management.
- Conversion of marginal lands to croplands.
- Increasing size of the average farm used for crop production.

Why have these topics become issues and what are the facts?

Farmland conversion is a major issue in areas adjacent to large metropolitan areas in the northeastern states, the Middle Atlantic states, Florida, areas adjacent to the Great Lakes, and the southern part of California. The issue is especially important in areas where small acreages of high-quality cropland occur or where speciality crops, dependent on a unique combination of climate and soils, are produced.

Migration of nonfarm people to rural America during the seventies is illustrated by analysis of census data by Willis Goudy, sociologist at Iowa State University. Between 1970 and 1980, the rural farm population in Iowa decreased from 419,700 to 391,000. But during the same period, the rural-nonfarm population in Iowa rose from 786,200 to 814,800.

Reducing Soil Losses
Soil erosion and the failure to implement known soil-conserving measures on productive cropland have become a national issue. Maintaining soil losses at levels that approximate soil renewal rates on productive cropland has become the focal point of this issue. A U.S. Department of Agriculture Soil Conservation Service inventory in 1977 shows that 24 states have average annual sheet and rill erosion rates on cultivated cropland of over 5 tons per acre per year. Five tons per acre per year is considered the maximum soil loss tolerable for many soils. Some soils have a maximum limit of 2, 3, or 4 tons per acre per year.

Five states, Hawaii, Iowa, Mississippi, Missouri, and Tennessee, have average sheet and rill erosion rates exceeding 10 tons per acre per year on cultivated cropland. Iowa, with nearly 25.5 million acres of cultivated cropland, leads in soil loss—259 million tons a year.

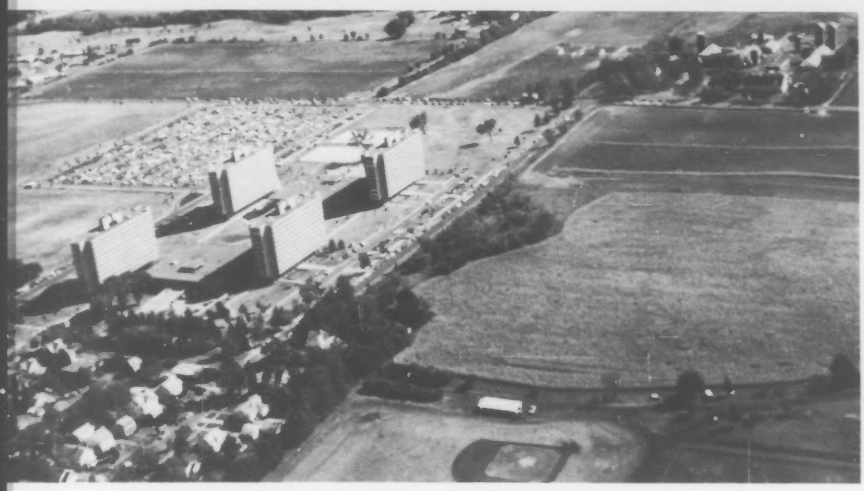
The soil erosion issue involves loss of topsoil and nutrients, reduction of water infiltration capacity, introduction of subsoil material in the tilled layer, increased runoff on sloping lands, and the introduction of excess sediment and associated chemicals into surface waters. Some of these questions are: who pays for the offsite costs in the short-term? How will future generations react to their predecessors' abuse of the soil that may result in loss of long-term soil productivity?

Recommended Practices
It is possible to maintain soil erosion at tolerable rates. Some methods include soil conservation structures such as terraces, diversions, and grass waterways, and soil conservation practices such as conservation tillage, sod-based rotations, contouring, and stripcropping. Farmers do not use many of these practices, however. They require a major immediate investment, but returns, in the sense of preventing yield losses, often lie in the distant future.

Yet, changes are occurring. We are in the middle of a 20- to 25-year tillage evolution cycle. Iowa farmers are moving away from moldboard-plowed, clean-tilled fields, to some form of reduced tillage.

Much remains to be accomplished before farmers achieve maximum benefits from reduced tillage.

Using Marginal Lands
Converting marginal lands to cropland is a relatively new land use issue. It involves farming on relatively



unproductive, fragile soils. Marginal lands include steeply sloping soils, soils with low inherent fertility, soils with low water capacity available to plants, and soils shallow to rock, gravels, and boulders. Marginal lands may be used on woodlands, permanent pastures, sparsely vegetated rangelands, and wetlands before conversion to cropland.

Many people believe that property owners have the right to acquire land and property, and also the right to use, protect, and perhaps abuse the land. Often a landowner's goal is short-term gain at the expense of the soil and of society. Windfall profits can be reaped by converting use of marginal lands to that of intensively managed croplands. High yields may be obtained for 1 or 2 years before the thin veneer of topsoil is completely gone, salts accumulate in the soil profile, water tables are lowered and perhaps depleted, or the small reservoir of natural fertility is reduced by leaching and erosion.

A Visible Issue

Many soil conservation and land use groups during the past 5 years have come to believe that conversion of marginal lands to cropland should be halted. The issue is highly visible in the western Corn Belt and in the Great Plains area. Diverse soil conservation and environmental groups support the "sod-buster" legislation introduced in the U.S. Congress.

The 1972 Soviet grain deal, subsequent record-high corn and soybean prices, and the Federal government's encouragement of farmers to plant fence row to fence row influenced a 30-percent increase in row crop acreage in Iowa over 9 years. Many of the additional 5.22 million acres of row crop came from areas that had been in woodland, permanent pasture, and rotational pasture, and from the draining of wetlands.

In many fields, farmers had to build terraces to maintain soil losses at a reasonable level. However, subsequent soil losses often exceeded tolerable limits. Some currently terraced lands include soils with a low productivity potential.

Economies of Scale

Increase in farm size is a land use issue that relates to the family farm. Many people view the family farm as the mainstay of rural America. The concepts of community stability, quality of life, and ethics, morality, and structure of a community relate to the family farm.

Farm size can be measured in several ways. The most common method is the associated acreage. This measure may not reveal intensive livestock feeding operations and specialty crop production as it does with grain farms. So, gross annual sales can give a fuller picture when looking at scale.

The 1978 Census of Agriculture counted nearly 2.5 million farms in the United States. Over 25 percent were less than 49 acres and more than 4 percent were 1,000 to 2,000 acres. These size classes showed the only increases from the 1974 census. Farms selling more than $40,000 a year nearly tripled between 1969 and 1978, from 222,000 to 589,000. The number of farms with annual sales less than $40,000 fell from 2.5 million to 1.9 million.

Cost of Production

In the Corn Belt, the economic principle associated with farm size is one of the economies of scale. Cost of production per bushel of grain harvested can be decreased as the size of farm increases up to 600 acres. Such cost does not go up for units greater than 600 acres, nor does it decrease, Thus, farmers are motivated to increase their size of operation so they can take advantage of economy of scale. In Iowa, average farm size rose from 190 acres in 1960 to 286 acres in 1981, while the number of farms fell from 183,000 to 118,000.

The size of farm issue and the increasing use of conservation tillage provide a "Catch-22" dilemma. A major benefit of reduced tillage is the time the farmer saves. Research conducted in Iowa by T. S. Colvin, C. A. Hamlett, and A. Musselman in 1981 included an analysis of the time saved by farmers who switched from a moldboard plow to a disk system or a no-till system. They assumed that a farmer reinvested the time savings in row crop production. The farmer could operate 395 more acres with a disk or chisel tillage system and 1,081 more acres in a no-tillage situation—compared with use of a moldboard plow system.

These situations have become land use issues because solutions have not been readily available or easy for society to agree upon. Solutions lie in the complex social-political-legal economic framework of our society. □

New Land Laws

Stuart H. Huntington
Extension Planning and Development Specialist
Iowa State University, Ames

A county Extension director in Iowa pulls apart a 1983 Plat Book and distributes the pages to waiting township trustees. (Townships contain 36 sections. The trustees are local elected officials.) The trustees gather around tables, examine the information about current land use and, based on their knowledge and experience, list changes which have occurred in the last 23 years.

"In a rural county like ours," the Extension director explains, "the trustees know about virtually every transaction, how many acres were involved, and what the land is being used for now."

At the county level, the data provided by the trustees will be checked against maps and aerial photographs from the U.S. Department of Agriculture's Agricultural Stabilization and Conservation Service (ASCS) and Soil Conservation Service (SCS). The resulting land use inventory will be forwarded to Iowa by February 1, 1984.

This is how one county responded to the passage of the Iowa Land Preservation and Use Law in May 1982. This legislation is designed to gather information about land use change and to provide a new tool for preserving agricultural land.

The Setting
As in many states, land use planning in Iowa has achieved only partial acceptance. State enabling legislation is permissive. Agricultural activities are specifically exempted from county land use regulation. Local governments are left free to elect to plan or not to plan. About one-third of Iowa's 99 counties do not have planning programs.

Yet, broad support exists for land use planning, particularly as it relates to the preservation of agricultural land. Studies done in 1980 and 1981 reveal that 77 percent of farmers and 87 percent of urbanites said they were "very favorable" or "mildly favorable" when asked to appraise the desirability of land use planning.

The Iowa legislature has tried to treat land use issues over the past several years. In May 1978, a temporary State Land Preservation Policy Commission was organized, and similar groups were set up at the county level. That effort focused primarily on surveying existing land use policies for the preservation of agricultural land and making recommendations to the legislature. It was followed by the current legislation that calls for a land use inventory and establishment of agricultural areas.

Problems and Issues
Of course, this land use effort has not been without its critics. Many counties delayed inventory efforts because a moratorium was proposed and later defeated in the general assembly in the spring of 1983.

A primary criticism of the law has been that it does not address the issue of how the new inventory and planning effort relates to any existing planning process which is ongoing in the county. Counties which have planning programs are left on their own to answer such questions as the following: Does this new plan replace or supplement the existing county plan? How does the newly created County Land Preservation and Use Commission relate to already existing bodies, the county zoning commission and board of adjustment?

Counties which have found planning unacceptable in the past are reacting in different ways. Some are continuing to resist the current inventory efforts. Others are viewing them as an opportunity to take a look at their situation without embarking on a fullblown planning program.

Once the inventory process has been completed, the studies will be useful at both states and local levels. Of particular interest will be indication of any trends on conversion of farmland to other uses.

How the New Law Works
Under the new law, each county was directed to form a 5 to 6 member county land preservation and use commission by October 1, 1982.

The Land Preservation and Use Commission is to compile a land use inventory, propose a county land use plan to the board of supervisors, or submit to the board a set of written findings on land use.

County Land Use Inventories
Each county is required to compile a land use inventory covering its unincorporated areas, and the areas within the boundaries of its cities which are taxed as agricultural land. The inventory is to be completed by January 1, 1984.

If data are available, the county inventory is to include:

- The land available and used for agricultural purposes by soil suitability classifications or land capacity classification.
- The land used for public facilities (park, schools, government buildings, and historical sities).
- The land used for private open space (woodlands, wetlands, and water bodies).
- The land used for other uses (commercial, industrial including

Where town and country meet conflicts can and do occur. Iowa's new land use law calls for an inventory of land converted from agricultural to other uses since 1960.

mineral extraction, residential and transportation).

In addition, the law requires that the inventory reflect the amount of land converted from an agricultural use to a residential, commercial, industrial, or public use since 1960.

The Iowa State University Cooperative Extension Service is directed by the legislation to provide technical assistance to the counties. County and Extension staff members have ferreted out sources of current and 1960 era land use information.

In addition to the recollection of long-term county residents, counties are finding that aerial photographs, soil surveys, section maps, plat books, transportation maps, and aeronautical charts are useful sources. Locating and cross checking all of the various data sources can be time consuming. Many counties have hired student interns to assist.

To encourage uniformity of inventory products, the Cooperative Extension Service and state officials put on a series of workshops and training sessions throughout the state. A set of tables was also developed so that counties could submit their findings in similar formats.

Next Steps
The completed county land use inventories are to be submitted by February 1, 1984 to a state interagency resource council, which will compile a report to the legislature.

Following the completion of the inventory, the counties have an option. The legislation calls for each county land preservation and use commission to give the board of supervisors a land use plan or the land use inventory, together with a set of written findings on how to preserve agriculture and other important land uses.

If a county land use plan does result from this effort, and it is adopted by the board of supervisors, the plan becomes the land use policy of the county to be administered and enforced by the county in the unincorporated areas.

Agricultural Areas
Another provision of the Iowa Land Preservation and Use Law enables an owner or group of owners of farmland to submit a proposal to the county board for the creation of an agricultural area. The area, at its creation, must include at least 500 acres of farmland. The proposal must include a description of the proposed area and its boundaries. The territory must be as compact and as nearly adjacent as feasible. Land may not be included in an agricultural area without the consent of the owner. Agricultural areas may not exist within the corporate limits of the city.

The use of the land in agricultural areas is limited to farm operations, residences constructed for occupation by a person engaged in farming or in a family farm operation, nonconforming pre-existing residences, and the property of a telephone company, city utility, or public utility.

In exchange for accepting these restrictions, the law offers landowners some protection from nuisance suits, special tax assessments, and certain state regulations. Agricultural Areas are also granted limited water priority by the new law.

Questions and Issues
Numerous questions have arisen. Can agricultural areas be used to block municipal annexation? The attorney general says no. Is a county liable for failure to check legal descriptions and to enforce the use restrictions? Again, the attorney general says, "no."

The concept has been popular with farmers and farm organizations. A number of agricultural areas have been formed, some involving thousands of acres. But the question remains, will this prove to be an effective tool for agricultural land preservation, or will it be used in ways which work against public sector planning?

The agricultural areas measure, compared with other agricultural land preservation techniques, is simple and straightforward and it does not entail major, direct cost to the public. Agricultural areas may, at least in the short run, protect valuable farmland. □

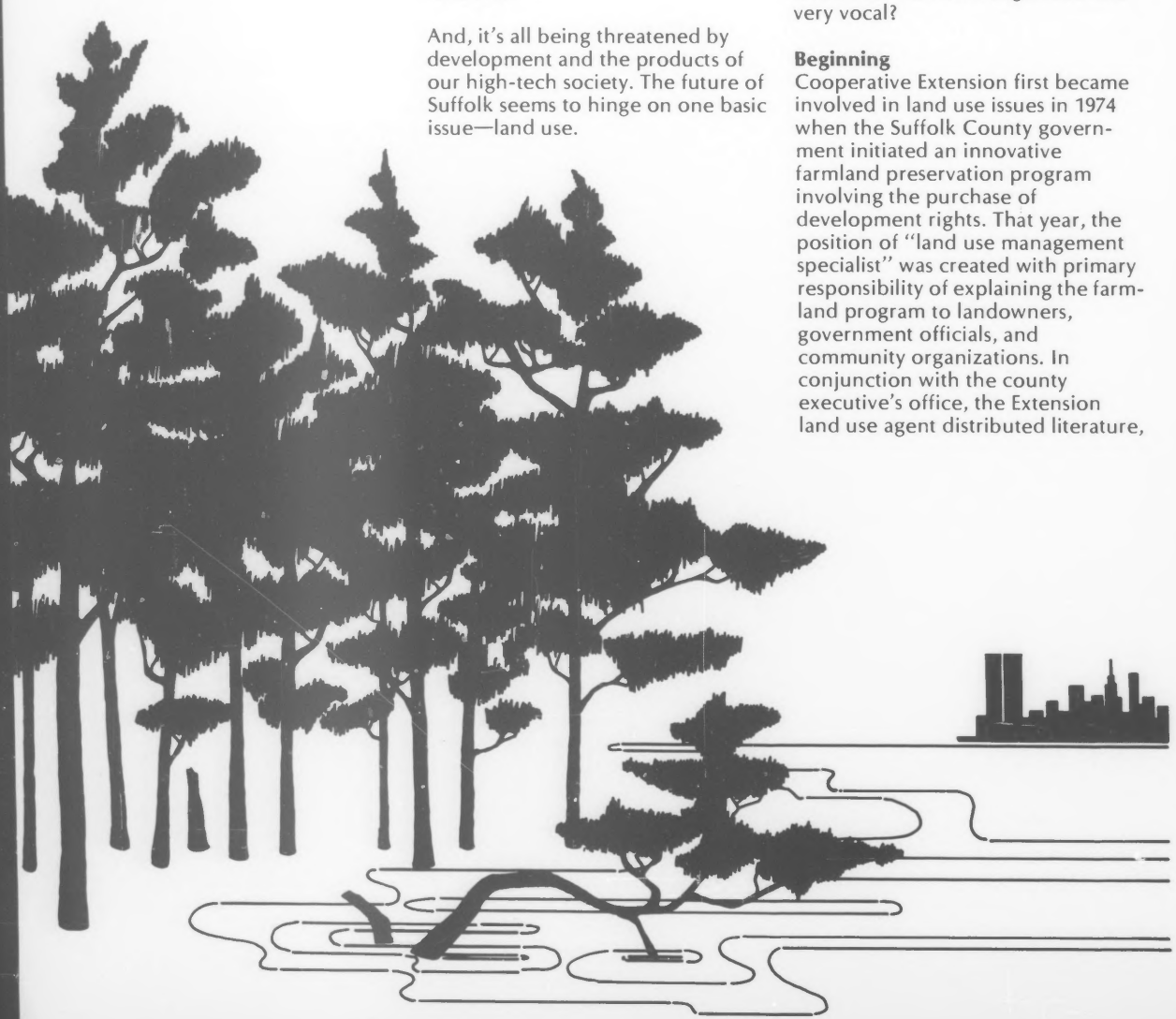
Saving Suffolk County

David F. Newton
Cooperative Extension Agent
Community Resource Development Program
Cooperative Extension of Suffolk County
Riverhead, New York

Suffolk County, encompassing the eastern two-thirds of Long Island, may rank as the fiercest environmental battleground in the United States.

Jutting out into the Atlantic Ocean in the shadow of New York City, Suffolk is at once one of the most populous suburban enclaves on the eastern seaboard and New York State's leading agricultural county. Enclosed within its boundaries are fragile marine resources, 40,000 acres of prime farmland, four rivers and innumerable streams, and a 100,000-acre tract of Pine Barrens forest. Beneath the land lie aquifers which are the entire source of water for the county's 1.3 million residents.

And, it's all being threatened by development and the products of our high-tech society. The future of Suffolk seems to hinge on one basic issue—land use.



Cooperative Extension has long been a positive influence in Suffolk, especially among farmers, homemakers, and youth. But what role can it play in helping to resolve such a monumental concern as land use, especially in a county which boasts some of the finest land use planning agencies in the Nation and where environmentalists and civic associations are well organized and very vocal?

Beginning

Cooperative Extension first became involved in land use issues in 1974 when the Suffolk County government initiated an innovative farmland preservation program involving the purchase of development rights. That year, the position of "land use management specialist" was created with primary responsibility of explaining the farmland program to landowners, government officials, and community organizations. In conjunction with the county executive's office, the Extension land use agent distributed literature,

made public presentations, and responded to inquiries about the mechanics of the program.

So rapid and complete was public acceptance of this program that the agent soon turned to other land use and environmental issues.

In mid-1975 the Long Island Regional Planning Board (RPB) received a $5.2 million grant from the U.S. Environmental Protection Agency (EPA) to develop a comprehensive water quality management (208) plan for Suffolk and adjacent Nassau Counties. Since this plant would examine land use practices and central measures, the agent joined the Citizen Advisory Committee (CAC) created to work with the RPB and technical consultants. Through this study, Cooperative Extension firmly established itself as a resource on land use and environmental issues.

Over the course of this 3-year study, the agent wrote articles for the 208 CAC Newsletter; compiled a slide program on the 208 study and plan; helped organize a public information program in conjunction with several environmental organizations; and compiled an executive summary of the plan. Since the 208 Plan was published 4 years ago, the agent continues to serve as vice chairman of the committee and works closely with the RPB staff in implementing of the plan. This includes publication, by Cooperative Extension, of several publications on such topics as nonpoint sources, suggestions for homeowners, and the land use controls to prevent water pollution; and the writing of articles for the 208 CAC Newsletter, compiling of slide programs on solid waste disposal practices and on nonpoint source control; and reviewing the RPB nonpoint source handbook.

Coastal Zone Management

As the 208 study was getting underway, the Rural Planning Board also prepared a coastal zone management (CZM) plan as part of a statewide program. Since this encompassed important land use considerations, the Cooperative Extension agent joined the Citizen Participation Committee created to advise the RPB staff. In an effort to increase interest and participation in this program, the agent, in conjunction with the local Sea Grant specialist, compiled and distributed a periodic newsletter summarizing the various coastal concerns and management measures. A slide program on local coastal issues was also compiled for community groups. The agent now serves as an advisory member of the Nassau/Suffolk Marine Resources Council which is helping to implement the CZM plan.

The Pine Barrens

In the wake of the 208 study and four significant findings that Suffolk's groundwater is endangered, attention focused on protecting the last major uncontaminated area in Suffolk County—the Pine Barrens. The county planning department initiated a comprehensive land use planning program in 1981 to protect this 100,000 acre forest of pitch pine and oak. The Cooperative Extension agent is chair of the Pine Barrens Planning Council which brings together representatives of a wide range of constituencies to advise the planning department staff. In addition, the agent compiled and distributed a bulletin about the Pine Barrens, compiled a slide program which serves as a resource on land use management measures.

Other miscellaneous activities and projects undertaken through the land use program include compiling of an extensive report on the Peconic River, the largest in the county, for designation under the State Wild, Scenic, and Recreational Rivers Acts; conducting courses on how to compile a natural resource inventory, publishing a series of 23 fact sheets on real property assessment and taxation, and sponsoring of training courses for members of local planning boards and zoning boards of appeals.

Summary

As can be seen, the role of Cooperative Extension in Suffolk County has been primarily that of an educator and facilitator. Regardless of the specific land use or environmental issue, the services provided are essentially the same: participation on advisory committees, distribution of information, compilation and presentation of slide programs, referral of inquiries to appropriate agencies, and sponsorship of short training courses.

The land use program, although a major effort, is but one element of Cooperative Extension's comprehensive Community Resource Development Program which also includes educational programs relating to housing issues, energy policy, process skills, and local government operations.

Audiences for the land use program are those individuals and organizations most involved in land use and environmental issues. These include county and town elected officials, local planning boards and environmental agencies civic groups, environmental organizations, and other community leaders. Representatives from several of these have agreed to serve as an official Cooperative Extension advisory committee to help guide the land use education program. This committee also serves as an advocate for the program both within the Cooperative Extension Association and community. □

Fighting Soil Erosion

George C. Mays
Extension Communications Specialist
The University of Tennessee, Knoxville

The year 1979 marked the beginning of a new plan to combat an old enemy, soil erosion, in west Tennessee.

Soil erosion losses in the area rank among the highest in the nation. On 2.3 million acres of sloping cropland, erosion rates averaged about 40 tons per acre annually. These losses represent a serious threat to long-range agricultural production in the area.

Fertile Farmland
West Tennessee's 21 counties rank high in importance in the state's 2 billion dollar agricultural industry. They account for about 80 percent of the state's soybeans, more than 67 percent of the wheat, 47 percent of the corn, 93 percent of the cotton, 18 percent of cattle and calves, and 46 percent of the state's hogs and pigs.

In 1979, local, state, and Federal agencies, and consumer groups joined with farmers to meet the challenge of soil erosion, water quality, and related resources in west Tennessee. The Tennessee Rural Development Committee assumed leadership in developing a multiagency plan to reduce soil losses. The Tennessee Erosion Control Coordinating Committee, a subcommittee of the State Rural Development Committee, continues to direct and evaluate the program.

Additional staff time, financial assistance, and technical support have been provided by state and Federal agencies.

Yet, increasing farm expenses and low prices for agricultural products have made it hard for many Tennessee farm operators to finance engineering structures. "Growers have always wanted to take the steps necessary to conserve their soils," emphasizes Clark Garland, University of Tennessee Extension Service farm management economist. "However, soil conservation generally has been a long-term project—and farmers need income today."

Use of No-Till Plantings
According to findings of research scientists at the Milan Experiment Station and other Tennessee agricultural experiment station units, west Tennessee farmers can reduce soil losses and increase farm income by using no-till production techniques. No-till planting of soybeans runs about $12 an acre less than conventional tillage.

"No-till farming can reduce erosion to acceptable levels and permits a more intensive use of the land," Garland explains in his message to 5,000 farmers and agribusiness representatives attending conservation tillage programs in mid-July.

Garland and Estel Hudson, Extension Service farm management economist in west Tennessee, presented information from area farmers that showed how to expand total farming operation based on labor saved by no-till production. This method substantially increased total farm income.

Demonstration Farms
In 1982, 114 farmers participated in the Resource Management Conservation (RMC) Program, part of the six-phase conservation program. Thirty more enrolled this year.

Program staff develop a farm management plan that emphasizes soil erosion and improved water quality, for each RMC farmer. Extension Service and Soil Conservation Service personnel assist in developing a "maximum income plan" in which all fields meet soil loss tolerance.

Agents conduct on-farm demonstrations to prove recommended practices related to conservation.

Farmer Joe McDaniel (right), and his son Tim examine corn that has been planted in grass using recommended no-till procedures. They were assisted by Extension personnel as part of the Resource Management Conservation program.

Hudson cites an actual farm situation in Henderson County: "About 110 acres of his farm should have been row cropped under conventional tillage only 2 years out of 4 to prevent severe erosion," Hudson says. "In the other 2 years, the land should have been returned to meadow or forage crops."

Hudson points out that forage crops don't generally have the income potential of row crops. The farmer could, he explains, attempt to control his soil loss mechanically, but this procedure would cost him more in installation and the mechanical devices would require maintenance.

Conservation Tillage Pays
The RMC management plan developed for this farm recommended planting the 110-acre tract in no-till soybeans 2 years out of 3. This

Top left: Farmer James Kendall signs a contract that helps place the Reelfoot Lake Clean Water Program over the $1 million mark for special Federal cost-share funding. Bottom left: Soil scientists evaluate soil samples in an accelerated soil survey designed for erosion control planning. Below: Over 5,000 farmers attended the Milan Experiment Station field day and saw demonstrations of the latest in no-till equipment.

reduced soil losses to a more acceptable level of 3.5 tons per acre annually. Under conventional tillage, 40 tons per years were lost for each acre, for a total of 4,400 tons for the entire tract.

The farmer saved $1,158 a year using no-till. Further, being able to plant a row crop rather than following the land—added another $4,584 to his income.

Labor and equipment savings from no-till allowed the farmer to rent an additional 129 acres. Income from row cropping that land reached $4,515, pushing the total increase due to the change to no-till to $10,257.

No-till crop production has increased dramatically since emphasis was placed on reducing soil erosion. Many farmers are investing some of the extra income from changing agronomic practices into engineering structures that will further cut erosion losses and improve water quality.

Six-Phase Program

Since 1979, 12 areas (totaling 29,362 acres) in 12 counties have been designated for special assistance in Small Resource Conservation Management Areas. This phase of the conservation program extends the RMC farm principle to watersheds or drainage areas of 1,000 to 2,500 acres. Farmers can obtain special cost-share funds in these approved areas.

Large Resource Conservation Management Areas are similar except for size. Federal funding of $4.5 million has been secured for the Reelfoot Lake Drainage Area. It consists of 760 farms totaling 153,600 acres and is located in three counties.

Annual cost-share agreements have been approved on 126 farms enrolled in the special ACP project in the Forked Deer Watershed. These long-term agreements, for 3-10 years, have provided $1.2 million in Federal funding for cost-share assistance during the past 3 years.

The Accelerated Information and Education phase of the program will increase awareness of erosion and water quality problems by the general public, landowners, and farm operators.

"Resources in Review"

Over 1,200 farmers and agribusiness representatives participated in the "Resources in Review" program at the Jackson Civic Center in mid-July. This program consisted of a banquet followed by a report of 4 years of progress in the 6 phase conservation program. Keynote speaker was Wilmer D. Mizell, Assistant Secretary Of Agriculture for governmental and public affairs.

The following day, over 5,000 people from several states attended a No-Till Field Day at the University of Tennessee's Milan experiment station. They took research tours featuring no-till production practices for soybeans, corn, wheat, cotton, and grain sorghum. They could also see demonstrations of no-till planters and equipment, static displays, and a weed, disease, and insect identification clinic.

The sixth annual Southeastern No-Till Systems Conference completed the 3-day activity. Researchers from throughout the region discussed ongoing studies in their respective states.

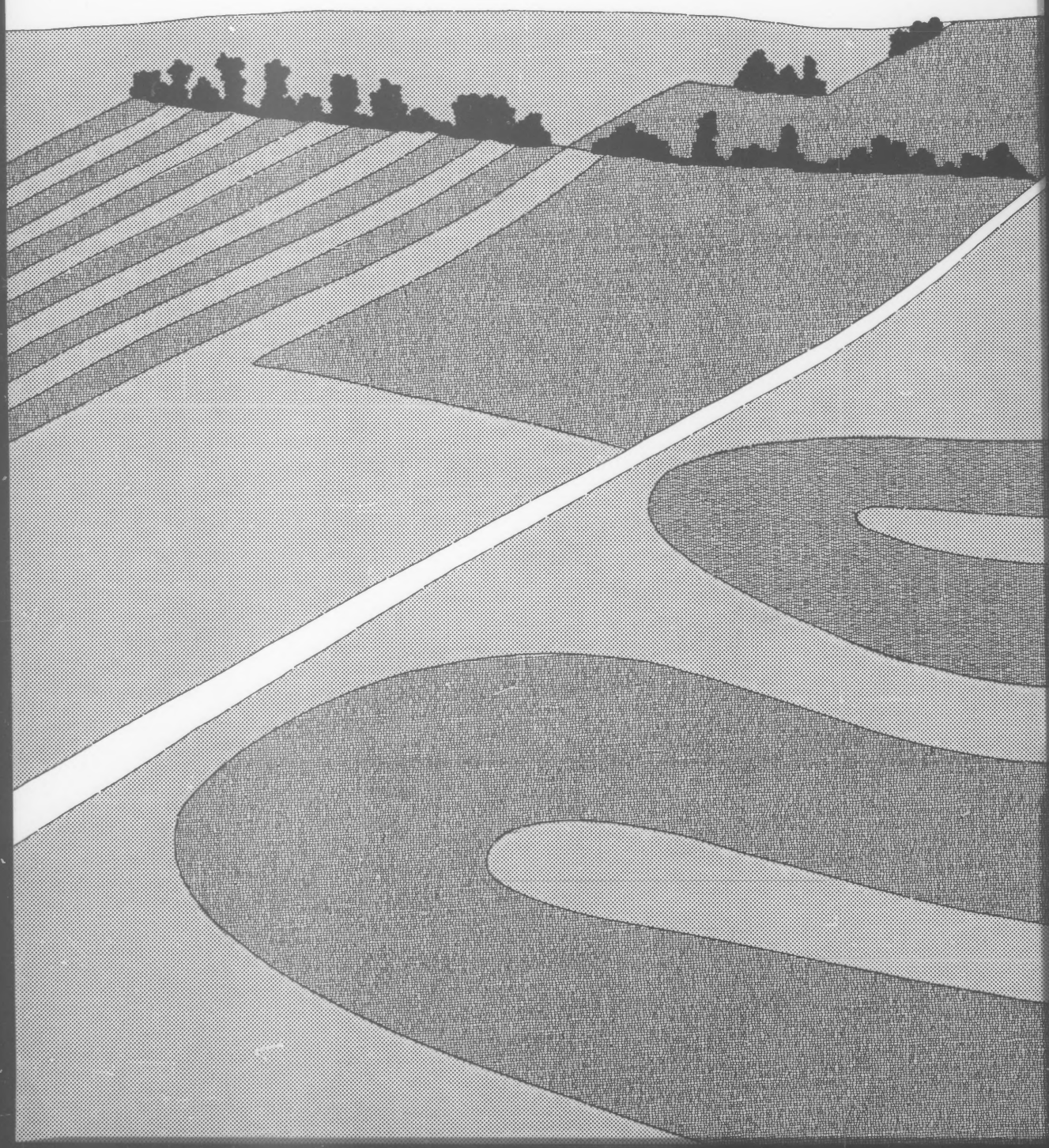
International Interest

Agricultural officials and farmers from the United States and around the world have visited west Tennessee to study the methods developed and implemented by cooperating agencies to address soil and water conservation problems. Over 200,000 acres are under no-till in west Tennessee this year, compared with 40,000 acres in 1978. □

United States
Department of Agriculture
Washington, DC 20250

OFFICIAL BUSINESS
Penalty for private use, $300

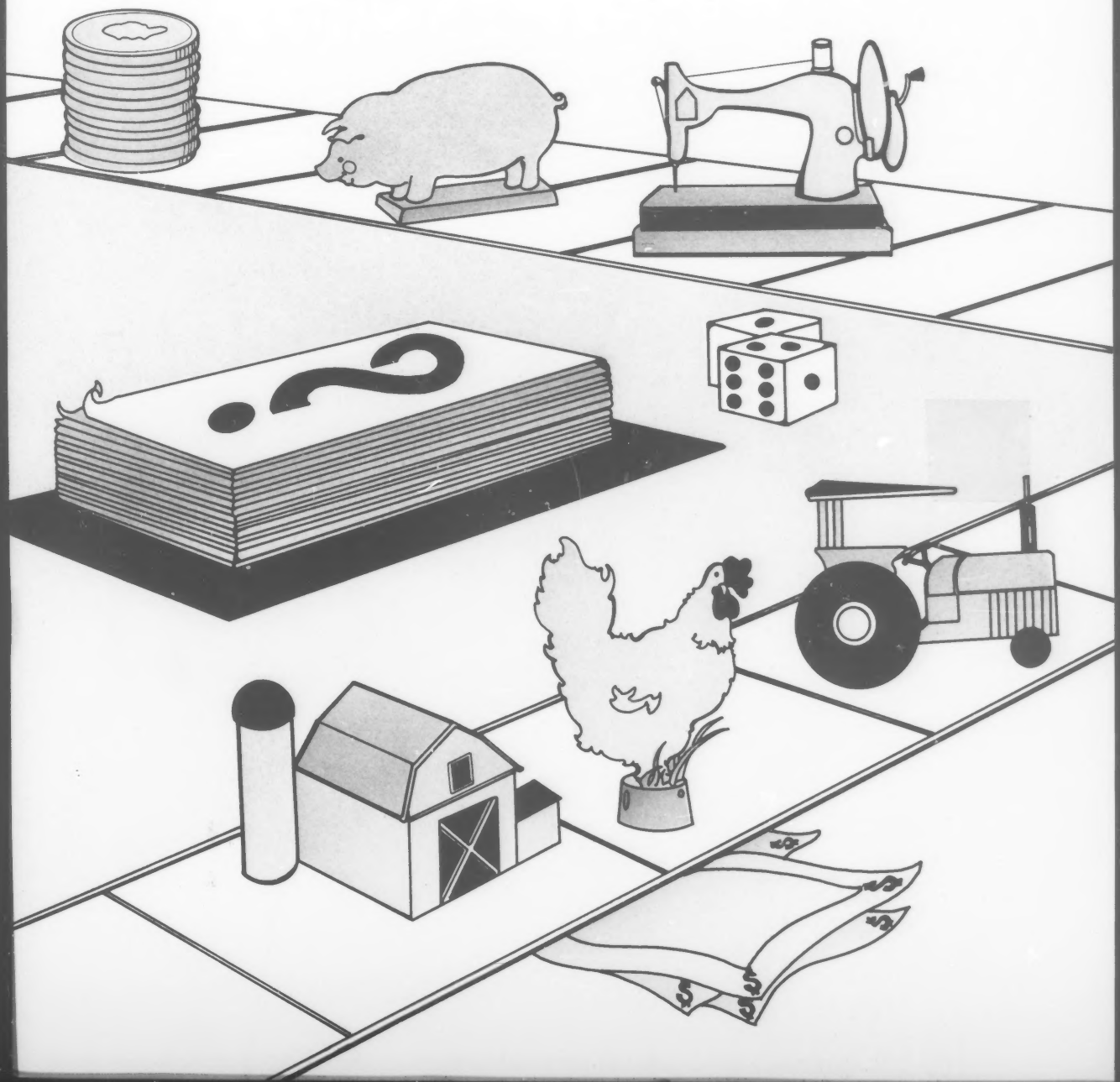
Postage and Fees Paid
U.S. Department of Agriculture
AGR-101



Winter 1983 United States Department of Agriculture

extension review

Financial Management



review

The Land-Grant System: Intent and Outcome

The Seaman A. Knapp Memorial Lecture was presented at the 96th Annual Meeting of Land-Grant at St. Louis on November 8, 1982, by Dr. Roy M. Kottman, acting associate director, Agricultural Experiment Station, University of Nevada, and retired dean of agriculture, Ohio State University. The lecture gets its name from Dr. Seaman A. Knapp (1833–1911) described as "the father of the Cooperative Extension Service concept." Excerpts from the lecture follow:

I credit a large part of our nation's past and present preeminence in agriculture to three uniquely significant actions taken by our forebears.

1. The unprecedented language of the Declaration of Independence which provided an environment within which there was unlimited opportunity for citizens to develop their God-given talents within a framework of freedom!
2. Our pioneer forefathers established a system of elementary education that was universal and mandatory and which produced a population of literate people.
3. The Land-Grant system made higher education available to the sons and daughters of the "industrial classes" which played an important role in the development of agriculture and highly productive farmers and ranchers.

Miracle of the Morrill Act of 1862
The Morrill Act of 1862 marked the beginning of a modern miracle. It is a miracle which has made it possible to reduce the proportion of our nation's people who lived and worked on the land in 1862 from 62 percent down to an almost unbelievable 3 percent at the present time.

Purnell Act Spurred Research
However, much of the impetus for developing research programs in home economics arose in connection with the food crises of World War I, and the subsequent discovery that certain vitamins were deficient in the diet of large segments of the U.S. population. In response to those findings, the U.S. congress provided funds through the Purnell Act for research in home economics at all of the Land-Grant colleges and universities.

Renewable Natural Resources
Concern with research for our nation's renewable natural resources has been a part of the state agricultural experiment stations throughout their history, but it was not until 1962 that major emphasis was given to research in forestry at the state stations when the McIntire-Stennis Cooperative Forestry Research Act (P.L. 87–788) was signed into law on October 10, 1962.

It seems clear to me, however, that no matter how loudly we proclaim the significance of the Morrill Act of 1862, and of the Hatch act of 1887, it is doubtful that the land-grant system would have achieved its preeminence without benefit of the Smith-Lever Act of 1914, which provided both legislative authority and fiscal support for establishing the cooperative extensive services in each of our states and territories thereby interfacing our land-grant system with our nation's taxpayers.

Smith-Lever Act of 1914
Actually it was "farmer demand" which gave rise to the Smith-Lever Cooperative Extension Act of 1914. Once the agricultural experiment stations were established and were producing a supply of new and useful information for our nation's farmers, the Land-Grant colleges found themselves besieged with requests for speakers and demonstrators at institutes, county fairs and other types of farm meetings. There was also a greatly increased demand for printed literature. As this demand continued to grow it became a burden for the faculty members engaged in resident instruction and in research. So it was that public demand for off-campus educational information literally forced the Land-Grant colleges to make provision for meeting the need.

Especially apropos to this memorial lecture, I would point out that Seaman Knapp's farm demonstration work in Texas began in 1903 and spread rapidly over the southern states.

Land-Grant System
Our Land-Grant system has provided the means and mechanisms for generating new knowledge through research, transmitting that new knowledge through the classroom to oncoming generations, and providing all the people in each state of our nation the latest and best information on agriculture, home economics, and natural resources.

We know, from a series of studies covering results of the past 30 years, that the average annual return on investment from public funds going into research and Extension for agriculture is 30 to 50 percent.

The availability of fuel and fertilizer does not guarantee food on the table! Agricultural research, Extension Service, vocational agriculture in our high schools, agricultural education in our technical institutes and agricultural education in the classrooms of our colleges are the best guarantee of future food supplies.

New Knowledge Is Vital
In company with Seaman A. Knapp, I believe it is tremendously significant for you and me, and for every other citizen to understand and appreciate that research and education are "the keys to the knowledge kingdom."

The point to be remembered is a *continuing flow of new knowledge is* vital. Vital, also, is the need to get our research transmitted to all citizens through Extension, as well as through our schools and colleges, and through the outreach of business and industry.

As a finale to my remarks, I would quote Seaman A. Knapp, the man in whose honor this lecture has been presented. He said: "(our) mission is to solve the problems of poverty, to increase the measures of happiness, to add to the universal love of country the universal knowledge of comfort, and to harness the forces of all learning to the useful and needful in human society."

contents

extension review

Vol 54 No. 1
Winter 1983

John R. Block
Secretary of Agriculture

Orville G. Bentley
Assistant Secretary for Science and Education

Mary Nell Greenwood
Administrator
Extension Service

The *Extension Review*, quarterly publication of the Extension Service is for Extension educators in county, state and USDA agencies. The Secretary of Agriculture has determined that the publication of this periodical is necessary in the transaction of the public business required by law of the Department. Use of funds for printing this periodical has been approved by the Director of the Office of Management and Budget through September 30, 1985. The Review is issued free by Law to workers engaged in Extension activities. For sale by the Superintendent of Documents, Government Printing Office, Washington, D.C. 20402. Send manuscript inquiries to: The Editor, Extension Service, Room 3137-S, USDA, Washington, D.C. 20250. Telephone: (202) 447-6133.

Director of Information: Ovid Bay
Editor: Patricia Loudon
Associate Editor: Judith Armstrong Bowers
Associate Editor: James Wolfe
Design Director: Deborah Shelton

For Alabama Farmers . . . A Record Attempt

Charles Maddox
Head, Extension Agricultural Economics
Alabama Cooperative Extension Service
Auburn University, Alabama
and
George Young
Economist, Farm Business Management
Northeast Farm Analysis Association
Scottsboro, Alabama

The most serious economic crisis since World War II—those words well describe the plight of farmers.

Declining farm commodity prices have placed a severe strain on the farmers' cash flows. Many are unable to cover operating costs and meet debt requirements. Equity in real estate in many areas has declined.

These are some of the major reasons for interest among Alabama farmers in Extension's farm business management association concept. The concept isn't new. The first such association was established in Illinois in the 1920's. Today about 12 states have associations.

New Associations
Our first association, which has 49 members, has just finished its second year. A second association is being organized. Inquiries are coming in from farmers, county agents, and district staffs. Naturally, we're pleased with its success and excited about the prospects for seeing this concept spread statewide. Our major problem will be managing the growth and development of new associations. Extension's funds, like farmers, are tight.

What is a farm business management association? It's a group of farmers who organize themselves into an association and assess themselves fees to secure the service of a fieldman to assist them in managing and operating their farms. Farm members control the association. Elected directors run its business. The board of directors carries out the policies of the association, develops budgets, and sets member fees to secure funds for implementing the budget. The board also collects the fees.

Need for Support
Extension's role in establishing an association is securing financing to support the association during its formative years. Our approach in Alabama is that an association should be 90 percent self-sufficient at the end of the 4 years. Extension's administrators are committed to continual funding at a 10-percent level as long as the associations provide the aggregate farm record data. There is a need, however, for some up-front financial support. The Tennessee Valley Authority was interested in the concept and agreed to help fund the formation of an association in Alabama.

The associations in Alabama will be tied closely to our county Extension agents. They know the farmers in their county, can help identify leaders, and play a vital role in setting up an association. In fact, the first step we take in establishing an association is to meet with agents in the area being considered. The agents assist in selecting an informal steering committee of farmers to work with us in promoting the association and enrolling charter members.

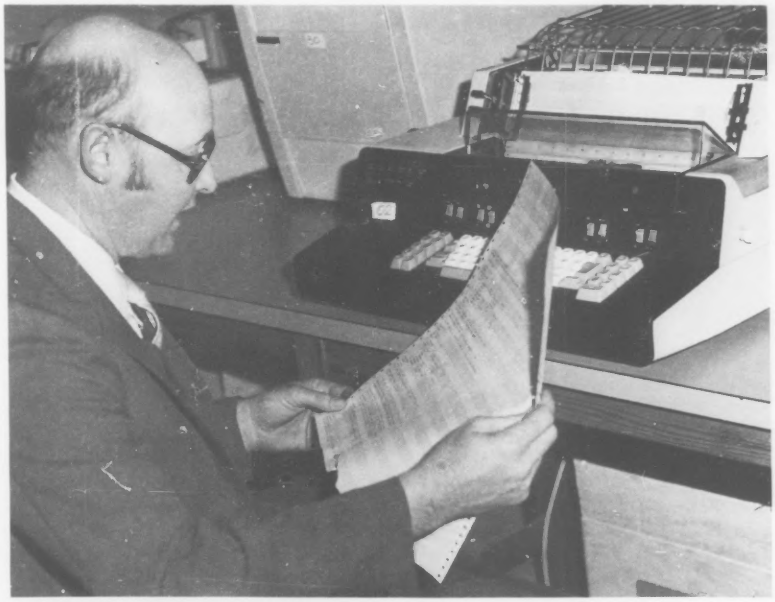
Enrollment
The enrolling process requires a $100 deposit that is applied toward the first year's fees. After the charter members are enrolled (about 30 are as many as should be enrolled for the first year), the membership formally organizes itself, elects its board, and begins to operate. Ideally, an experienced fieldman is hired sometime during the enrollment period and is available to assist the association in decisions regarding its budget, fee schedule, and the process of incorporating and obtaining its tax exempt status.

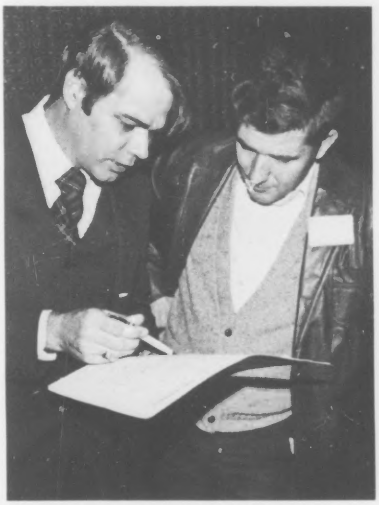
As soon as the association is formally organized with officers empowered to act on behalf of the association, a memorandum of agreement is executed between the association and the Extension Service. This agreement spells out the commitments of both parties: Extension support during formative years, continual support at the 10-percent level, and confidentiality of individual records. The association's commitment is to enroll its members in a nondiscriminatory manner, assess and collect fees, grant funds to Extension for support of the fieldman, and provide aggregate and average farm record data to Extension.

Records Program
The fieldman is the key person in making an association function. Since the program deals primarily with business management, its most basic component is a records program. The fieldman works closely with association members in keeping the detailed records and at yearend transferring the data to computer input forms for analysis. The association contracts with a commercial data processing service for computer analyses of the data. Both individual and comparative analyses are made.

Why are farmers joining these associations? Farming is truly a business venture, with high risks as well as high rewards. Success requires good management. A recordkeeping service alone could make the difference between top-flight and below-average management. The Internal Revenue Service insists that farmers maintain accurate records. Accurate records are also essential for analysis purposes and as a basis for making management decisions. They are helpful in negotiating leases, determining partnership settlements, and making credit plans as well as serving a host of other uses.

As farm costs continue to increase and profit margins become tighter, the role of management will





Top: Studying a printout analysis of his farm operation is Jack Ashley, a Dekalb County farmer and member of the Farm Business Management Association.

Above: George Young, co-author of this article, and an economist with a farm analysis association, reviews records with a North Alabama farmer.

become even more important. Membership in a business management association can help farmers stay on top of the management of their business.

Association Benefits
Members receive the following:

1. *An organized farm recordkeeping system.* A farm account book is used to keep a complete record of all receipts, expenditures, inventories, capital assets, crops produced, land use and soil treatments, livestock feed records, and other similar items.

2. *Computerized business reports.* A complete financial analysis of the farm is prepared on a high-speed electronic computer. The reports contain information on the capital structure, sources of income and related costs, net income, net worth, management factors in crop and livestock production, usage of labor and equipment, and detailed depreciation schedules. Members will also be able to compare their farm operation with averages for other farms of similar size in the same area. However, all individual records and private discussions are confidential.

3. *Scheduled farm visits by fieldman.* Each member receives an on-the-farm consultation from a fieldman trained in farm business management. The fieldman assists with the farm records system and interprets farm analysis data and provides assistance in marketing, investments, costs, production practices, and individual management problems. The fieldman knows what farmers' problems are, and will become well acquainted with each individual operator and his business.

4. *Income tax assistance.* The fieldman aids members in wise tax planning and management as well as informing them of tax law changes that affect their operations. Pre-year-end tax management is an important part of the fieldman's service to the farmer.

5. *Opportunities for tours, seminars, and information meetings.* Special farm management tours are conducted so that members can see other good farming practices and farm business systems. The association also holds seminars and meetings concerning timely topics such as estate planning, marketing, labor management and profit planning.

Members like this kind of service because they like the opportunity of talking over their management problems in a confidential manner with an experienced person who understands their problems.

Farmers also like learning more about their own business. They discover strong and weak points, and learn how to build on their strengths and either eliminate or minimize their weaknesses. □

Direct Marketing Survives and Thrives

Stu Sutherland
Public Information Officer
Extension Service, USDA

Gardens have always been a familiar sight in rural communities and on farms. In the last dozen or so years there has been a dramatic increase in such gardening, an increase almost as great as the World War II "victory garden" era.

A bit more recently there has been an equally dramatic increase in urban gardening, called by some "urban farming."

We can't all move back to the farm. But more and more of us are finding out that we can visit the farm and pick (or pick out) our own food.

Updating a Very Old Idea
The year 8000 B.C. (give or take a century either way) marks the point in time when humans first tamed animals and planted grain in the Middle East—and started agriculture!

Nomadic tribes moved with the seasons, as some still do today, and they became some of the first humans to move toward direct dependence on domesticated animals and plants.

Those remote times were the beginnings of agricultural village settlements.

Original Market Places
Places developed in communities where farmers could market food and other farm products.

After the last glacial epoch departed the ice retreated northward and the "first farmers and herdsmen" were left in lands that slowly became arid. This circumstance drew people together in larger communities centered around sources of water.

Continuing archaeological "digs" continue to "push back in time" the dates of earliest human activities. Since our country is so "ultra new"—in terms of such historical studies—we have a much better understanding of our own rural-urban agricultural marketing interactions.

Early Sources
Direct marketing between farmers and consumers probably started in Virginia at Jamestown in the early 1600's. Early settlers there traded corn and tobacco to the local American Indians for furs and pelts. As Virginia spread westward settlers in Virginia usually made some sort of provision for a farmers' market.

To define terms a bit: direct marketing includes the sale of farm crops, livestock, and products (1) in the field, usually in a form known as a "you-pick-your-own" marketing venture; (2) on the farm in a direct retail market, often roadside stands, where the farmer provides prepicked products; or (3) within communities and cities at a location where farmers bring their products at certain times for direct sale.

"U-Pick" Begins
Getting back to the early 1940's, one farmer described how he helped start this chain of events. He found himself without harvest labor, due to World War II, when he had a crop of peaches ready for harvest. As a matter of necessity, the farmer put advertisements in newspapers asking consumers to come and harvest their own fruit. That same "U-Pick" marketing operation is still going today on that farm.

In 1971, a highly successful cooperative effort began between the Virginia Cooperative Extension Service and the Division of Markets of the Virginia Department of Agriculture and Consumer Services. One of the Division's marketing agents learned of the more numerous U-Pick farm operations in the Northeastern states, some of which were quite successful.

Orchards Opened to Public
With the help of several Virginia Extension agents, the cooperative program got started in the fall of 1971. Involved in that first program were 9 apple growers who opened parts of their orchards to the public on weekends during harvest to sell their apples directly.

Even with rain on 4 out of 6 weekends the customer turnout on the sunny days demonstrated to growers the value of this program as an alternative marketing method.

By 1981, other types of farm products and farm-related industries were added and listed in publications so consumers could know where to go to buy directly—thus getting fresher and less expensive products "right off the farm." The published listings showed 480 such farm and business concerns involved in various programs.

Direct Lamb Marketing
Virginia was the first state in the nation to offer a direct lamb marketing program, after it was determined that there were a sufficient number of groups in the area who wished to buy good fresh lamb. Now many of Virginia's sheep herders directly fill this need, and in conjunction with this program a

directory of custom slaughter houses was published.

Farm winery legislation, which became law in July 1980, helped stimulate an initial five new farm wineries, with others now being planned. The wineries have created a heavy demand for Virginia grapes.

In 1980 the "choose-and-cut" Christmas tree growers, numbering only 25, sold about 14,000 trees.

There were also two additional outgrowths of this continuing cooperative effort in Virginia between the two state agencies. The first is the "re-birth" in the last dozen years of many of Virginia's farmers' markets. The second, begun in 1979, is the development of a new Farmers Direct Marketing Association of Virginia.

Alabama Farmers' Market

The DeKalb County office of the Alabama Cooperative Extension Service is located in the picturesque town of Fort Payne, nestled in between two mountains in the northeast part of the state. As an alternative marketing venture for some of the farmers in this mostly rural county, the local Extension Service and the Fort Payne Chamber of Commerce jointly sponsored a 2-day farmers' market in August 1981.

Assistant County Agent Terry Shackelford described this first-ever farmers' market as, ". . . a classic example of Extension cooperating with local organizations, with farm and city people working together to help each other improve the quality of their lives."

A Farmers' Market Day Committee—consisting of local business people, homemakers, farmers, Extension Agents, and Chamber of Commerce members—started an advertising campaign 3 weeks ahead of the event.

On the first day of the marketing venture, 25 farmers parked their trucks full of produce along a specially designated part of the street. They were joined by 10 more farmers on the second day. Over 1,700 county people came to look and buy during the 2 days. The 35 farmers had gross sales of over $5,000 by the end of the first farmers' market.

1982 Market

After more hard work by a newly appointed committee, plans were set for a new type of farmers' market for 1982—located this time at the DeKalb County VFW fairgrounds near Fort Payne. With more assistance by the local media, the farmers' markets started on Friday, July 16—running for 1 day, every Friday for 11 weeks—and ended on September 24.

Many more people came to visit the market during the 11 weeks, but it is estimated that about 1,722 people were buying; that they spent an average of $5.00 per person; and, that gross sales were slightly more than $8,600.

Dinner Marks Success

At the end of the market's 1982 session, an appreciation dinner was held with 35 of the farmers who had sold produce. A summary of daily and total market figures was presented, and a talk given by Louis Williams, Extension Economist—Horticulture, from Auburn University. Williams showed slides of some of the other 60 to 70 farmers' markets in operation in about 40 Alabama counties.

There may have been as many farmers selling produce directly to consumers in their own roadside stands in 1982 as there were in the mid-1930's. It is hard to say, as direct marketing like roadside stands, pick-your-own, and farmers' markets are all part of a vast and

generally unorganized trend. It has been estimated that the number was around 20,000 locations during the summer of 1982.

Ohio-based **American Vegetable Grower,** a magazine produced for commercial vegetable and greenhouse growers, did surveys for a 5-year period and found the reported numbers had nearly doubled. The adjusted surveys, as all states did not respond, indicate that from 1976 to 1981 roadside markets had grown in number from 8,190 to 15,322—with sales jumping from $208 million to $455 million.

Ohio Marketing Program
In January 1983, the 23rd annual Ohio Roadside Marketing Conference was held at the Convention Center in Dayton. This conference draws its audience from all of the eastern North Central and Eastern states, plus many from Canada. Devoted almost exclusively to improving the management and operation of roadside markets, the 2-day annual meeting in 1982 had an attendance of 581, plus about 54 exhibitors. In 1982, people attended from 27 states, Canada, and England.

The conference has a low ($25) registration fee that includes a copy of the proceedings. For nonregistrants a copy can be obtained for $10 from: Herbert H. Hadley, Professor Emeritus, The Ohio State University, 2120 Fyffe Road, Columbus, OH 43210, or by phoning (614) 422-2701.

Arkansas Marketing Meet
Last November 17-18 (1982) the 103rd annual convention of the Arkansas Horticultural Society was held in Fort Smith. The focus of that meeting was marketing.

As the secretary of the society, Roy Rom, professor of horticulture and forestry at the University of Arkansas, said, "We have the technology for production. The challenge now is to take advantage of new methods of marketing."

Extension marketing programs have helped establish two new farmers' markets, and assisted three others to stay in operation. Working through resource conservation and development areas, Extension specialists did feasibility studies—emphasizing marketing—for enterprises which had no access to consulting firms.

Sales of posts, poles, fuel wood, handicrafts, and produce have now helped to fill a part of the severe gap created by the loss of thousands of jobs in western Montana.

Costly Food
Did you know? Connecticut imports 85 percent of its food, and food costs tend to be higher than in many other areas of the country. In New Haven, 1981 found the Extension home economist cooperating with local community groups to establish and participate in two farmers' market sites in the inner city.

A market survey comparing prices showed that food costs were about 35 percent lower (on average) in price than the same items sold in local supermarkets.

Why Not Catch Your Own?
People in Alabama like to fish, so Extension got the fish and the people together . . . and, by so doing, provided a good investment opportunity for catfish farmers. Fee-fishing (or catch-your-own) on small, densely stocked ponds in urban areas saves those who like to fish both travel costs and time as well as energy.

Alabama Extension provides technical information on aquaculture to 550 Alabama catfish farmers who operate over 10,000 acres of ponds, of which 2,500 acres are available for fee-fishing.

Here To Stay
Certainly, 1982 can be described for many people as "hard times." And, yes, there currently has been an upward trend in the number of types of direct marketing approaches being encouraged by state Cooperative Extension Services. Only a very few of the many programs have been noted here.

As the 23rd annual Ohio Roadside Marketing Conference indicates, modern versions of the historically old farmers' markets and other direct sales by producers to consumers may be here to stay.

If enough consumers like the pick-your-own, roadside markets, and farmers' markets—and, if the farm producers and others involved continue to make enough profits from direct marketing, then we will not miss out by having something very worthwhile discontinued when those "good times" come back again. □

Easing Farm Finances

Stu Sutherland
Public Information Officer
Extension Service, USDA

No opinion poll is needed to know how farmers and ranchers across the country feel about 1982. They, and many other farmers, had entered 1982 in poor financial shape because of low prices for farm products over the previous 2 years. Only late in the year did these costs ease as interest rates and inflation cooled a bit.

Across the country Extension is responding to the plights of these farmers with a wide range of educational methods and techniques to develop management and marketing capabilities.

Electronic Assistance
As one national magazine's choice of the computer as "Man of the Year" indicates, computers and other electronic technology offer many opportunities to assist farmers with their financial and marketing decisions. And farmers across the country are using computers as management and decisionmaking tools.

For example, Delaware is providing farmers with a means to quickly update farm records and make more timely management decisions. Software was prepared so farmers with a minimum of training could enter and retrieve their own record information.

A large share of North Dakota's 38,000 farm families were in serious financial trouble 2 years ago, so the Cooperative Extension Service at North Dakota State University developed a program in long-range farm financial planning using the AGNET program "FARMPLAN."

Microcomputer Programs
Not all computer programs are designed for use on the big "main frame" computers. There is an already vast and growing number of field-tested computer programs developed for the smaller (less expensive) microcomputers. Quick response by Extension Service-USDA to an early September (1982) request from the Federal Crop Insurance Corporation (FCIC) sparked a project to have a microcomputer program ready to help farmers make 1983 crop insurance decisions—one of their production costs.

A cooperative agreement with Texas Extension Service hastened transfer of funds from FCIC to adapt and field test a microcomputer program the Texas staff had already substantially developed. On a "crash basis," the computer program explaining FCIC changes for 1983 with educational materials was ready to go for the first of four training workshops for Extension farm management specialists early in January 1983. Farmers will make insurance decisions for their crops from about late February to early April; the final workshop was held in Chicago in late January.

Extension Service-USDA has also been working with the Farmers Home Administration field staff on using Extension-developed financial management computer techniques—both to evaluate farm loan applications and to follow up the progress of borrowers.

Management Associations
New small cooperative-type farm management associations have been formed in a growing number of states to respond to farmer's needs for intensive individual help in dealing with cash-flow problems. Associations are groups of farmers who pay fees to hire an Extension-trained and supported farm management specialist who provides the personal help.

The Extension Service-USDA National Initiatives Task Force on Agricultural Financial Management and Marketing Alternatives has helped establish three cooperative agreements with Colorado, Massachusetts, and Nebraska for new national leadership and coordination in specific areas of activity. Colorado's contribution will be in the area of implementing procedures and programs to use the COIN data base, through various regional and state Extension computer information networks, to make USDA outlook reports promptly available to use in conducting Extension programs.

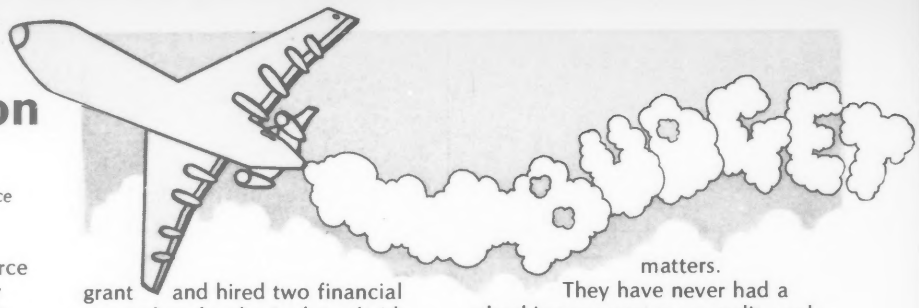
Better Marketing Decisions
Massachusetts' areas include integrating farm financial management and producer marketing educational programs so each becomes an integral part of the overall decision-making process, which includes production decisions; assisting producers to use marketing strategies which will support farm management decisions; and developing and implementing electronic technology to conduct Extension farm financial and marketing educational programs.

Nebraska's area is to develop Extension educational programs in cooperation with farm credit organizations to assist farmers in making use of credit and to effectively manage the debt structure of their farm business.

Aimed at Survival
All states are involved in educational programs (as indicated throughout this issue) with the objectives to improve management capabilities so people, both rural and urban, can deal intelligently with such overriding issues as narrow profit margins, escalating energy costs, unemployment, declining investment opportunities, a shrinking tax base, community growth patterns, and overall questions of resource allocation and use. Survival of those who farm ranks high in the list of broad management problems being met. □

Flying High With Extension

Philip R. Breeze
Writer-Editor
Mississippi Cooperative Extension Service
Mississippi State University



In the last few years the Air Force has begun to emphasize money management. And at Keesler Air Force Base (KAFB), near Biloxi, Mississippi, Betsy Barnette is in charge of providing financial counseling to any Air Force member that requests it.

Norine Barnes, an area consumer management specialist with the Mississippi Cooperative Extension Service, stationed in Biloxi, remembers her first meeting with Betsy Barnette.

"When Betsy found out that I give classes and individual sessions on financial management, she came to one of the classes.

"During the first meeting of a class I usually ask the participants to tell us a little about themselves," Barnes says. When Betsy's turn came, she stood up and told Barnes, "I do the same thing you do at Keesler Air Force Base and I'm here to see if you're any good."

Keesler is the permanent duty station of more than 6,000 Air Force personnel, and annually hosts more than 25,000 military students. They, together with civil service employees and military retirees living in the area, have an economic impact on the Mississippi Gulf Coast of more than a half billion dollars a year.

The Barnes-Barnette meeting in the winter of 1982 was possible because of a study done by Extension Service-USDA in the early seventies.

Counseling Office
Marilyn Purdie, state leader of home economics programs for Mississippi Extension explains: "In the early seventies Extension Service-USDA cited financial counseling as an area of great need. We applied for a grant to hire two individuals whose sole area of responsibility would be financial counseling. We got the grant and hired two financial counselors for the Jackson (mid-state) region. When that money ran out we picked up the program on state money and applied for another grant to open an office on the coast."

"We got that grant, too, and hired Norine."

Needed Dollar Control
"In the last few years the Air Force has begun to emphasize money management," Barnes says. "With the average American family paycheck nearing $20,000 a year, and the average military paycheck at Keesler about $6,600 behind that, it becomes apparent that many service members may need help in learning to control their dollars."

The base comptroller's office at Keesler was given the responsibility of providing individual financial consultation to service members who seek it.

The comptroller's office uses volunteers to provide financial counseling. When Betsy, who manages Keesler's personal financial management program, found out that classes were held on financial management, she came to the class to see if she could help train the volunteers.

Since then Barnes has developed a series of ten 2-hour classes she uses to train volunteers who work in the Keesler personal financial management program. She trains the volunteers to identify causes of financial problems and to offer effective counseling in the areas of money and credit management.

Aid to First-Termers
Most of the 25,000 military students passing through the base each year are "first-termers." For many of them, the Air Force is their first job. They are inexperienced in money matters.

They have never had a checking account or a credit card. They have never charged a purchase or had to deal with interest rates and month'y payments.

Barnette went to see Norine Barnes again, this time to ask for help in preventing financial problems.

Video Advice
Information department of CES at Mississippi State University checked to find out what assistance could be provided. Working with the Keesler comptroller's office, a special projects team from CES developed a script and spent 3 days on the base shooting a videotape explaining the fundamentals of money management and telling viewers where they could go for financial advice and counseling.

The 20-minute videotape, aimed at the young service members, mentions the comptroller's office and the Extension Service as sources of financial counseling.

Starring the Air Force
The tape features actual Keesler service members and, at first, was used during orientation briefings at Keesler. Lately, the videotape program has been accepted for worldwide use by the Air Force. It will be shown at bases throughout the United States, the European Command, and the Far Eastern Command.

"I think this whole thing has been beneficial to everyone concerned," says Barnes. "We've been wanting to work with the military for years. Now, we've finally gotten our foot in the door. The tape is being used at Air Force bases across the country. Hopefully, it will prompt Extension Services in other states to establish a similar relationship with the military installations in their areas." □

4-H Puppets Teach Kids Money Concepts

Jane Schuchardt
Communications Specialist, Home Economics
Iowa State University

The economic pie has limits.

That's a tough concept to accept, even for adults. How do you teach an 8-year-old child an allowance will probably run out before all needs and wants have been satisfied?

Martha Leibhart, Ottumwa area consumer and management specialist for Iowa State University Extension, recommends employing "Dolly Dollar" and "Nicky Nickel."

The lovable puppets, complete with coins for facial features and dollar bills in hand, represent two money management extremes. Dolly is stingy. Nicky is an impulse spender. Neither one has set spending goals.

Teaches Money Basics

Through puppet play—and scripts carefully written in language for 8- to 13-year-olds—the basics of goal setting, needs versus wants, savings and credit are taught.

Janette Johnson (left), and Martha Leibhart.

Janette Johnson, a 4-H aide in Davis County and amateur puppeteer, authored the scripts and has used the puppets with 4-H groups. She considers puppets perfect vehicles for communicating with children.

Teresa King (left) and Sherri Hopkins.

"Kids identify with the puppets . . . have fun with them," Johnson says. "Somehow, they forget the puppets aren't human and ask them questions they'd never think of asking me."

Leibhart adds that the puppets are "cute, entertaining, and can get the message across in a nonthreatening manner."

Already, Dolly Dollar and Nicky Nickel have communicated with about 200 children in summer programs, day camps, and 4-H groups. The consumer specialist sees additional uses for the puppets at county fairs and in public schools.

Dollar Decisions

Does the child want to save for a long-term goal, such as buying a bicycle? How does the child handle a credit transaction, such as borrowing from a friend or getting an allowance advance? If the child gets $3 a week for an allowance, how will be money be spent? These are all questions implied by the antics of Dolly Dollar and Nicky Nickel.

Adults face similar questions of choice. "Hopefully," Leibhart says, "if children learn basic money management concepts early, life will be easier when they're faced with adult-sized decisions about money." □

Young audiences are fascinated by the puppet play. Many identify so completely they ask the puppets questions. The "Dolly Dollar-Nicky Nickel" puppet play teaches youngsters basic money concepts.

When the Jobless Help Themselves

Guy Webster
Extension Assistant Editor
University of Arizona

Facing the highest unemployment rate reported in the country, community groups in Greenlee County, Arizona, worked together this summer on ways to weather the hard times.

Greenlee's dominant industry, the copper mine at Morenci, halted most operations in April. About 2,000 layoffs pushed county unemployment to 64 percent in May, by U.S. Labor Department count. Many other workers chose early retirement.

Cushioning the Blow

Community leaders couldn't hope to put many people back to work without changing international copper prices, so they worked on ways to cushion the blow. County Extension Service director Mabel W. Flint helped organize countywide meetings soon after the layoff to assess what problems could be expected.

One result, a series of workshops called "How to Survive on $165," drew praise from unemployed families who participated in July and led to many spinoff projects in the following months.

An informal group including labor officials, city council members, mine administrators, church leaders, Chamber of Commerce officers, and others met several times to plan the first workshops. Flint coordinated the effort.

Flint's success drew on her own participation in a wide variety of community groups and her goals for Extension. "We are facilitators as well as subject-matter educators," she explained later. "We need to be sensitive to the needs of our communities, and when you see a need, you're supposed to know what resources are available to meet it, and put the two together."

Workshops Breed Programs

The first workshops were in Clifton, in the valley below the company town of Morenci. Enthusiasm there catalyzed repeat versions in two other county towns, and encouraged modified versions in three other Arizona counties hit by economic recession.

In Greenlee County, the workshops led to a community food bank, three job-training sessions by the Arizona Department of Education, Extension Service programs on saving for food and clothes, tax workshops on unemployment pay, and training of local clergy for counseling of stressed families.

The diverse group that planned the workshops has kept active to help the various service organizations in the county work cohesively with minimum duplication of efforts.

Jobless Stress

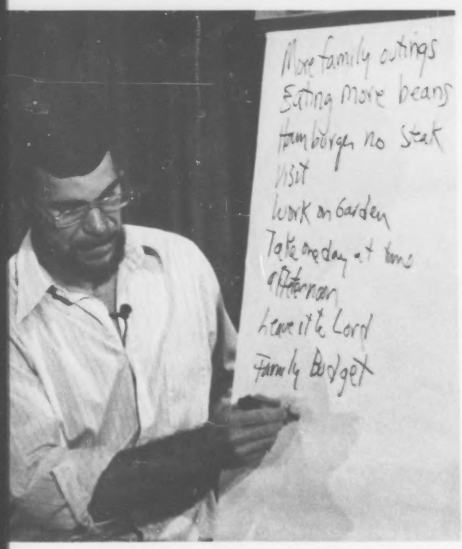
The Clifton workshops began with an evening session about coping with stress, led by Douglas T. Dunn and Frank R. Williams, Extension specialists in community development and in family life for the University of Arizona College of Agriculture. The next day, separate workshops focused on money management, family conflict, job hunting, and personal stress.

Top: Participants in an afternoon workshop led by Frank R. Williams, Extension specialist in community development and family life, discuss ways to resolve family conflicts when unemployed.

Above: Harold Harman, Graham-Greenless Community Service Center, and Rev. Wilbur Nolte of the local Presbyterian church act out a role play to illustrate the advantages of "taking action" as opposed to "griping" when in a jobless situation.

Robert Bitsilly, laid off from the copper smelter, went to the workshops with his wife, Arlene. They said they picked up several good ideas about managing finances better and for dealing openly with tension. "This will really help us now because we just adopted two children last September and a newborn in December," said Arlene Bitsilly.

"We hadn't expected the mine to shut down," said her husband, who



Top: West end of Clifton, Arizona, as viewed from the closed copper mine at Morenci. Severe layoffs at the mine resulted in a series of workshops for the jobless and their families.

Above: Douglas T. Dunn, Extension agent, lists suggestions from the audience on ways to cope with jobless stress during evening workshop for Clifton, Arizona's unemployed.

looked for work in other towns during July. "These workshops will probably help us with getting by until I go back to work," he said. "And even after that, the things we've learned can still be helpful."

"It doesn't do people any good to sit around and worry and expect other people to make things better," said Chacon, a union official. "They have to do things to help themselves . . . and to help each other. That's one good thing they talked about in the first workshop."

He estimated that half of the people at that workshop were laid-off workers and their families. In all, 268 people attended, according to coordinator Flint. They filled the Clifton School cafeteria to standing-room capacity.

The meeting was lively. Role-playing skits jabbed an elbow amusingly at some of the unproductive ways people react to stress: arguing, blaming, worrying.

TV Coverage
An ABC television crew taping the workshop for a segment on "Good Morning, America" added to the animation in the room. At the end of the program, the next day's four workshops were described and sign-up sheets collected. Participants took home a new listing of 44 community resources—agencies, groups, and programs—available to Greenlee County residents.

Attendance for the next day's workshops totaled 154 people. Some people went to more than one since each was scheduled three times. The sessions that Mabel Flint led about money management had the biggest turnout.

Handling Disagreements
Workshop leader Frank Williams drew much discussion from participants as he outlined a process for working out disagreements. He described how listening respectfully to each other's emotional involvement can clear the way for turning many "win-lose" conflicts into "win-win" decisions based on shared interests.

A persistent myth, told most often by people no longer afflicted, says that hard times bring a family closer together. "That's not true unless you work at it," said Williams.

Fifty-six people attended workshops on job hunting led by Lettie B. Cale of the Arizona Department of Education and employment counselor Roy McClellan of Mesa.

Advice Appreciated
Many participants expressed appreciation for specific ideas or advice given at the workshops. Another common theme was the benefit of community-wide involvement.

"It helped me to realize that some of my feelings are okay and are shared by others," wrote one person. □

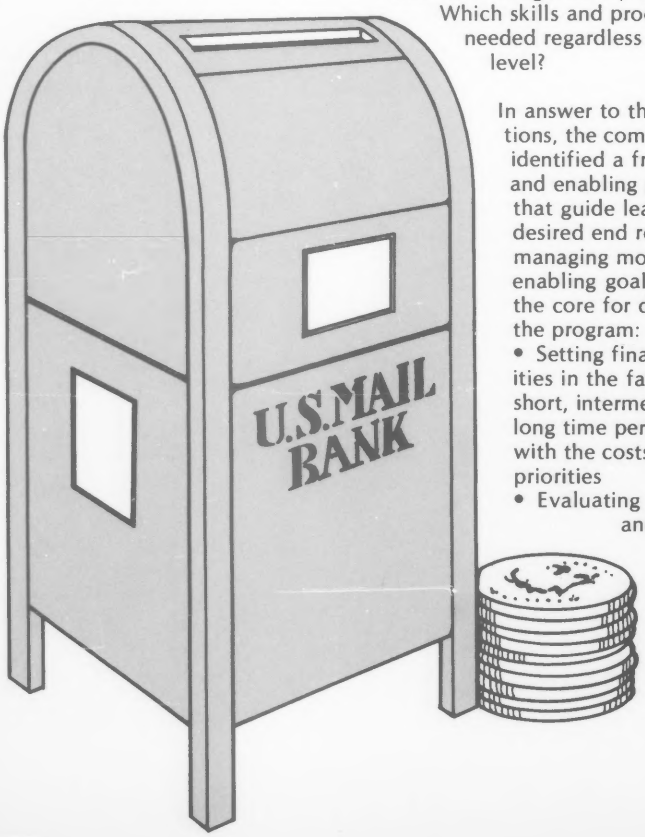
Teaching Essential Money Skills

Marilyn M. Furry
Extension Family Research Management Specialist
The Pennsylvania State University

Today, for most American families, the process of managing money is more difficult than ever. Among the influences adding stress to these money decisions are escalating energy and housing costs, declining real income, unemployment, and increasing numbers of both single-parent families and families with both partners in the workforce. That is why effective money management is being viewed as an essential skill for the 1980's.

For most families, this is a time of critical adjustment in financial management if they are to realize family and financial stability.

Pennsylvania has identified 16 Extension program priority areas for the 1980's and assigned to each a task force of state, regional, and county staff, as well as volunteer leaders. Family management of financial resources is one of the 16 priority areas, and its task force quickly targeted the development of money management skills as the most immediate need for Pennsylvania families. Then they faced the challenge of identifying needed specific money management skills and selecting suitable educational approaches to motivate families to develop such skills.



Core of Program

The task force first considered the program goals for a curriculum for financial management. What information do individuals and families need to manage money effectively? Which skills and processes are needed regardless of income level?

In answer to these questions, the committee identified a framework and enabling goals—goals that guide learners to desired end results for managing money. These enabling goals become the core for developing the program:

- Setting financial priorities in the family for short, intermediate and long time periods, along with the costs of these priorities
- Evaluating current and and potential resources and situations
- Evaluating plans for saving and spending
- Evaluating controls and strategies for attaining financial goals within the family
- Evaluating credit history
- Evaluating the effectiveness of educational approaches

Pilot Program

The medium is not the message, but in Pennsylvania selecting the right medium or media to deliver the program is as important as the actual program development. One concern was that the traditional meeting or series of meetings would not meet the needs of those we most wanted to reach: two-earner families, single parent families, families with one or more unemployed wage earners, and families without easy access to transportation.

At the same time, the task force was becoming aware of increasing evidence that adults plan and implement a great deal of learning on their own without direct professional help. The motivation for such learning is an overwhelming need, a task to perform, a problem to solve. Financial management fits the criteria very well and a series of learn-at-home lessons was decided upon. The task force also decided to pilot the program in selected counties. FY '82 became a developmental year with teams of county and area agents designing lessons.

The learn-at-home series included: "Family's Net Worth," "Achieving Financial Goals," "A System for Saving and Spending," "Your Credit History," and "A System for 'VIPs.'"

The state family resource management specialist designed evaluation tools for feedback on clarity of content and procedures as well as the effectiveness of the self-study method of learning. The lessons were reviewed by an editor in Ag Communications for readability and to achieve a consistent style and tone. Ten counties were chosen to pilot the lessons and collect data

between November 1981 and March 1982. Counties represented a cross section of populations that Extension could reach.

One hundred fifty-eight families began the series with a pretest and personal data questionnaire. After this information was returned to the Extension office, the first lesson was mailed to the family. With each lesson, the family had to complete and return an evaluation before they were sent the next lesson. A total of 47 families, or more than 30 percent, completed all five lessons.

Some descriptive data from this selected sample:

- More than 80 percent of the families included two parents in the household.
- More than 75 percent of the families lived in rural-nonfarm or suburban areas.
- More than 75 percent of the families had incomes between $15,000 and $30,000.
- Approximately 57 percent of the families had one earner; the wife worked as homemaker.
- In more than 71 percent of the families, the wife had responsibility for recordkeeping.
- More than 50 percent of the families completed a net worth statement as a result of lessons.
- More than 72 percent of the families had plans in progress to estimate the cost of each goal and set time limits for attaining each goal.
- More than 50 percent of the families were saving a designated portion of their income to achieve goals before making other expenditures.
- More than 45 percent of the families implemented a cash flow system for evaluating a saving and spending plan.

Statewide Projections

During FY '83, Pennsylvania's staff will extend "Families Managing Money Learn at Home" to a statewide program. We are projecting that the program will be implemented in 50 counties and will reach a minimum of 4,500 families. We also project that the participating families will be adopting one or more financial practices such as:

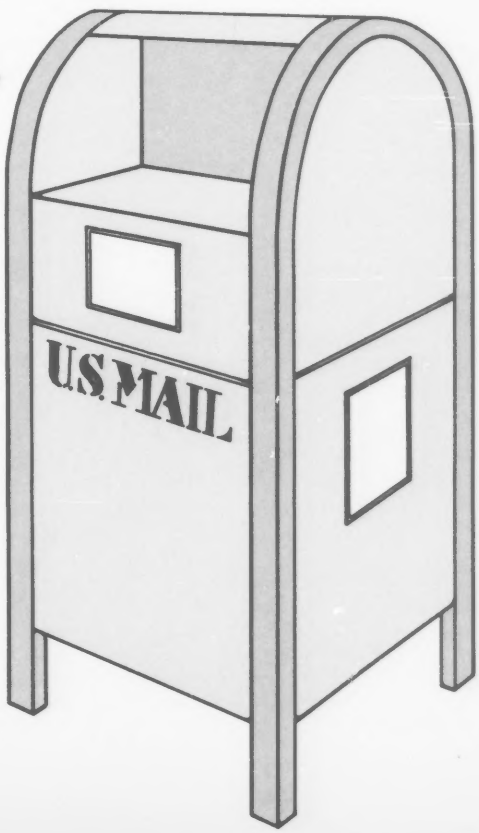
- Have a current recordkeeping system
- Have a permanent recordkeeping system
- Establish a scheduled time for recordkeeping
- Create a specific space in the home for recordkeeping
- Use a safe deposit box
- Complete a balance sheet
- Estimate financial progress through a balance sheet
- Evaluate distribution of assets through a balance sheet
- Identify family goals
- Estimate the cost of each goal and the date for it to be achieved

Media Targets

Besides the lessons, counties will receive news releases with instructions for localizing to publicize the program, as well as posters to display in their service areas. A public service announcement has been developed and is available for use on commercial television.

Statewide in-service education for county staff has been conducted on a regional schedule. If it is necessary to have a facilitating workshop for families requesting assistance the staff has a variety of strategies and activities with which to respond.

While first steps have been taken for this programming emphasis, much remains to be done. The overall goal for FY '83 is continuing efforts to determine if the individualized study-at-home learning experiences are actually producing desired results. Evaluation research is an essential component of the process so that Extension staff can verify effective educational programs and assess changes promoted by the educational experiences. The task at hand is to meet the needs of Pennsylvania families while documenting the effectiveness of the approach. □



Landlord-Tenant Laws— Forging a Delicate Balance

Betty Fleming
Program Leader, Information and Communications Staff
Extension Service, USDA

Tenants and landlords in Anchorage, Alaska, are benefiting from the "can do" attitude of Extension home economist Barbara Eichner. When it's a tenant-landlord question, lawyers often look to her for information.

Alaska's population grew rapidly in the early 1970's when oil pipeline and related industries began to increase. Housing was scarce and problems were many. Very little legislation dealt with tenant-landlord problems. An *Alaska Landlord-Tenant Law* booklet was printed with Extension's help. At first, many agencies handled housing questions but budget difficulties forced them to cut back services. Alaska Legal Services now only handles severe cases involving evictions. Rent control boards are closed. "Outside of paid legal help," says Eichner, "we're the only agency to help with ordinary consumer housing problems."

In the fall of 1979, the consumer column of the state's largest newspaper received a question relating to rentals and turned to the Extension Service for help. "We were able to provide the answer," says Eichner, "and everything began snowballing. The Extension Service was propelled into the forefront as being an agency which would answer questions quickly, simply, and at no charge."

Calls for Assistance

Calls came from all over Alaska. "Alaska Legal Service, the consumer protection staff, municipal and state offices, the Governor's office, University of Alaska Criminal Justice Center, and others referred people to us," says Eichner. "We decided to set up some landlord-tenant seminars." Word of the seminars helped Eichner get TV and radio airtime.

Since 1979, the home economist has conducted 25 housing education seminars reaching 412 landlords and 111 tenants; and 6 training sessions for housing counselors, Extension agents, and housing hotline employees. Eichner has done presentations for legislators, housing television programs, and radio programs. Over 3,500 housing phone calls have been handled by the Extension office. "Mostly by me," says Eichner.

"In January 1980, I rewrote the *Alaska Landlord-Tenant Law* booklet," says Eichner. "Calls and seminars made me acutely aware of unclear portions of the old booklet and the fact that it was primarily directed toward tenants with little help for landlords. Also in 1977, the Legislature passed an amendment to the original law covering the rental of mobile home space which was not included in the original version of the booklet. This booklet was revised and made available to the public on November 1, 1980. The first run was 14,000 copies, all of which were spoken for before the run was completed." The booklet is currently being revised, as four separate fliers, to reflect two 1982 amendments.

Landlord-Tenant Meeting

Later in 1980, Eichner called a meeting of all agencies in the Anchorage area who dealt with landlord-tenant concerns to discuss the magnitude of the housing problem, and identify the services various agencies could offer. The Cooperative Extension Service was the only agency offering housing education on a regular basis. "The Municipal Housing and Community Services office will answer some calls if they're not too busy," says Eichner, "and Alaska Legal Services will assist low-income renters. All other agencies are making referrals to us."

"Two Anchorage legislators are interested in instituting a review of the law and I will assist in that," says Eichner. "Also, the agencies have been unanimous in deciding

Whether she works with tenants, landlords, lawyers, or housing counselors, Barbara Eichner, Extension home economist, is a key source of information on consumer housing problems in the Anchorage area.

that Cooperative Extension is a logical place for consumers to turn for this kind of educational help. Therefore, two other agencies will assist Extension in approaching the municipality for funding for a full- or part-time position to work exclusively in the housing area." This proposal is currently under consideration by Mayor Tony Knowles and indications are promising, reports Eichner.

Key Issues

The home economist identified some key goals in Extension's landlord-tenant education work:

- to increase landlord knowledge of the law and their responsibilities.
- to improve tenant awareness of tenant rights and responsibilities.
- to improve housing counselors and other educators' ability to guide clients in housing problems.
- to encourage landlords and tenants to solve minor housing disputes outside the court system.
- to encourage a statewide legislative review of Alaska statute 34.03, the Uniform Residential Landlord and Tenant Act. To bring to legislative attention the problems that landlords and tenants are unable to cope with under the current statute. To encourage the drafting of revised legislation.

Positive Results

What are the results of all this work? Eichner reports: "Extension's figures on phone calls and seminar attendance, as well as tabulations of the more common questions, are helping to justify a credit course on rental properties through the UAA Criminal Justice Center. This data has also been used to establish Alaska's first nonjudicial dispute resolution center with an executive director, case coordinator, and secretary." Eichner is vice-president and chairperson of the fund-raising committee.

In an evaluation survey of seminar participants, one landlord cited a savings of $1,000 in attorney fees because of the information he obtained. Another landlord said he had completely rewritten his lease and agreement forms. Another has developed, for the first time in 8 years of rental housing, a checklist of conditions to use jointly with tenants when they move in and out. Tenants who attend the seminars say they feel more confident in using small claims court to resolve disputes.

Other results include an invitation from Anchorage Mayor Tony Knowles for Eichner to serve on a municipal rental housing committee, and to chair city subcommittees on legislative action and social equity. Eichner also serves on the newly formed citizens housing review board for the HUD field office.

New Doors Open

Work in the landlord-tenant area has opened many new doors for the Alaska Cooperative Extension Service. "It illustrates clearly that the telephone is still an effective teaching tool," says Eichner, "and that the Extension Service can be up front with consumer education when we address issues that are timely and where there is expressed need. It also illustrates the multiplier effect. Other agencies are arranging seminars for their counselors. Other Extension agents we train will reach even more consumers. Every landlord trained should improve relationships with at least two other tenants."

"New cooperative relationships are being developed with agencies who formerly may not have known that the Extension Service existed. Every home economist knows that housing and consumer education are part of our work. It has been exciting and rewarding to put those two areas together in a new way in Alaska for the Cooperative Extension Service." □

Reviving the Rural Retailer

Kenneth E. Stone
Extension Economist
Iowa State University

The business districts of most rural small towns are visibly deteriorating. Some downtown retail outlets look more like "ghost towns" than the flourishing centers of commerce of former years. This article discusses the methods that Iowa State University Cooperative Extension Service is currently using to attempt to come to grips with the problem.

Causes of Decline
The decline of rural small-town business districts has been caused by a combination of several things, but it is probable that the following factors have played a major role.

- The continual outmigration of farmers from the land has reduced the density of potential customers from the surrounding rural areas.
- The relatively good transportation system (farm-to-market roads, interstate highways, vehicles) has allowed rural residents to easily travel to metropolitan areas to shop.
- The "weeding out" efficiency of the Free Enterprise System has caused the demise of weak businesses.
- Large regional shopping malls in recent years have magnetized trade away from rural areas.

Once small town residents start leaving their own town to shop elsewhere, they become a party to a vicious cycle that causes the decline of the business district. Faced with declining sales, merchants reduce inventory and sometimes raise prices in an attempt to hold profits. This action causes residents to perceive hometown stores to be even less desirable shopping places and they leave town to shop more frequently. And so the cycle continues until many businesses are no longer viable, resulting in a debilitated business district and inconvenienced residents.

Many owners and managers of small businesses have had little, if any, formal business training. Furthermore, many are not aware of the sources of management information and training available to them. It is little wonder then that they are baffled by the rapidly changing business environment and that so few are able to survive over an extended period of time.

Business Management Process
Iowa State University Extension Service is attempting to integrate business management programs with community development programs. In other words, the business district is not considered a separate entity, but is considered a vital segment of the total community. Emphasis is placed on exerting the same energy to improving the business district as is expended in recruiting industry, providing schools and maintaining streets and parks and other town amenities. The business district is considered a valuable asset to be maintained and preserved.

Observations and past experience have indicated that businesses in small towns usually "sink together or swim together." Some type of logical sequence of programs seemed necessary to improve the status of the whole business community. The scattergun approach of many public institutions of holding a meeting here, helping a business there, did not seem conducive to promoting the desired integrated approach. Therefore, a four-part community business management program evolved.

Fostering Awareness
It was found that the decline of small town business districts, though gradual and persistent, was not always recognized by the local residents and merchants. A program to create awareness and grab attention was needed. Through experimentation the trade area analysis program was developed to accomplish this goal.

Trade Area Analysis
This is a two-part program based entirely on secondary data. The primary source is the annual Iowa Retail Sales and Use Tax Report. Other sources are the U.S. Census and commercial data.

In part one graphs are used to compare the 10-to 15-year trends of retail sales for several towns in the geographical area. Separate graphs illustrate different measures of a town's retail performance. Typical comparisons include: total sales before and after inflation, per capita sales, and pull factor (a proxy measure for the size of the trade area).

A town's current status is examined in detail in part two. Potential sales are computed for the whole town and for several merchandise groups. The potential sales are then compared to the town's actual sales showing the areas of surplus or leakage. The town is then compared to and ranked with several other towns of a similar size.

The trade area analysis program has been well received and seems to accomplish the desired goals. Generally the local news media will feature the findings of the analysis. The program establishes a common reference point from which to begin a more detailed program.

Problem Definition
Most community leaders see a need for more precisely defining the underlying problems before developing a plan. The following actions are typically taken.

- The community survey is an excellent tool for delineating the trade area and for pinpointing why people shop where they do. Our Community Resource Development specialists usually encourage a complete survey to include sections on schools, recreational facilities, city

government, churches, and industry. The net effect is to bring town residents together to address *all* the town's problems.

- The image study consists of interviewing four or five groups of 6 to 10 consumers each. Their opinions are sought on various stores in the community. Transcripts are made and comments consolidated by businesses. The result is a quick and inexpensive collection of image perceptions for individual businesses and for the town as a whole.
- Merchant groups are encouraged to inventory the area of sales space for different types of stores. This is compared to the justifiable square feet to determine areas where the town is under-retailed or over-retailed.

Long-range Planning

After the problems are delineated, community leaders are encouraged to develop a long-range plan for solving the problems. The recommended procedure is to establish a retail strategy committee which will formulate plans for solving problems such as: recruiting needed businesses; providing more convenient store opening hours; securing more parking space; developing meaningful promotions; and educating other merchants. This is the most important and most difficult step. A written plan with citizen input is encouraged.

Immediate Action Programs

After the strategy committee has formulated plans and gained community consensus, the plans are put into practice. Some solutions will be long range and may require the raising of funds in some manner. However, other actions can be initiated promptly. The merchant education programs can usually be started quickly and inexpensively. Examples of these programs follow:

- **Customer Relations.** Aimed at training manager and employees to improve business through serving customers better.
- **Market Strategy.** The determination of market opportunities that can be exploited with available resources.
- **Financial Management.** Includes a broad range of subjects from loan applications to collecting accounts receivables.
- Other programs as required.

Throughout the entire process, assistance is made available to individual businesses through Extension specialists and through the Small Business Development Centers.

Results

Several towns are in various stages of the process and results have been mixed. In general, the following results have been noticed among participating towns:

- Better merchant cooperation and community spirit.
- Keener awareness of retail trade status.
- More awareness of customer wants and needs.
- A synergistic effect where individual businesses become stronger as the entire community improves.

The primary thrust of the program is to place business management programs in a community development framework. Most importantly, town residents and merchants are reminded that by working together, they *can* make the business district and the town better. □

Boosting Sales the Co-Op Way

Robert Rost
Extension Information Representative
Oregon State University

"I tried marketing my own produce last year and ran the wheels off my truck," says Bill Waidner, small farmer in the Salem area of Oregon. "It's really tough trying to sell produce and run a farm at the same time."

Small farmers don't ordinarily have readily available marketing outlets for their produce. Because a lot of small farmers agreed with Waidner, and because of the organizing skills offered by Extension at Oregon State University, a small farmers' cooperative—the Willamette Growers' Association—is now a reality.

Ken Wilmarth, former director of the OSU Extension Small Farm Family Assistance Program, and VISTA volunteer Mike Becker worked together to help Salem area small farmers realize the marketing opportunities that forming a co-op would give them.

Oregon State University Extension agent John Burt supervised Wilmarth and Becker on the small farmer cooperative project.

Meeting Marketing Needs
The Willamette Valley Growers' Association serves the marketing needs of Salem area small farmers by giving them a single produce marketing outlet.

They have been retailing and wholesaling their fruits and vegetables to consumers, small restaurants, and educational institutions in the Salem area.

The members were assessed a fee of $200 per acre of produce they intended to market through the co-op to generate capital needed to set the business up and hire employees.

John Burt, Extension agent (left), Ken Wilmarth, former director of the Oregon State University Extension Small Farm Family Assistance Program (center), and VISTA volunteer Mike Becker stand inside the small-scale farmers' cooperative they helped organize in the Salem area of Oregon.

The $200 fee is refundable at the end of the growing season when the co-op's books are closed. Members are paid one-half the value of their produce within 30 days after it is delivered to the co-op. They get the rest of their money at the end of the season.

Stormy Period
The cooperative opened only after a long and sometimes stormy period of soul-searching on the part of the small farmers.

"Initially, it was difficult to get people interested in the cooperative," Becker recalls. "Cooperatives had left a bad taste in many peoples' mouths.

Turn of the Tide
"The tide began to turn when we were able to convince some of the people who were against it to give the cooperative idea one more try," Becker continued. "We appointed a steering committee composed of interested farmers who looked into the details of starting the co-op and eventually everything worked out."

A Successful Enterprise
Wilmarth says the best thing to come out of the formation of the Willamette Valley Growers' Association is the realization by small farmers that they are a unique group of people with special needs.

"All the effort that's gone into helping small farmers has made them aware of their problems, their opportunities, and of each other," says Wilmarth.

"We helped them identify the cooperative as one of their opportunities and helped them start it—now they are going to take over and run it themselves. In everything we've been trying to do, that's our biggest accomplishment." □

Smart Choices for Hard Times

Judy McKenna
Extension Specialist, Family Resource Management
Colorado State University

Our educational emphasis, as we encounter uncertain economic times, is directed to helping people expand their resource base. During the seventies we dealt with problems related to high inflation. Many people found that their incomes were not keeping up with the increase in food and energy prices. Young people were having a hard time handling housing prices in addition to food, energy, and clothing costs. Our theme in Extension education frequently focused on living more simply and making do with what we had.

As we move away from high inflation, we encounter significant problems as the unemployment rates continue to rise. It is estimated that more than 11.3 million persons are unemployed.

Although the situation is shifting from inflation squeezes on income to reduced income from unemployment the ways we increase our resource base are similar and include:

- Increasing family income by doing a variety of jobs, encouraging children to put their talents to work, turning hobbies into money-making opportunities, and maximizing return on investments and upgrading job skills.
- Doing volunteer work in lieu of financial obligations, and bartering with friends and neighbors.
- Paying less through comparison shopping, purchasing the best value, taking all tax deductions and credits, while paying the least credit costs possible.
- Maximizing resources by using family groups to do tasks you cannot do alone; asking neighbors to share meal preparation, pet and house watching; taking advantage of free or low-cost neighborhood events; and taking advantage of discounts for seniors or youth.
- Buying used items at garage sales or recycled shops or borrowing used items from friends and family.
- Shifting entertainment habits to less expensive ones at home.

"Choices" Slide Set

In order to make these ideas visual we developed a slide set called "Choices, Choices, Choices." The theme was to emphasize the wide range of opportunities for many family types throughout a lifetime. In the slide set the viewer encounters single people, couples with children, parents without partners, and retirees.

These families face and manage a number of common problems: clarifying goals, using credit, supporting a dependent parent, keeping records, selecting insurance, managing food choices by careful shopping and gardening and planning for retirement.

The objectives in developing this visual aid apply in times of unemployment and high inflation are aimed at developing resource management skills. The underlying ideas are to emphasize the positive effects of financial planning and to suggest the consequences of not planning; and especially to give people the feeling that they are in charge and can manage their own destiny.

Toward A Responsible Mode

An expression common to Extension is, "We help people help themselves." One of the ways this can be accomplished is to give people the confidence needed to control and be responsible for their own actions, rewards, and consequences. A concept studied by psychologists and educators is called "locus of control." It basically says that people behave according to an "external" or "internal locus of control." People who think that everything that happens to them is because of luck, chance, or fate are considered "external." People who believe that most of what happens to them is because of their own choices, behavior, and actions are "internal." Experiments have successfully shown that by being aware, externally oriented people learn to shift toward a more self responsible mode of thinking and acting.

The name of the slide set, then, was not accidental. It was designed to expand the thinking of people to consider a wider range of choices than they had previously considered.

Potential Impact

Has the slide set been useful? The answer is a definite yes. It is being used in retail stores, credit couseling services, universities, health departments, Extension offices, high schools, medical centers, federal savings companies, and family service centers in 34 states and 3 Canadian provinces. With an average of 10 showings per state each year reaching 20 people at each showing, the potential impact is estimated conservatively at 7,400 contacts. If each of these contacts saved $50 per year by reducing credit costs, keeping track of expenditures through improved recordkeeping methods, planning ahead for unexpected expenses such as medical or automobile costs, or by careful tax planning or other ideas, the total savings would be $370,000 for one year.

The challenge to find new and creative ways to help people with resource management is ever present. Media presentations such as this one help make people feel they are capable of providing their own solutions. □

Helping the Hmong in Minnesota

Donald Breneman
Extension Communication Specialist
University of Minnesota

There are 11 children; the mother attends school to learn English; an aged grandmother does most of the cooking. How do you help a family like this eat balanced meals on only $540 a month?

This is one of many challenges facing the Minnesota Agricultural Extension Service as it helps Hmong and other Asian refugees overcome monumental cultural barriers and become productive members of American society.

There are about 12,000–15,000 Hmong refugees in the Minneapolis-St. Paul metropolitan area. They are refugees from Laos, many of whom are victims of the Communist takeover of that country. Help comes from the Expanded Food and Nutrition Education Program (EFNEP), community garden projects, 4-H activities, and a unique commercial gardening project that uses the refugees' basic agricultural skills.

New Foods, New Ways

Ue Yang prepares a hot dish of rice, celery, green peppers, onions, tomatoes, and cheese for a refugee family of seven. Earlier that morning, she had taken the mother for a shopping lesson at a local supermarket. She showed her which items were in season, which were good buys, and which items qualified for her Women, Infants and Children (WIC) Program food coupons.

Ue is a multiligual Hmong program assistant with the EFNEP program in Ramsey County. The hot dish she prepared introduces cheese into the Hmong diet.

Evelyn Dose, urban Extension agent working with the Ramsey County EFNEP program explains, "Milk and milk products were not part of their native diet. But we're trying to introduce these foods because milk and cheese are a relatively cheap protein source." She says the Hmong don't understand seasonal food price fluctuations and prefer to eat fresh produce all winter. "Canned and frozen food are new to them and many don't understand enough English to follow label directions."

The Ramsey County program serves about 75 Asian families with a staff of three program assistants. Most families are referred to the EFNEP program by welfare agencies or the WIC program.

Need for Infant Nutrition

The Hennepin County EFNEP program also serves about 75 families. Urban Extension agent Lavonne Misner believes there is a need for a much larger program if funds were available. She is also concerned about the lack of dairy products and the dependence on fresh produce in the Hmong diets.

Infant nutrition is a critical problem, she points out. "They get many

Above: Ue Yang, a program assistant with the Minnesota EFNEP program (left) points out seasonal good buys in fresh produce to Xia Lee, a Hmong refugee new to the United States, in an educational shopping trip in a St. Paul supermarket. She also shows Lee dairy products that can be purchased with Women, Infants and Children (WIC) Program food coupons.

Below and lower left: Yang prepares a hot dish with rice and vegetables that also contains cheese for the Lee family. She uses dishes such as this to introduce nutritional dairy products into the diet of Hmong refugees. After sampling the food, Jerry Lee smiles his approval.

Lower right: Ramsey County 4-H'ers, many of them Hmong refugees, tour a dairy farm in St. Croix County, Wisconsin. The event, jointly sponsored by the Extension offices of St. Croix and Ramsey Counties, treated over 450 inner-city youth and parents to a day on the farm.

referrals from health department nurses regarding malnourished children. They don't understand the difference between being full and having good nutrition," Misner says.

"They tend to fill babies up, but not with the correct foods. We try to teach them what babies need to grow and what to feed them."

Both Misner and Dose are optimistic about the future of groups they have worked with. The Hmong change habits rapidly and want to adapt.

Industrious Farmers

In another part of Ramsey County, Karen Gensmer walks down a path separating a plot of perfectly spaced lettuce and one of pickle-sized cucumbers. "Just try and find a weed in these fields," she says. "All the weeding is done by hand. They don't have rototillers or tractors. The Hmong are the most industrious people I've ever met, and I grew up on a Minnesota farm so I know about hard work."

Gensmer is manager of the Hmong Family Farming Project, started this year by the Ramsey County Extension Office with funds from private foundations. Its goal is to make self-sufficient market gardeners of the 50 Hmong families in the county.

"It's the first time such organized effort has been tried," says Gensmer. "There have been a few cases where refugees were offered free land, but there were no efforts to help them make their farming successful. We're trying to teach them the American way of gardening."

Gensmer, who has a background in horticulture from the University of Minnesota, walks the fields several times a week to spot trouble, answer questions and dispense seeds and pesticides.

Pesticides used on the plot are an American version of alternate technology. Because so many little children run through the fields playing, while their parents and grandparents stoop to pick weeds or gather an armful of cucumbers, most of the pesticides used are organic.

Sponsors Provide Necessities

Lack of rain was the biggest problem during the recent hot summer, but the city of Oakdale—where the

Below: Karen Gensmer, project consultant with Agricultural Extension Service's Ramsey County office in St. Paul, Minn., checks the broccoli crop on the 20-acre Hmong family farming site. This pilot project was designed to help Hmong refugees learn truck farming and become self-sufficient market gardeners. Fifty Hmong families participated in the project.

Lower left and right: An Extension-sponsored farmers' market in St. Paul gave Hmong gardeners training in marketing as well as production of vegetable crops. Joe Peterson, Extension agent from Ramsey County (right), gives marketing tips to two Hmong gardeners at the farmers market. Peterson was instrumental in developing a commercial horticulture project for Hmong refugees in Ramsey County.

garden plots are located—donated a fire truck that served as a moving water tank.

Essentially everything was donated this first year: seeds, chemicals, tools, and lands. The main sponsors are the Northwest Area Foundation and the St. Paul Foundation. There were also grants from the F. R. Bigelow Foundation and the McKnight Foundation. The land, totaling 26 acres, was provided by an individual donor and 3M Corporation.

The idea for the garden project came from Hmong interest in a Ramsey County Extension program providing community garden plots for family gardeners. County Extension agent Joe Peterson said about 60 percent of the people who participated in the program during the past 2 years were Hmong.

Peterson provided the developmental leadership for the commercial garden project, developing the proposal and obtaining the private funding from the local foundations and companies. Karen Gensmer was hired to provide technical assistance to the participants on a daily basis.

Farming: A Hmong Skill

Sang Vang, a St. Paul Hmong community leader, helped recruit participants. He says, "Farming was our background for centuries, but during the war in Indochina we became soldiers. Even during the war the soldiers grew vegetables. The Hmong like farming."

Because of the garden project's success, a more comprehensive plan that could include 600–800 families in 4 years is now being developed by the Minnesota Agricultural Extension Service. This program may include the production of vegetable and specialty crops for wholesale markets; the operation of processing facilities; the development of a greenhouse operation for off-season production; and the establishment of an affiliated livestock enterprise focusing on chicken and piglet production. According to John Hoyt, the consultant to the director of the Minnesota Agricultural Extension Service, several private and public sources have encouraged submission of the proposal.

Overcoming the Barriers

The Hmong sold their produce at a stand at the Oakdale site and at farmers' markets operating throughout the Ramsey County area. Prices were kept competitive with other local growers to teach the Hmong marketing techniques and to avoid charges of unfair competition from other truck gardeners. The Hmong did a good business, according to Gensmer, but their greatest success was being able to sell to the American public face to face for the first time. The Hmong had overcome difficult cultural and language barriers. □

EFNEP—Sensitive to Refugees

Forrest D. Cress
Extension Communications Specialist
University of California, Riverside

Rosemarie Legg is a very special person to a small community of Hmong families in Southern California.

Because of Hmong language and culture, communicating with these refugees from Laos hasn't been easy for Legg, but she perseveres.

Legg is a 3-year veteran nutrition education assistant of University of California Cooperative Extension's Expanded Food and Nutrition Education Program (EFNEP) in Riverside County. Funded through the U.S. Department of Agriculture, EFNEP is aimed at teaching California's low-income families how to get the most nutrition for their food dollars.

Her work area includes the small neighboring cities of Banning and Beaumont. The Hmong families she serves all live in a low-cost housing tract at Banning.

Fled War-Torn Zone
Some of the Hmong families in Banning have been in the United States for more than 5 years, having left their homeland prior to or immediately following its takeover by the Communists in 1975. Others fled into remote forests of Laos where they continued to fight their enemy or escaped to safety in Thailand before finding their way to America, some as recently as the spring of 1981. They receive aid in California through the state's Office of Refugee Services, California Department of Social Services.

A Clan Identity
"The Hmong live in extended families organized along clan lines," Legg explains. "These clans provide them with their sense of identity as a part of a coherent social structure. Unlike us, the Hmong are not individualistic; they put the good of the clan and the family as a whole before that of the individual."

Leader of Banning's Hmong community is Youa Yao Yang, 36. He and his wife and seven children came to America 3 years ago. They moved to Banning last year from Orange County.

Difficulties
His people's three main problems today in Banning, according to Yang, are health, work experience, and job training. "Many of my people come to this country in poor health," he says. "Medical costs are very high here, and we are poor. When we look for a job, we're asked if we can speak English. We need help to learn English and job training."

The Hmong in Banning pose a challenge to Rosemarie Legg in her EFNEP work as well as others such as VISTA volunteers who are attempting to help them make the transition to a new culture—the American way.

As a nutrition education assistant, Rosemarie Legg began working with Banning's Hmong families in September 1981 through Laotian Community, Inc., which then had an office in Banning. Assisted by an interpreter, she started visiting their homes with the intent of explaining nutrition and American food purchasing. "Even with an interpreter," Legg says, "I soon realized that the level of information I was giving them on nutrition was over their heads." Legg switched to another approach, the one she's using today—group instruction.

Training Sessions
Some 20 to 30 Hmong women as well as a few of their husbands generally turn up for her nutrition training sessions. All of the women are enrolled in the EFNEP program. At a typical session, usually lasting 1 to 2 hours, she'll make full use of flash cards. After reviewing in simple terms the nutritional importance of the basic food groups, Legg takes out the cards and asks the audience questions aimed at testing their nutrition knowledge. This approach also serves as a basic English lesson.

Soon after she began working with the adults, she recognized a need to form an informal group with their children. Although attending school and usually more fluent in English than their parents, the Hmong children still face a language barrier with their fellow American students. Also, lack of transportation restricts their participation in after school activities.

"I thought of 4-H as a way for the children to pick up on their English and to become more involved in youth activities," she says.

Today, 35 Hmong girls, ranging in age from 8 to 19, are members of a new 4-H Mountaineers Club.

Prizes for Jam
One of the first activities of the 4-H Mountaineers Club was to make jam and can tomatoes. Legg had club members pick plums from a tree at her home and then took the Hmong girls through all the steps in making jam. Entering their canned plum jam at the annual Hemet Fair near Banning, most won first-prize ribbons.

More recently, on her own time, and after her working day, Legg introduced her 4-H club members to crocheting and needlepoint. "Although Hmong women do fine embroidry, crocheting and needlepoint were new to them,"

Legg's advisor, Eunice Williamson, a Cooperative Extension family and consumer sciences advisor for Riverside County, comments: "Her programs demonstrate how EFNEP and 4-H do go together and one of the reasons why 15 percent of all EFNEP funds are earmarked for youth." □

Sew for Pay: A Traditional Career Redesigned

Evelyn L. Brannon
Extension Clothing Specialist
Auburn University, Alabama

"I'm going home and review my price list. I've been selling myself short."

"I never realized all the possibilities. I thought sewing for pay meant being a dressmaker."

"I'm not good at fitting, but I think I'll specialize in children's clothes where fitting chores won't be so demanding."

"I enjoyed the program and learned a lot but I've decided that sewing for pay is not for me."

These are comments of participants attending Alabama's "Sew for Pay" seminars, a program designed to enlighten seamstresses about the possibilities of using their talents for profit. Assisting in conducting these seminars was clothing specialist Lenda Jo Anderson.

Traditionally, sewing was the occupation of last resort for women—something they did because they couldn't do anything else. That image has changed. Today, sewing for pay is a creative, exciting challenging carer with many options beyond traditional dressmaking.

Homemakers Respond
Many Alabama homemakers are finding that sewing for pay is for them. Consequently, they responded—about 650 of them—when Extension announced a series of "Sew for Pay" seminars.

Our purpose in these seminars is to:
- share the many options in designing a sewing-based business
- acquaint homemakers with available resources
- provide a checklist of questions to ask and decisions to make before launching a business
- illustrate methods for determining a pricing structure that meets income goals

The participant's own unique situation, location, mix of interests, talents and skills lead to a plan for a successful sewing-based business.

The opening words of a "Sew for Pay" seminar put the accent on professionalism, individual initiative, careful research, and planning. And, there it stays during the day-long meetings conducted by Alabama clothing specialists.

Why Seminars?
In 1980, specialists and county agents for home economics began to note a rising interest in sewing for pay. Several states shared information on workshops they were conducting. Requests for information on pricing and related matters came in from home-bound homemakers with child care responsibilities, retired people, laid-off sewing factory workers, and others interested in ways to increase their income using an existing skill—sewing.

To answer some of the questions, we developed a series of handouts on planning for small home-based business, pricing, skill development, resources, and organization of time, space, and sewing processes. The handouts, coordinated with slides and other visuals, became the basis of the "Sew for Pay" seminar.

Seminars are divided into two sessions: "The Business Side of Sewing" and "Putting It All Together." Sprinkled through the day are case studies of people with successful sewing businesses.

Displays set up at each seminar include books, newsletters, pamphlets, notions, magazines, and other resource materials related to sewing and home-based businesses. Participants are encouraged to examine the materials during breaks. Resource lists are provided for those who wish to follow up later.

Why Area Meetings?
Piloting "Sew for Pay" seminars in counties showed that a large, varied audience provided the best atmosphere for learning. Area meetings bring together people from urban and rural counties, people in dressmaking, and others working on product development, skilled and less skilled seamstresses. Questions and comments from the audience enrich the exchange of information.

To encourage lively discussions, specialists pose the question, "Are you in competition with each other in your sewing-for-pay businesses?" Since the demand for sewing services outstrips available seamstresses and options of specialization and product development exist, most participants soon agree that the answer is "no." Once the competitive fears evaporate, the audience feels free to share information and to suggest solutions to shared problems.

Invariably one or two people in the audiences have highly developed and, sometimes, unique sewing businesses. Their comments and suggestions become part of the day's program and inspire the entire audience.

invited to participate in an area meeting. Agents in counties surrounding the site often organize carpools so clients can travel at minimum expense to nearby towns for the program.

Thus far, five county special-interest meetings with attendance ranging from 12 to 48 and seven area meetings with attendance ranging from 40 to 143 have been conducted. Many participants are new to Extension. Agents and specialists are often showered by requests from enthusiastic participants for additional information on specific topics. The most popular request is for follow-up meetings on fitting techniques.

Publicity Packets

To reach people interested in sewing for pay with information about the seminars, county agents use news articles and photos in local papers, radio public service spots, newsletter announcements, and posters in local fabric outlets. To assist them in this effort, each receives a publicity packet (including an action photo, cutline, and news article) 1 month before the date of the meeting. Agents in up to 11 counties may receive the packet and be

"Sew for Pay" seminars are only part of the effort to assist sewing entrepreneurs. Radio programs, television interviews, and news articles often include information for or about sewing professionals. Columns in the *Retailer's Newsletter* (published quarterly and distributed by agents to local fabric retailers) keep retailers in touch with the interests of dressmakers. One popular handout distributed to the public, "How to Work With A Dressmaker," helps inform nonsewers about pattern and fabric selection and dressmaker practices.

Future Plans

Interest in sewing for pay continues strong, spurred on perhaps by gloomy economic news. Nine more "Sew for Pay" area meetings are planned for next year.

In answer to many requests, a new "Sew for Pay" newsletter is published quarterly and distributed by county agents to clients. The purpose of the newsletter is to update topics covered in the seminar, to introduce special interest topics like copyright procedures and to pass along the latest sewing and fitting techniques. The newsletter will provide the vehicle for a follow-up evaluation on how seminar information is being used by participants in their businesses.

After attending a seminar, some participants decide to pursue sewing for pay immediately. Others use the information to modify their existing business. Still others file the information for later use. Some choose dressmaking. Others decide to specialize or design a product they can sell to the public. A few decide that sewing for pay is not for them.

The emphasis in a "Sew for Pay" seminar is on positive decisionmaking based on research and planning. Even deciding not to pursue sewing for pay is a positive decision since it was made after exploring the possibilities and before investing time and money.

The success and popularity of the "Sew for Pay" seminars prove that Extension home economists can do an effective job of assisting people in the formation of small, home-based businesses. □

Custom Sewing— A Successful Home Business

Joyce Ann Smith
Extension Specialist, Clothing
The Ohio State University

Do you have an Extension program that can attract two to three times the anticipated audience regardless of location? Extension home economists in Ohio have done just that with programs on custom sewing as a home-based business. Whether called **Selling Sewing Services, Sewing for Profit,** or **Custom Dressmaking—Your Profession,** a need has definitely been identified.

The traditional approach to Extension home economics programs has been to help people use resources most effectively as consumers. These same skills can be used to produce income and many homemakers are interested in doing just that. Contributing forces include rising inflation and the desire by many women to experience job satisfaction. That little town dressmaker whom others envision behind a sewing machine is emerging as a business professional to be respected and valued.

The success of custom sewing programs in Ohio is due directly to the efforts of county and area Extension home economists. These home economists have identified key local resources, effectively publicized and organized workshops, and gained the confidence and credibility of participants.

Business Angle
Consumers attending **Sewing for Profit** programs usually have the skills but lack business experience. This is where Extension in Ohio steps in. Workshops focus on the business aspects of custom sewing with special emphasis on a business in the home. Workshops follow a similar format. An initial session sets the stage with "Is Custom Sewing for You?"

The highlight of all workshops is a panel discussion by successful custom sewers. Panel members represent dressmaking, alterations, upholstering, window treatments and crafts. These successful custom sewers share their joys, heartaches, and learnings gained through the school of hard knocks. They offer encouragement to workshop participants and credibility to the program content.

A special quality of this session is seeing women helping women. Those who have been successful readily share experiences.

SBA Role
The Small Business Administration (SBA) plays a vital role in Ohio in custom sewing workshops. Homemakers discover the many services provided by SBA as well as important considerations of home business activities.

The final session on "Selling Strategies" addresses topics such as competitive pricing, specialization, advertising, and business practices.

The initial workshop focused on dressmaking and alterations. However, suggestions from local planning committees have helped subsequent programs better address local needs and interests.

Evaluation
What does interest in home-based custom sewing businesses mean? Is it a fad, a popular program to attend passively, or has it made a difference? Delayed mail evaluations show that workshops have stimulated critical thinking and action. As a result of the workshop, behavior changes indicated on evaluations included "started my own business," "made inquiries about government regulations," "ran an advertisement," "keeping track of hours to determine fair price," and "set time aside to sew and use time and energy more efficiently."

Goal: Increased Income
One goal of the workshops was to help participants increase their income. When asked the question on a delayed evaluation, approximately 50 percent of the respondents (or 25 percent of those actually attending the workshops) said their income had increased.

Besides increased income, another benefit of the workshops has emerged. Self-concept of participants has increased along with a feeling that custom sewing is a profession—an important one. One participant reported a greater appreciation of the value of her time and skill. The level of the profession and the person doing it has been raised in the eyes of the custom sewer as a result of the workshops. One of the panelists who was already very successful reported an attitude change in this way: "Being involved in the panel made me feel much more of a professional than I had before. I felt a bit of exposure in the business world that I don't usually get in my at-home business."

Helping women feel better about themselves and the value and potential of their skills are worthwhile goals.

Raised Professionalism
Experienced custom dressmakers attending workshops appreciate the attention given to them and to their profession. They appreciate that others believe their work is important. Participants readily share successes and failures with colleagues. A group in one area of the state hopes to meet more frequently and has formed an advisory committee to plan programs. One member said she was very busy but was willing to give up 1 day a month to grow professionally. The group is interested in developing business skills as well as keeping current with sewing-related information. In a sense, a new professional society is forming. □

Computers Speed Marketing of Feeder Pigs

Barry W. Jones
Extension Communications Specialist
Mississippi State University
and
Jimmy A. Bonner
Extension Writer/Editor
Mississippi State University

Ed Elliott, an Extension livestock specialist in Mississippi, operates a microcomputer to turn a time-consuming, cumbersome recording process into an efficient sale operation for the Laurel Feeder Pig Association in Laurel, Miss. Elliott helped introduce the use of microcomputers into the south Mississippi operation.

Pigs have joined the computer generation in Laurel, Mississippi.

Anyone who doubts this achievement should visit the feeder pig sale held in Laurel the third Tuesday of each month. Computer technology has become a welcome and integral part of this sale.

The largest of eight feeder pig sales in the state, the Laurel sale averages more than 2,000 pigs each month and provides an ideal setting for animal science and marketing experts to use computer technology in the livestock auction business.

First Use of Microcomputers
Use of computer science at the sale has blossomed since the introduction 2 years ago of microcomputers. The computer performs a host of sale functions, including assigning animals to pens, keeping sale records and writing producers' checks.

The speed and accuracy of computer technology also greatly improves sale efficiency while holding errors associated with the sale to near nonexistent levels.

The idea for introducing the computer age to pigs originated at a brain-storming session held in 1979 by Mississippi Cooperative Extension Service (MCES) livestock specialist Ed Elliott and Dr. Duane Tucker.

"I collected as much information on computers as I could, and a local dealer agreed to order the equipment for a demonstration," Elliott says. "The dealer also wanted to see what it would do in a situation like this."

Demonstration Before Board
Elliott presented the information and demonstrated the computer to the Board of Directors of the Feeder Pig Association. After the demonstration, the Board agreed to buy it.

Elliott says the computer has successfully shouldered the entire burden of the sale since February 1980. Programming "bugs" have been solved, and Elliott says the computer is a mainstay at the Laurel sale.

The computer is programmed to perform a number of functions at the sale from check-in point to sale close. It records weights, grades and makes pen assignments as pigs are checked in.

Tally Sheet
Once an individual producer has had pigs graded, weighed and assigned to pens, the computer prints a tally sheet for the producer and sale officials. The producer knows how many pigs were checked in, their weights, grades and pen locations.

"We figured that the computer paid for itself after 16 months of use," Elliott says. "We feel like it's definitely been a good investment for us."

An educational benefit for the Extension Service is that the computer provides county agents with summaries of pigs sold from particular counties.

"We are also using the computer to print checks for producers at the same time we provide summary sheets after the sale," Elliott says. "This makes the sale even more efficient."

Nearly Error-Free
"The computer has helped us cut down on the number of people it takes to run a feeder pig sale," says retired Jones County Extension Agent Harold Hardee, who is sale manager for the feeder pig association. "But, even more important, it has cut our errors almost to zero."

The computer is an idea whose time has come for the feeder pig sale at Laurel. □

Marketing Cooperative Extension

Robert Topor
Assistant Director
Media Services
Cornell University, Ithaca, New York

How can we accurately assess consumer needs? How can we efficiently match programs to consumer needs? How should we "position" our educational services in the complex nonprofit marketplace? How do we identify user audiences? How do we let others know about our organization? What role does communication play in the process?

These questions can be answered, but to do so requires a basic understanding of marketing. Once we accept the idea that marketing concepts and principles can be adapted to not-for-profit organizations like Cooperative Extension, it also becomes evident that marketing can help us to more effectively meet the needs of the various markets and publics we serve.

Why Consider Marketing?
Nonprofit organizations are realizing that dedicated program delivery no longer guarantees continued success. Declining purchasing power, an inflationary economy, and limited budgets have threatened many nonprofit organizations. Despite dedicated efforts to create and deliver meaningful programs, Cooperative Extension may find that Federal, state, and county pursestrings are drawing tighter and tighter. One way to minimize potential problems is to adapt marketing principles that have been successful for other nonprofit groups.

Different Audiences
The marketing task for a *profit-motivated* company is simple: identify consumer needs, then develop, produce, promote, and deliver a product to meet those needs. This process works because the company has one primary constituency for which it provides products and from which it receives funds. Cooperative Extension operates in a much more complex arena. It has multiple constituencies: "*clients*" to whom it provides services and *funding sources* from which it receives financial resources.

The profit-motivated corporation has one marketing function—facilitating a direct two-way exchange—which includes resources allocation (providing goods in the form of products) and resource attraction (obtaining revenue). This exchange is carefully controlled to generate a profit.

In contrast, the nonprofit organization must approach these two marketing tasks separately because they involve different (and possibly unrelated) constituencies.

This inherent dichotomy can be an asset, however; it can provide flexibility. Cooperative Extension does not have to use the same approach for "clients" as it uses to influence funding sources. On the other hand, this flexibility makes the marketing task more complex. There are two different functions to perform. There are two different "clients" to satisfy. To be successful, we must satisfy all parties.

Attracting Resources
Generally a nonprofit organization can attract resources (funding) through two methods: advertising and personal selling. Advertising is used to generate support from a large number of constituents. Personal selling is used when constituents are highly identifiable. Program clients can be persuaded through advertising or promotion of services.

Divide and Conquer!
To generate resources while also enlisting program support is a highly sophisticated marketing task that requires all the basic elements of business-oriented marketing. The first assignment is a dual one. The vast potential audience must be segmented into homogeneous groups. This can be done by subdividing the audience demographically (age, sex, ethnic background), geographically (residence locations), or psychographically (lifestyle). This "audience segmentation" is necessary to determine which message or appeal is most effective for each service (or "product").

Need for Communication
We can have the best programs, provide the most helpful educational information, effectively target activities to "clients," and evoke positive changes, but much of the result is lost if our efforts are not recognized by the groups we want to influence. In other words, people need to be persuaded through our communications efforts.

Key Concepts
There are four key business concepts that provide the basic for marketing Cooperative Extension.

1. The self-interest aspect of the transaction or exchange is important. Both the "buyer" (client) and the "seller" (Cooperative Extension) must believe that they are receiving more than they are giving up.

2. The marketing task must stress the importance of satisfying consumer (client) *needs*. Our product (program) must match our constituents' educational needs.

3. The *marketing mix*, the "tools" we use to market our products—promotion, advertising, public relations, communications, place of service delivery—is the key to success.

4. By focusing on *distinctive competence*, we can concentrate on what we do best: deliver important educational information to preidentified clients to evoke change, to improve the quality of life.

Promoting the Intangible
If we had a tangible product as most profit-motivated corporations

do, our job would be much easier.

Companies such as McDonald's, Xerox, Kodak, and Procter & Gamble have built an "aura" around their products and successfully adopted the old advertising adage: "Promote the *sizzle*, not the hamburger!"

It is difficult, if not impossible, to promote an intangible product such as Cooperative Extension as one would a tangible product. Advertisements for a service offer only limited opportunity to inform, persuade, or promote. To promote the intangible service, we must adopt what may be a superior form of promotion: sale of an idea!

We must concentrate our Cooperative Extension communications efforts on a simple idea that should receive universal approbation: *consumer, user, client benefits.* The *benefit idea* is the key element successful nonprofit organizations use to promote their services.

The Medium Is the Message!
Many nonprofit organizations have developed publicity to a fine art. Publicity, promotion, and advertising go hand in hand.

In many cases, publicity is the senior and more important medium, with conventional advertising the subsidiary activity. To succeed, we must let people know about our successes, and our ability to provide unbiased, research-based, consumer-directed educational information.

An Integrated Activity
Some nonprofit organizations have discovered the benefits of moving forward with a united front, communicating their activities in a coordinated way to improve their collective visibility.

Cooperative Extension should view promotion the way these organizations do as an integrated activity.

To create a comprehensive, integrated promotion, we must take advantage of opportunities to consolidate Federal, state, and county efforts.

We must seek out opportunities to communicate not only our program activities, but also the much more important idea that we are a positive force, moving forward to meet the needs of people, accepting challenges, dedicated in our efforts to improve life, unbiased by motives of profit, delivering a "product" that serves us today as it has for generations before us. To do less would be unworthy. □

Financial Management . . . 4-H Style

Stu Sutherland
Public Information Officer
Extension Service, USDA

The economic stresses of our country have caught the attention of our young people. With high unemployment across the nation, older 4-H'ers are sharpening their job skills. Managing finances is another area important to 4-H members, whether it means money in their own pockets, or to set aside for future plans. Since 4-H-ers have many types of project activities, their financial management activities evolve in a number of ways that often differ from state to state.

To provide a glimpse at the wide diversity of financial management activities being done—and the results for 4-H'ers—highlights of the record books of various projects are given below. All are from 4-H members who attended the National 4-H Congress, Nov. 28 to Dec. 2, 1982, held in Chicago.

Some members won national or regional recognition, all were state award winners, and all mentioned were Congress delegates. They are representative of the approximately 141,000 4-H young people who have received recognition for their work at county and state levels.

Agriculture Programs
James Fisher, 19, of Powell, Ohio, is now a sophomore in college with plans to become an agricultural economist. In 4-H, he designed two computer programs to guide his financial management with a programmable calculator. One program is designed to figure the amount of herbicide to use on fields, the second is to calculate the rate of gains, feed efficiencies, and cost per pound of grain for cattle.

James Schlickau, 19, Haven, Kansas, carried 23 4-H steer projects. Now a freshman at a community junior college, he has a beef inventory valued at more than $16,000.

Kim Ragland, 17, Magnolia, Kentucky, started caring for her first heifer at age 9. Through the development of her own herd she produced more than 80 animals and netted almost $28,000 in sales. The 8-year 4-H'er presently has a herd of 17 animals.

And, Jerilee Morel, 17, of Gillette, Wyoming, in her 9 years of 4-H, has raised a total of 34 market steers in her beef project for a total profit of $13,666. She has also built up her own herd of 24 cows, 21 calves, and 10 yearlings for a net profit of $21,355.

Cynthia Walde, 17, of Winside, Nebraska, is a high school senior. She used computerized data to understand the relationship between purchase and selling prices, feed costs, cattle types, and beginning and finishing rations and weights. Walde also learned how the futures market works and how to sell on grade and yield in her dairy projects. "I learned a lot about profits and losses and financing," she comments, "in my livestock projects, since one may have large amounts of money invested in even a small project."

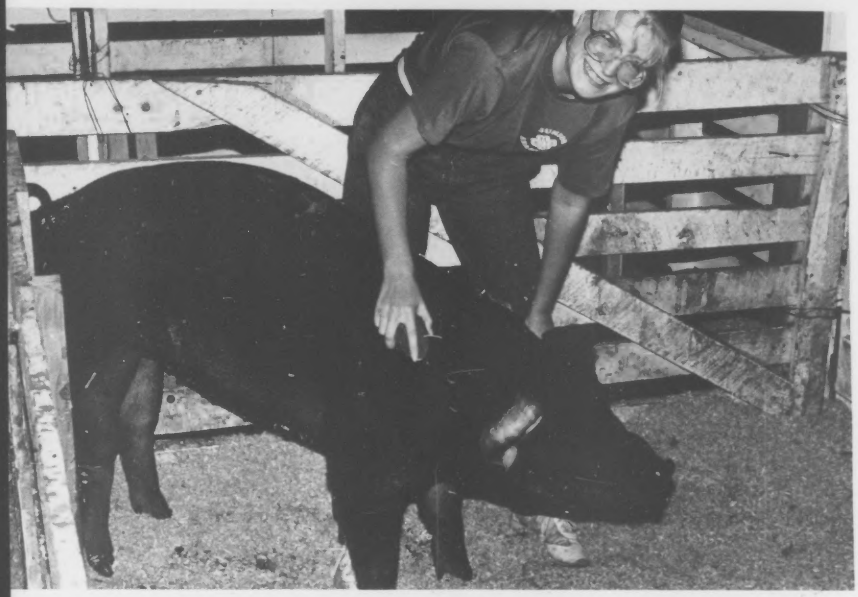
Young Dairy Herder
Lisa Bond, 18, Westminster, Maryland, is a 9-year member who established a dairy herd valued at more than $53,000. Lisa says, "My cattle are not just a project anymore, they are a business, a way to make a living."

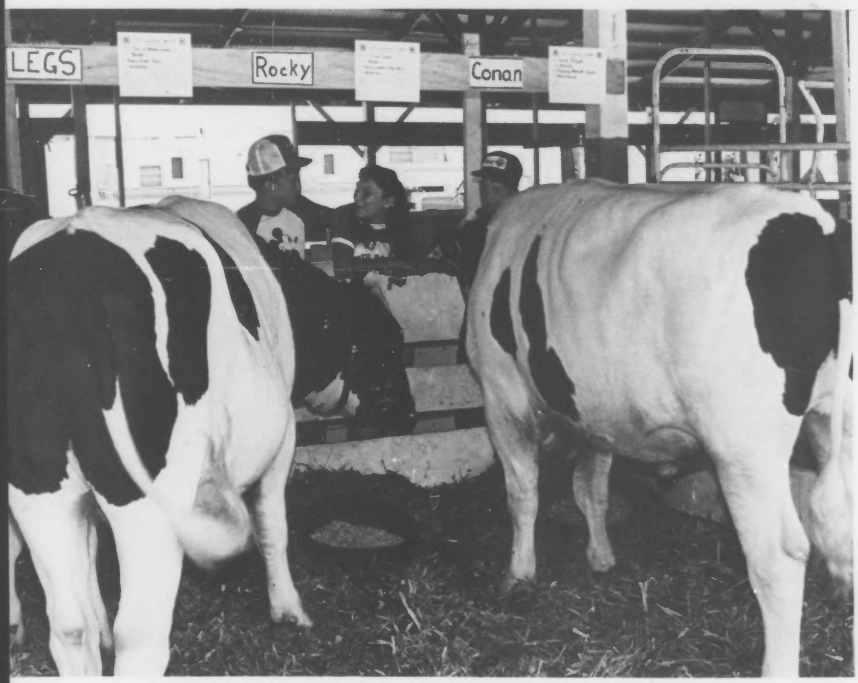
Keith Martz, 17, of Blue Grass, Iowa, is a high school senior who estimates the net profit of his swine project to be nearly $24,000. He invested that money into building a sow herd and buying cattle as well as saving for a college education.

And, members in sheep projects learn and earn, too. One of them is Sheri Ann Erickson, 18, of Wilson,

Wisconsin. She is now a freshman at the University of Wisconsin, but this 10-year 4-H'er wrote a computer program for sheep improvement that calculates the index and index rates for ewes and lambs. She has submitted a copy of the software to a business that specializes in agricultural computer programs, as her program could be used by sheep producers in the U.S.—and she provided a copy of it to the agricultural department of her local high school. This past year, one of her trophy-winning yearly rams brought $1,500 at a national sale.

Consumer Education
Ellen Twinam, 18, of Crawfordsville, Iowa, is now a Coe College freshman, majoring in business. This 9-year 4-H'er estimates that during the past 2 years she has saved almost $400 by buying items on sale through preseason sales and layaway plans. Her clothing presentation, "Ellen's Economics," received a "seal of excellence" at the Iowa State Fair.





And, Rae Ayers, 16, of Hartwell, Georgia, is a high school junior who has been a 4-H member for 7 years. She saved her family more than $10,000 during that 7-year period through consumer education activities in foods, clothing, and home furnishings.

Home Management
Bonita Warner, 19, of West Lafayette, Indiana, is now a Purdue University freshman. The 10-year 4-H'er, who plans a career in management, estimates that the 83 garments made in her 4-H projects saved her family nearly $1,000; food preservation saved over $2,000 in food costs; gardening saved another $2,100 in food bills; and, she has saved the family more than $5,000 in interior design and home grounds improvement.

Kevin Ward, 18, Stuart, Virginia, is using his 4-H project to "manage" his automobile, education, and career choice. Aiming for a career in business or bank management, he has researched the way to estimate educational costs of a banking career and conducted a study of grant and scholarship opportunities. At the county fair, he also conducted—after some research—an educational booth on "Cost of a College Education." He used radio and television to reach other teens with a message of "Automobile Costs for Teenagers."

Michelle Waite, 18, of Eden, Utah, is a 7-year 4-H'er. She designed her own room, wallpapered four rooms, painted three rooms, designed and decorated the family room, bathroom, and bedroom; refinished furniture and upholstered two chairs as well as made numerous decorative items for other rooms—at a cost of $650, and a family savings of $5,000.

Food Preservation
A number of 4-H'ers in the food preservation program estimate their project activities have saved their families or themselves around $3,000. Among them is Hilda Heflin, 18, of Lineville, Alabama, now a freshman at Southern Union State Junior College. During her 8 years as a 4-H member, she preserved food from two gardens with canning, freezing, and drying processes.

Joining this group, too, is Rhonda Jenkins, 17, of Angie, Louisiana, who saved her family nearly $3,000 in the past 6 years by preserving the family's home-grown beef, vegetables, wild game, and fruits. By canning and freezing fruits, vegetables, and meat over the 9-year period in 4-H, Sheri Webb, 17, of Woodbine, Maryland, saved her family more than $3,000.

In the breads program, Anna Louise Henderson, 15, of Palos Park, Illinois, developed yeast breads in her 4-H project that became so popular with family, friends, and neighbors that she started her own business—"Anna's Oven"—and her Swedish tea rings this year produced a $375 profit.

Clothing and Fashion Review
Belinda Gail Nix, 18, of Talladega, Alabama, is now an Auburn University freshman. She estimates a savings from 1976 to 1982 of nearly $2,000 by sewing her own clothing.

A savings of over $3,000 by 7-year 4-H'er Teresa Casciato, 16, of Milwaukie, Oregon, was realized as she made 174 garmets. Jane Moye, 17, of Stuart, Virginia, has constructed 221 garments, gifts, and accessories in her 8 years of 4-H—costing her over $1,200, but with an estimated savings of nearly $1,800.

Gardening
4-H members attending the 1982 National 4-H Congress in the program area of gardening also had some outstanding stories of ways they have managed their finances.

One of them is 7-year 4-H'er Jim Thoden of Humboldt, Iowa. He had a net return from his garden of $4,455, and experimented with different ways of storing his crops.

Complete planning for a garden on 3 acres helped Darrell Mangrum, 16, of Decatur, Mississippi, raise 195 varieties, and gain a profit of $2,800.

Sonja Harty, a 10-year member from Salem, Oregon, had a half-acre plot, and last year grossed nearly $5,000 from her sale of shallots, her specialty crop. She harvested 2.1 tons of vegetables her peak year, and has learned a great deal about business, marketing, and public relations.

And, Hollis Paul Schuh, 18, of North Salem, Indiana, is now a Purdue University student. In 1982 he earned a profit of more than $1,500 with his crops of Indian corn, gourds, bittersweet, popcorn, and pumpkins. Demand for miniature Indian corn for decorations prompted him to try a little planting research—and his new small corn works well in floral arrangements.

Conservation of Natural Resources
Financial management decisions also have a place in this project area. Marie Bryner, 17, of Price, Utah, helped her family plan and drain 60 acres of swamp, then put 20 acres of the reclaimed land back into production herself, thus protecting adjoining good cropland from further swamping.

And, Rick Meyer, 18, of Kendallville, Indiana, is now majoring in horticulture as a Purdue University Freshman. In his 4-H project work he helped establish a pond for an orchard on his family's farm, and has explored ways to harness wind energy to irrigate and spray the orchard. With a maple syrup project, he also developed a retail and wholesale market for his syrup.

With these brief highlights of some 4-H members who attended the 1982 Congress, you now have a better idea of the diversity of their financial management activities as well as the amounts of dollars that these young people manage.

Each may not deal in "megabucks," but the group of 41 4-H'ers first considered for this story managed over a quarter of a million dollars . . . and that's financial management . . . 4-H style! □

Managing Money

Esther Maddux
Extension Family Resource Management Specialist
University of Georgia

As people have a harder time making their money stretch to meet all their expenses, they have begun to look to the Georgia Extension Service for money and debt management information.

In February 1980, Wayne Brown, training director for Dundee Mills, a textile manufacturer, contacted Janice Boyd, Spalding County Extension agent, to ask for some money management training.

The First Seminars
Dundee managers recognized that their employees were having difficulty in making ends meet. After meeting with the managers, Janice and I designed a money management seminar for supervisors that included the following topics:

Series of Seminars
- Introduction to basic money management principles.
- How to set up a debt management plan.
- How to manage credit.
- How advertising and sales pressures influence consumer behavior.
- How to improve shopping skills.

The first series of seminars started in March 1980, with us teaching the classes. Fourteen supervisors, who supervised 514 employees, attended 1½ days each week for 6 weeks.

Twenty-nine participants from the two seminar series completed a class evaluation, and 15 people shared information they learned in the class with a total of 57 other people.

A few months later, Jean Bauerband, Fulton County Extention agent, Atlanta, Georgia, was contacted by a staff member in the Army Community Services Department at Fort McPherson. The Department wanted to organize a financial counseling service for soldiers who were accumulating excessive debts.

Bauerband and I met with Carrie Wright and organized a series of money management classes for officers' wives, 10 of whom attended the sessions. These sessions covered the same topics studies in the Dundee seminar. We taught 1½-hour-classes each week for 6 weeks.

Early Results
A 12-month evaluation showed that counselors had counseled 52 clients. The counselors identified several problems: poor money management skills, inflation, unexpected illness, pregnancy, divorce, job relocations, default on co-signed loans with a friend or relative, overextension, and problems such as impulsive or compulsive buying habits, gambling, or alcoholism.

The clients owed $106,300 when they started the counseling program. During the year, they repaid $19,000, and 12 debts were paid in full. The counselors assisted the clients in planning monthly budgets and setting family goals.

Unemployment Creates Burden
Residents of Whitfield County, Georgia, were some of the first in the state to experience high unemployment levels.

Ann Kuzniak, Whitfield County Extension agent, began receiving requests from individuals and families for budgeting information. As a result, she initiated a volunteer Financial Counseling Service in February 1982.

Volunteer Counselors
In February, we held a training session for anyone interested in becoming a counselor. Forty-six individuals attended one or more of the three sessions offered day and night.

Some of the participants were retired. Others were employed and wanted to volunteer in their spare time. Some came for information to help their employees or clientele.

The training agenda covered the following topics:

- An overview of who is in financial trouble and why (Esther Maddux, family resource management specialist)
- Budgeting and managing credit (Ann Kuzniak, Whitfield County Extension agent)
- The interviewing and counseling process (Don Bower, human development specialist)
- Options for the consumer debtor, which included a discussion of individual debt management, credit counseling services, and court provisions for getting out of debt (Esther Maddux)
- A panel discussion from the creditor's perspective by a bank, a hospital, furniture store, and finance company representative
- The function of a credit reporting agency and credit bureau by each of their respective representatives
- Legal aspects of credit by a local attorney

A 12-month evaluation will be conducted in February 1983, to determine the effectiveness of the service.

More Calls for Help
As economic survival has become more difficult, we are getting more calls from industry, hospitals, and individual clients. One company recently asked permission to adapt and reprint our money management series.

We have had success in training leaders in industry, at military bases, and in communities. Participants learn new money management skills, and in turn pass the information to those around them and to people who may not attend a formal program offered by Extension. □

Counseling for Budget Survival

Mary Ann Hewitt
Extension Home Economist
University of Maryland

The traditional educational system in the United States has focused on career-oriented knowledge and has all but neglected some of the basic consumer survival skills such as money management.

The Montgomery County Cooperative Extension Service started a financial counseling program with a limited number of volunteers in 1967. Eighty volunteers are currently trained and supported each year; these volunteers counsel at least one family a year.

The program is divided into four parts: (1) recruiting volunteers and families; (2) training volunteers; (3) program administration; and (4) follow up or evaluation.

Recruiting Volunteers
Over the years we have utilized a variety of methods to recruit counselors. Many counselors are active church members and are fulfilling a dual volunteer role. Annually a request is made of the Community Ministers Association to announce information about the counseling program in their church bulletins. Other methods of recruitment include: word-of-mouth from client families and from volunteer counselors, newspaper announcements, signs in the public libraries, and county government office buildings.

Recruiting Families
When the financial counseling program started 13 years ago, it was geared toward limited income individuals. Originally, the income guideline was poverty level. Inflation of the seventies eroded buying power significantly. The impact of inflation to a family varies by income bracket. Those in the middle income of $10–30,000 fare worst.

Families are recruited by utilizing many of the same methods as are used for volunteer recruitment, with the exception of any mass media efforts. Care is used not to advertise in major papers because the volunteer resources to handle the demand are not available.

Volunteer Training
Training consists of three sessions and the new counselors receive a comprehensive handbook. Good counseling techniques are the basis for a good financial counseling program.

Counselors need special training to get family members to talk about sensitive financial questions.

Helping the family to set up a budget which identifies family goals and values is a large task for the counselor. Many families feel that the solution to their problem is purchasing a budget recordkeeping form. They do not want to start at the beginning, make financial goals, and tough decisions.

It is very important that the counselor is well aware of all community services to the family. In Montgomery County the agent who started this program compiled and printed all the services available to county residents. Four years ago the county government started printing the information in pocket-size form.

Many families are in trouble because of credit cards; therefore, the counselors are taught the art of negotiating with creditors. In the counselor's handbook, there are sample letters to be used when corresponding to creditors. Counselors often ask, "Who writes, signs, and types the letters?" The family! The fact that our purpose is educational is stressed. This is the main difference in Extension's program and other financial counseling programs.

The program has had a very high success rate re-negotiating the debts of our families with creditors.

Program Administration
The administration of the program is fairly simple. Clients call the Extension office and ask for help.

The Extension agent acts as a consultant to the counselor once the match has occurred. In Montgomery County a phone follow-up system with our counselors is used.

Evaluation
The program is evaluated 6 months after each case is closed. The Extension home economist or a volunteer contacts the client family and asks the following three questions:
"Have you paid your bills on time?"
"Have you added to your debt load?"
"Have you saved?"

A satisfaction and success index is determined by these responses. Behavioral chance can be measured and observed. Over 50 percent of the closed (finished) cases have shown that they have successfully paid their bills on time and not added to their debt load. At least two out-of-state programs have been modeled after the Montgomery County programs.

Do people appreciate this service?

An engineer with an income $15,000 who was supporting seven children was given assistance, fended off his creditors, and called the author to say, "You've saved my life. I'll send you roses when I have the money!" The author wrote him, saying, "Don't waste your money. Save it! I'm just doing my job."

For a sample of some of the training materials used with this program, contact the author at Montgomery County Cooperative Extension Service, 600 S. Frederick Avenue, Gaithersburg, Md. 20877. □

Better Business Management

Kenneth E. Stone
Extension Economist
Iowa State University

When a store closes in a small community, a part of the town dies much as a dead limb on a diseased tree, usually never to come back. In smaller communities, this usually means the eventual disappearance of clothing stores, furniture stores, variety stores, drug stores, and others.

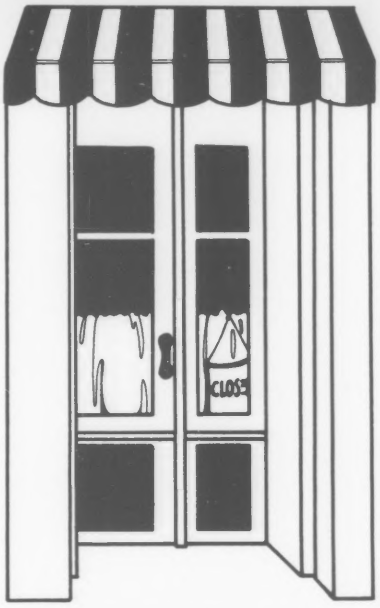
In rural communities of less than 1,000 population, we are even seeing the disappearance of grocery stores, restaurants, and service stations.

Victims: The Poor and Elderly
The loss of the latter businesses creates an inconvenience to practically all the town residents and farmers and others in the surrounding rural area. And even more critically, the lower income and elderly people usually suffer most because many do not have the means to travel to more distant communities to shop.

A safe generalization: most business people in small communities have not had formal business management training. A large number of merchants are independent and have no parent company. The majority of small-town merchants probably do not belong to trade associations. Consequently, there is little opportunity for training from the sources that train managers of larger firms.

Extension can fill a real void in rural communities by providing management training to local business people. Quality of management is perhaps the single most important determinant of the success of a business firm. It seems plausible that if more small-town merchants became better managers, some businesses could be saved, thereby maintaining the economic base and providing more convenient shopping for residents.

A Mini Case Study
Residents of towns that have not yet



lost substantial numbers of businesses often do not realize the value of businesses to the community. However, residents of small towns that have suffered mass hemorrhaging of businesses from the town understand very well their importance. Liscomb, Iowa, is such a town.

Liscomb, a town of approximately 330 population in east-central Iowa, had lost most of its main street businesses through attrition. The major businesses remaining were the grain elevator and feed mill. There was no longer a grocery, restaurant, or service station. The closest major town was Marshalltown, 14 miles away. The residents and nearby farmers felt terribly inconvenienced.

After a long period of commiserating, the area residents decided to explore the idea of forming a community corporation and building a trading post consisting of a combination of convenience grocery, restaurant, and gasoline station. One of the project leaders, in the process of completing her Ph.D. degree in sociology at Iowa State University, was familiar with the Extension Service and called on the area Community Resources Development (CRD) specialist to assist in the organizing effort.

Survey Shows Support
The CRD specialist, with the assistance of the local Extension county leader, helped residents evaluate various alternatives and worked with them to conduct a survey. The survey indicated overwhelming support for the project.

A corporation was formed and approximately $40,000 worth of shares sold to residents and nearby farm families. An SBA guaranteed loan was negotiated for the balance needed to finance the new building. During the process, the Extension business management specialist was consulted concerning market potential and other technical aspects of constructing and operating the business.

Trading Post Prospers
The building was constructed using volunteer labor where possible. The Liscomb Trading Post has been in operation nearly 2 years and is exceeding the expectations of most residents. It is providing much needed goods and services to the community. In addition, it is providing jobs for several local people. But perhaps more important than the economic benefits are the sociological benefits to the community. The successful project has brought local and area residents closer together and provided a sense of accomplishment. For the first time in years, the people have a public and convenient meeting place for socializing while eating, shopping, or refueling. Currently, Extension personnel are working with other small towns to develop similar community business facilities.

On a small scale, this case study illustrates the inseparability of business management and other Extension subject-matter areas in the community development process. Those who have worked in the area of business management recognize the importance of using proven CRD principles when assisting the business sectors of various communities. □

Super Shopper— The Astounding Saver!

Jan Bjorklund
Associate Program Director, Extension
College of Home Economics
University of Missouri and Lincoln University

Who can decipher a food label from 50 feet? Who can figure out the best food buys without a pocket calculator? Who can cut through advertising jargon at a single glance? It's SUPER SHOPPER!!!

And who is Super Shopper? Super Shopper is a shopping-bag character that has swept across Missouri with inflation-fighting information. The multi-talented Super Shopper has saved wear and tear on the pocketbooks of thousands of consumers during the past 2 years.

Story Behind the Story
In July 1980, Gail Imig, associate dean and program director for home economics Extension, proclaimed: "It's time to mobilize our forces and attack the inflation problem head-on to help consumers get more for their dollars. We need to take a positive and unified approach to help families cope with inflation."

Imig saw the problem as an interdisciplinary one. She knew there was a wide range of things that Extension home economists could do to help consumers learn how to better make ends meet.

In a matter of days, three state staff members in the Super Shopper scenario held their first brainstorming session. They were Karla Vollmar, state food and nutrition specialist; Pat Lieurance, state family economics and management specialist; and Jan Bjorklund, associate program director. They decided to emphasize food buying in their educational efforts because consumers were constantly seeing increases in food prices.

Early in the planning stages, the state staff realized that much of the food-buying information already available was still appropriate. What was needed was a new way to package and market this information to attract people's attention.

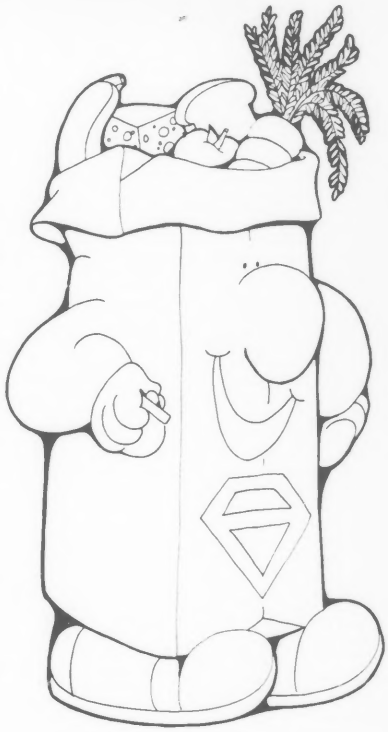
A Symbol is Born
At that point, University of Missouri artist Jeanne Bintzer was brought in to the action to design a Super Shopper symbol. She created the character from a grocery bag since smart grocery shopping was the name of the game. The clever and versatile cartoon character added to the enthusiasm for the project and to its success. Using a cartoon character as a symbol was not a new idea, but the concept was taken a step further. With each new topic, Super Shopper took on a new look.

With the unifying theme and symbol in mind, the state program development team went to work on the content and program-delivery methods. Packaged program materials were developed to be used immediately by area specialists in a variety of ways with different audiences.

All the teaching packets included lesson plans, Super Shopper art work, news releases, and handouts for consumers. Food buying tips, getting more protein for the dollar, clipping coupons, and substituting time for money were covered in the first packet.

After that first packet, came four more. These emphasized management of the clothing dollar, buying children's toys, shopping for day care centers, and programs for the elderly.

The Super Shopper project was launched at the Extension annual conference in October 1980. The state program development team



wore T-shirts printed with the Super Shopper design. Area specialists left the conference ready to introduce Super Shopper to Missouri.

Super Shopper Spreads
The cartoon character began showing up everywhere. Area home economists ordered T-shirts and wore them for their Super Shopper events. Educational exhibits were displayed at fairs, shopping malls, libraries, and grocery stores. Super Shopper appeared in newsletters, newspaper columns, and grocery store ads. Super Shopper songs, poems, and skits were written.

Super Shopper even became a real live character. One group of area home economists expanded their Super Shopper theme to include food preservation. Many consumers in their area wanted information on canning, freezing, and drying to help fight inflation. These home economists took the message to the people at the local grocery stores. Anna

Missouri Extension home economists took the Super Shopper theme directly to the people at local grocery stores. The message, in this case, included information on food buying and food preservation.

Super Shopper, as a real live character, entertains the children while Extension home economists deliver inflation-fighting consumer information.

Mae Kobbe, area child and family development specialist, wore a Super Shopper costume designed by the area clothing and textiles specialist, Betty King. As Super Shopper, Kobbe entertained children while four other home economists talked with the shoppers. During the summer of 1981, these home economists visited 33 area grocery stores and provided food-buying and food-preservation information to 3,282 persons. Many of the consumers became aware of the Missouri Cooperative Extension Service for the first time.

In south Missouri, Lu Harper, area home economist in West Plains, submitted food-buying information along with the Super Shopper imprint to a local newspaper. "From this series on Super Shopper came the request for a regular newspaper column," Harper states. "Now, I reach more people through this column than with any other kind of programming."

Game Shows and T-Shirts

An October campaign in the Mark Twain area of the state was "How to Make the Best of an Inflated State of Affairs." Jill Leckrone, Margie Frankenbaugh, and Juanita Brown focused their day-long programs on the "tools of super shopping." These community events were concluded with an audience-participation game modeled after the television show, "The Price Is Right." Winners were awarded Super Shopper T-shirts.

More recently, Grace Wright used the clothing materials at an "urban extravaganza" held in Kansas City. She taught an inner-city audience how to get good buys at garage sales. When the session was over, one participant stated, "I learned something new today."

The saga of Super Shopper continues. Wherever the character goes, consumers learn that they can shop more wisely and save money. The Super Shopper message is both timely and timeless. □

Michigan—
Meeting Unemployment Head On

Mary Budnick
Extension Information Coordinator, Family Living Education
Michigan State University

In Michigan, a state with the highest unemployment rate in the Nation, economically stressed families must make do with what they have and what they can realistically expect to have. This includes using their resources more carefully, creatively, and skillfully than ever before.

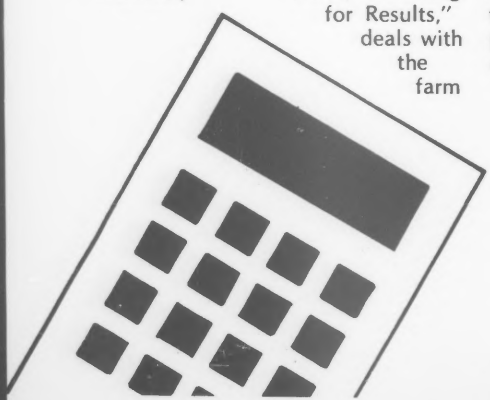
Resources come in many forms. Money is an important resource. Without it people are very limited in what they can do. Mental and manual skills are also primary resources, and when combined with other skills, broaden possibilities.

In Michigan, the Extension Family Living Education (FLE) program has implemented several financial/resource management programs that deal with all of these resources, from mental attitude to money.

Stress management is a top priority throughout the state's CES program. People under stress often experience distorted judgment and cannot see all their options or possible solutions to problems.

Family Needs Met

Special attention is given to the needs of rural and farm families. They face exceedingly difficult financial times, and farm foreclosures and bankruptcies are reaching an all-time high. One workshop series, "Reaching for Results," deals with the farm family—the individuals, their relationships, how they communicate, and how they deal with stress, as well as specific farm financial management techniques. The goal of this workshop series is to help families see how all these factors interrelate and to help them set realistic goals, develop a plan for achieving these goals, and use sound management principles to alleviate financial pressure.

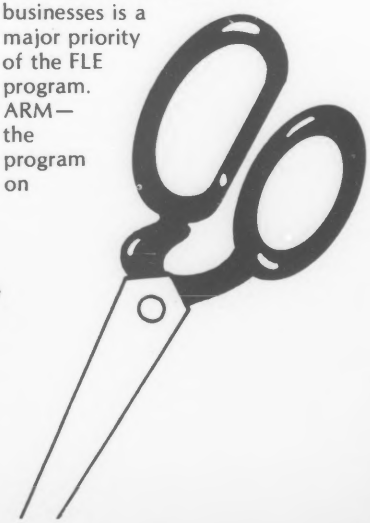


Many urban counties with high unemployment offer programs to teach jobseeking skills to unemployed people and displaced homemakers. Managing stress and improving self-image are integral parts of these programs, along with improving interviewing skills, resume writing, and personal appearance.

Throughout the state, many families are seeking to soften the blow of unemployment and inflation by making use of their skills and energies to supplement family income.

Home Businesses

Helping families increase their economic security through the development of small home businesses is a major priority of the FLE program. ARM—the program on alteration, repair, and maintenance of clothing—is very popular and growing rapidly. A recent 2-day "Sew For profit" seminar, featuring 20 workshops, speakers, and many major commercial exhibitors, drew a capacity crowd of over 400—double the number expected. The most frequently heard comment at the seminar was, "Will you have another seminar next year? We need information like this."



More than 75 sewing-related home businesses have started as a result of the ARM program, with the owners reporting weekly incomes in the $125–$200 range.

Other small home businesses that have started with Extension guidance include day care homes, income tax/accounting services, food cooperatives, furniture refinishing services, and marketing of homemade articles. Bulletins and resource publications in this area have been developed, and workshops and seminars have been held throughout the state on topics such as time management, pricing, recordkeeping, and advertising.

"Making Ends Meet" is the theme for a variety of programs that have taken place in Michigan over the past several years. A newsletter series by that name was targeted to more than 2,600 families in half of Michigan's 83 counties.

The newletter provided timely information on food, transportation, clothing, and energy. In a three-county area in the Upper Peninsula 70 volunteers were trained in inflation management skills.

Computer Programs

Several computerized programs are widely used to illustrate the importance of financial planning and budgeting. "$ Watch" provides families with individualized budgets based on family size and income and compares the family's expenditures to the average expenditures for a similar family.

Using a small, programmable calculator, Extension agents can demonstrate the costs of operating any model and year car with the program "Automobile $ and Sense." The program is effective in helping people decide whether to buy a new car or keep their old model. It is a big draw at malls, fairs, and other locations.

Michigan's long and often severe winters make energy conservation and weatherization programs a major way to help families make good use of their money. A computer program, "In the Bank or Up the Chimney," helps families decide what type of energy-saving home improvements will best serve their needs and offer the best payback time.

The "You Can Do It" series has reached close to 50,000 Michigan citizens with hands-on experience in developing home repair and maintenance skills. It is also structured to reach audiences that are traditionally difficult for Extension to reach, including inner-city and non-English-speaking groups. Followup surveys with last year's participants in the "You Can Do It" workshop show that more than 88 percent of the participants made one or more repairs to their homes. Statewide savings of more than $900,000 have been projected.

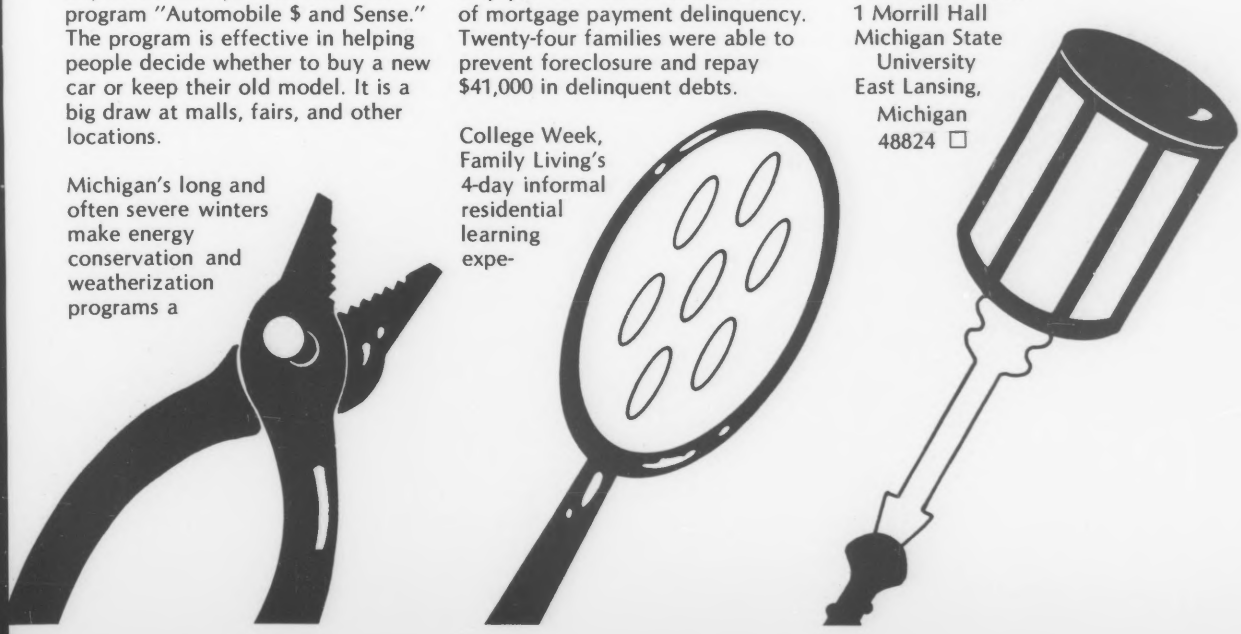
In one county, several rural low-income families received individualized budget counseling to help prevent foreclosures because of mortgage payment delinquency. Twenty-four families were able to prevent foreclosure and repay $41,000 in delinquent debts.

College Week, Family Living's 4-day informal residential learning experience at Michigan State University, has continually changed its focus to meet the needs of the times. For the past several years, as the recession deepened and Michigan's citizens faced difficult economic times, College week has emphasized financial coping skills, such as home repairs, food preservation, financial and estate planning, investing, and making working at home pay. In 1982, 25 percent of the classes offered at College Week dealt specifically wilth financial/resource management topics.

Fighting inflation and stabilizing the family's economic security is FLE's number one priority, as it intensifies its efforts to be responsive to families' needs for support skills and the knowledge to endure and grow stronger.

For more information on any of the programs mentioned, contact:

Family Living Information Coordinator
ANR Information
1 Morrill Hall
Michigan State University
East Lansing, Michigan
48824 □



Financial Findings

Management Program for Cities

J. M. Whitmer
Extension Local Government Programs Unit
Iowa State University

Iowa cities with less than 50,000 people can soon take advantage of a computerized financial management plan developed for them at Iowa State University (ISU).

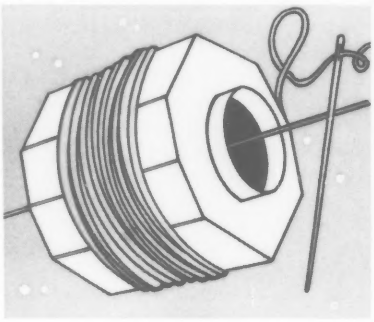
The first phase of the program—listing all types of management information needs of Iowa cities—has been completed. Operating procedures of individual departments also have been outlined. The next phase is to develop actual computer programs to carry out the procedures, according to J. M. (Jack) Whitmer with ISU's Local Government Programs unit. Six to ten "volunteer" cities interested in using the system are needed to computerize operations.

Program Available
Computer program will include sections on accounting, budgeting, community characteristics, departmental support, licenses/permits, official records, personnel management, system checks, and audits.

When completed, the system will be available to any Iowa city (under 50,000). "To implement the program" says Whitmer, "city officials need only to buy the computer equipment ($15,000 or less) required to handle the system of their choice and make their people available for training."

"The computer system will not be difficult to operate," Whitmer stresses. "It is designed to operate with a minimum of training on the part of city officials and employees."

The program was partly funded by the North Central Regional Center for Rural Development at ISU and the Iowa Municipal Finance Officers Association. □



Sewing by Satellite

On November 6, 1982, the Extension Service and the American Home Sewing Association produced a video satellite training conference that was beamed to 25 sites over the nation.

The training conference reached 6,000 educators, leaders, and store owners—twice the number projected. The conference employed two-way live communication to facilitate update of knowledge and interaction among national leaders in industry and education.

Extension clothing and textile specialists served as coordinators for participants from both the educational and business communities. □

Microcomputer Clinics See Heavy Participation

There's talk . . . and there's action all over this country on the subject of microcomputers. Everyone's life has been touched by this new and exciting technology.

What about you? Are you talking to others, sharing your experience and knowledge in this area? Twelve states are participating in a pilot series of seven "Microcomputer Clinic Teleconferences" sponsored by Extension Service, USDA. Sponsors include Home Economics and Human Nutrition; Program Development, Evaluation and Management Systems; and Information.

Topics include: "State of The Art In Microcomputers;" "The Office or Small Business Function;" "The Home Function;" "Microcomputer Software;" "Evaluating Systems;" "Training/Motivating Ideas For CES Staff;" and "Putting Ideas Into Action."

The object in the 1-hour sessions, held with two groups of six states each (both new and current users), is to encourage sharing of expertise and discussion among participants.

Resource people include Barbara Garris, Commodore Company; Gwil Evans, Oregon State communication head; Irene Hathaway, Michigan family resource management specialist; Paul Fessler, computer store sales manager; Bob Strain, Florida Extension economist; Eldon Fredericks, Indiana Extension editor; Karen E. Craig, Indiana assistant director—home economics; Susan Merkley, Indiana housing specialist; John Schmidt, North Central Computer Institute; and Mary Mennes, Wisconsin food and nutrition specialist.

Providing input from the Washington, D.C. site: Ava Rodgers, acting deputy administrator for home economics and human nutrition; Jerry Paulsen, Extension Service systems analyst; and Bud Stolker, freelance computer consultant. Betty Fleming, Program Leader, Communications, Home Economics and Human Nutrition, handles the teleconferencing.

Costs for the teleconference series are minimal. The tab for two back-to-back sessions (groups I and II) for each of the seven dates is running approximately $200 to $225.

This includes an operator-controlled bridging service and taping. USDA is covering this cost as well as the

costs of duplicating tapes (to offer to participants and nonparticipants as well).

Teleconferencing hardware is on hand at all sites as well as USDA so there are no additional costs. The phone calls from the USDA site are covered by a FTS line. Most states have WATS lines.

Obviously, a meeting or series of meetings involving travel costs would have meant much more of an expenditure on everyone's part.

Some kits of materials on the series and tapes of the series are available to states, first come, first served. Send requests to: Betty Fleming, Extension Service, USDA, Room 5407-S, Washington, D.C. 20250. □

"Instant" Guest Speakers Save Time and Money

Carolyn McCormick
Editorial Assistant
Extension Service, USDA

Farm leaders in various parts of the country are speaking at morning marketing seminars in Douglas County, Kansas—all from the convenience of their own offices.

Douglas County Extension started the seminars 6 years ago to provide local farmers and business persons with the latest marketing information and, more importantly, the chance to ask questions on specific marketing issues. With the aid of a telephone speaker box, Extension brings farm leaders around the country to the seminars in a matter of seconds—and with little expense.

Simple and Convenient for All
According to Earl Van Meter, Douglas County Extension director, the procedure is simple and convenient for everyone involved. The seminars are held at the Extension office during fall and winter months. Each seminar begins at 7:30 a.m., with a buffet breakfast. At 8 a.m., the first of two scheduled speakers calls the Extension office from a regular phone. The speaker's voice is transmitted over an amplified speaker box in the Extension office so everyone can hear. After a brief presentation, the speaker accepts questions from members of the audience using a hand-held phone. At 8:15 a.m. the second speaker calls and the process is repeated. By 8:30 a.m., the seminar ends so everyone can leave for work.

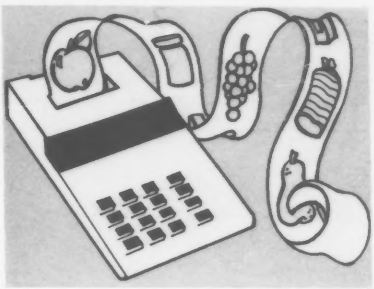
Talks from the Office
Usually one guest speaks on crop marketing and the other guest discusses marketing in the livestock industry. Farmers in Douglas County have a say in who is invited to speak. Speakers are not hard to find, according to Van Meter. In fact, he has never been turned down. "The speakers like this arrangement," says Van Meter. "They can speak from the convenience of their own office or wherever they happen to be, using a minimum amount of time and expense." And farmers and business persons have the opportunity to visit with each other over breakfast, listen to comments from some top agricultural leaders, and ask questions—all within an hour. □

Hold Joint Regional Workshops With FCIC

The Extension Service and the Federal Crop Insurance Corporation (FCIC) cooperated in four regional workshops in January to train Extension farm management specialists in the use of a new microcomputer program designed to help farmers make decisions on 1983 crop insurance programs.

At these workshops they demonstrated and used the software package developed by Steve Griffin, farm management specialist, Texas, to assist and advise farmers. Buel Lanpher, Ovid Bay, and Bill Carnahan participated for Extension Service. A press briefing was included at each workshop.

Extension Service has prepared a four-page fact sheet on the expanded availability of crop insurance coverage for 1983. Two copies per county were mailed to states for distribution. Liberalization of the Individual Yield Coverage (IYC) plan provides farmers protection based on their individual yield history.



Money Mechanics Begins at Home

Jane Schuchardt
Communications Specialist, Home Economics
Iowa State University

Young Iowa families are learning the basics of personal financial management through a home study course called "Money Mechanics."

Topics covered in the 12-part series include spending plans, records keeping, income taxes, credit, insurance, home buying, car costs, savings, and estate planning.

Iowa State University Extension Service began the course 3 years ago. Since then, "Money Mechanics" has been mailed to more than 8,000 Iowa homes.

Good Impact
A recent impact study showed positive results, according to Cindy Needles Fletcher, Extension consumer and management specialist and primary author of "Money Mechanics." Of 163 families who returned a questionnaire, one-half said they picked up ideas to save money. About two-fifths said they increased satisfaction with management practices or re-evaluated credit use. More than one-fourth of the families also said they began recording major expenses, improved communication, established a savings plan, and outlined spending and savings goals as a result of participation in the home study course.

In addition to the home study method, individual publications in the series are used at workshops, in packets for young married couples, at lunch 'n learn study sessions, and in mall displays. □

Small Business Survival

Howard C. Smith, Jr.
Director
Cooperative Extension Association of Monroe County
Cornell University, New York

The growth and survival of small business is crucial to the future of the economy and the people who live and work in any community. Small business represents about 100 million employees, or 60 percent of the nation's workforce, but gets limited recognition and help from government circles.

These facts were cited in a recent study of the economic viability and vitality of small businesses in Rochester, New York.

Economic Impact

The conclusions and recommendations in this study have direct implications for economic impact through involvement and implementation by Cooperative Extension Associations nationwide. The study was unique in concentrating on what can be accomplished at the local level to directly affect the growth and vitality of small businesses. The community study concluded that some of the needs of small businesses do *not* lend themselves to local problem solving or control.

Some of the needs were large in scope and involve issues such as inflation, tax reform, and high interest rates that are better addressed at the state or national levels.

Small Business Needs

The study committee that completed the community analysis concluded the need for:

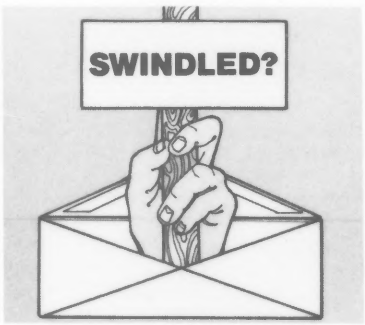
- An established, recognized "delivery system of information" for small businesses
- A "centralized facility or resource center" that provides a range of services to small businesses
- The need for collaboration and networking among existing agencies to strengthen and improve services and resources available to small businesses

The study committee conclusions and recommendations apply to small businesses with 100 or fewer people. However, primary need and emphasis was placed on small businesses with 20 or fewer employees

Extension Involvement

The land-grant colleges through "Community Resource Development" and Extension outreach programming could play a major role in meeting the needs identified in the study. Communities without already existing small business Extension centers could impact on their local economy by *establishing a centralized, networking approach that improves the delivery system of information and management assistance to small businesses.*

Legislators at the state and local levels have become very aware of the impact of small businesses on the economy. We are likely to see considerably more attention on legislation and funding in the next few years to strengthen the support of small businesses. With economic development in mind Extension associations will look to Cooperative Extension for leadership. □



Mail-Order Buying: Fun or Fraud?

Judy McKenna, Extension Family Resource Management Specialist
Colorado State University and
Ann Duvall, 4-H member, Windsor, Colorado

"No more false eyelashes but movie star eyes! Beautiful, thicker, longer-looking eyelashes—overnight."

"No sun needed. At last, a simple way to get a Deep, Dark Brown Tan."

"Lose 4 to 8 pounds in 1 hour."

These are real claims that appear in nationally distributed magazines. They promise easy answers to common problems and frequently are "guaranteed." Since most people would like to look more beautiful or handsome, promises of easy weight loss, a quick tan, or movie star eyes are very appealing.

In fact, the postmaster general says that mail-order swindlers fleece American consumers of nearly $500 million a year.

Young people spend their share of dollars in the mail-order market. This amount is expected to increase as mail-order buying mushrooms. Judy McKenna, Colorado State University family resource management specialist, and Ann Duvall, Windsor, Colorado, 4-H member, decided to compile a consumer fraud suitcase program for young people. The suitcase contains examples of questionable items so that people can draw their own conclusions about the value of the products.

Picked the Products

"The Best in the West" 4-H Club in Windsor assembled the consumer fraud suitcase for teens. Club leader Carol Schneider selected Duvall to head a committee to pick products that would interest teenagers. Duvall asked three other club members to find ads in magazines, newspapers, and comic books read by teens.

The suitcase is filled with the beauty, weight-loss, and jewelry items the club members received. As the products arrived, the committee tried and evaluated them.

On March 1, 1982, McKenna and Duvall presented the fraud suitcase program to 4-H leaders at the Western Regional 4-H Leader Forum in Colorado Springs, Colorado.

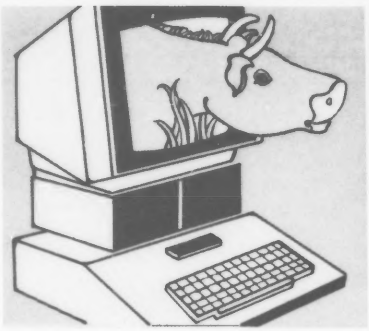
Consumer Confidence

"It is important to give consumers a sense of confidence in the marketplace," McKenna says.

"Consumers should feel confident about choosing this method of shopping but should exercise caution in the products and companies they select and the companies they order from."

Consumer education helps teenagers and adults expand their

options. Resisting ads that are too good to be true is one option that saves money for products that do meet consumer needs and expectations.□



'FARMPLAN' as an Educational Tool

Harlan Hughes
Extension AGNET Coordinator
University of Wyoming, Laramie

For the past year we have been developing and testing a group of computer programs to teach financial management to agri-finance people and other agricultural professionals. We have developed the following: a series of seven programs, an associated data bank, two Wyoming training sessions, a program for the Midwest Bankers School, and budgets for several Wyoming ranch businesses. We believe we now have a very useful educational tool that facilitates management teaching. A recent experience will illustrate the teaching opportunities that the programs generate.

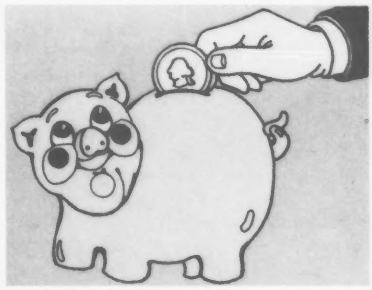
Dave Vaske, local PCA loan officer, has been through a recent training class on FARMPLAN. I advised him (and all the students) that I wanted to work with them the first time they used FARMPLAN with an actual rancher. Dave invited me to sit in and help him do a loan evaluation for a specific rancher and his daughter's family (this was a two-family ranching operation). We spent the first 2 hours studying their present ranch business records and filling out a FARMPLAN Input Form. Then, they went downtown for 30 minutes while Dave and I put their ranch through the computer. We then assembled around Dave's desk and I discussed the computer budget that had been prepared with 1980 prices.

Teachable Moment
The computer printout generated an opportunity for me to talk about selected profitability and cash flow measures of a ranch business. A teachable moment was generated when we could look at this rancher's projected "Profit or Loss" and "Debt Repayment Potential." These terms allow one to teach: (1) how a total ranch budget is to be constructed and (2) what are the interpretations of the numbers.

This generated a real teachable moment for teaching principles of financial management.

That evening I ran five alternative ranch organizations through the computer and met later in the week with the two ranch families again in Dave's office. Again, some teachable moments were generated as we again reviewed the same principles of financial management.

Favorable Environment
While the computer was used, it was not the end product. The end product was an education experience in which I hope a change was motivated on the part of these two ranching families. The computer helped generate a more favorable environment for teaching financial management. □



Credit Counseling

Betty F. Oliver
County Extension Agent and Staff Chair
University of Arkansas, Little Rock

Where can someone in financial trouble turn? What if it's not information on borrowing money they want but money management and credit buying information? Suppose I have a set income and a set number of bills for rent, a car, and utilities, for example. What happens when I overuse charge cards and can't pay the bills that come later? These and many other questions have been raised by families in Pulaski County, Arkansas, since the late seventies.

Because of spiraling inflation, the price of consumer goods, credit buying, and unemployment, the Arkansas Extension Family Living Committee determined that family financial management needed top priority in programming. To begin with, surveys and county data showed that Arkansas' most populated county was also Arkansas' most "financially strapped" county. Over half the state's bankruptcies occurred in Pulaski County in 1980.

A Day in Court
County Extension agents and staff chairpersons had several conferences with Federal bankruptcy judge Charles Baker during which we determined that Extension programs could help the families.

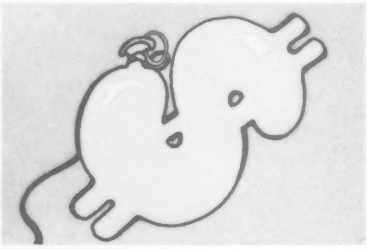
Correspondence Course
As our first step, we sent an Extension information letter and survey to families in bankruptcy. Of these, 107 families responded to the survey and enrolled in the money matters correspondence course described. Fifty-seven more families from the Little Rock Air Force Base enrolled in the course, making a total of 167 families.

Lesson topics included:
1. Financial Planning—How to set guidelines for yourself in your personal family spending, how to budget, and how to take financial inventory (which shows your net worth).
2. Personal Credit—How to use credit, how to shop for it, and how laws protect you as a consumer.
3. Life Insurance—What are the basic types of insurance policies? How do you match them with your personal needs?
4. Housing—Renting versus buying, how much can you afford, costs involved, and types of mortgages.
5. Savings and Investments—Savings and investment options, bank accounts, stocks, bonds, mutual funds, what the small investor needs to know, and selecting a broker.

Counseling Offered
Positive results of the program include: a video cassette on

bankruptcies with the judge and Betty Oliver that can be loaned to all Arkansas home economic classes through the Extension library; the employment of a home economist as a counselor for the bankruptcy office; and the establishment of a credit counseling servce for the central Arkansas area. The credit counseling service was begun using Extension data and, through involvement of private foundations and local business, a 1-year program has been funded for 1983.

We plan to continue the family finance program because of current economic conditions. □



Offer Anti-Inflation Multimedia Package

Elsie Fetterman
Assistant Director of Extension for Home Economics
University of Massachusetts, Amherst

"Facing Inflation Through the Cooperative Extension Service" is a multimedia, educational package designed to enhance family and consumer ability to cope with inflation. Aimed at adults, but also suitable for older teens, the package features a 60-minute color film or video tape in the popular "evening magazine" television format. Lively music, on-the-street interviews with consumers, a discussion with experts, followed by questions from the studio audience, plus on-location filming of a clothing factory, a bank, and a supermarket keep viewers' interest high.

Five segments outline the many options which consumers have in coping with inflation: managing the family's income through setting goals and effective use of the many savings options; food buying to provide good nutrition; using a variety of sources for clothing; conserving energy; and reducing stress caused by limited purchasing power, through more family dialogue on goals and priorities.

Film to TV Stations
The film has been shown to Extension home economics administrators representing more than 40 states as well as to consumer affairs professionals in business at their national annual meeting. It has been fed via transponder to 280 public television stations around the country who could record it for future broadcast.

Preliminary analysis of the evaluation conducted with nontelevision audiences shows a shift in people's thinking after viewing the film to the practices suggested. The Massachusetts Cooperative Extension Service, Home Economics, in conjunction with public television station Channel 57, Springfield, MA, with support from Citicorp and Zayre Corp. produced the media package. □

For Loan Protection—Put It in Writing!

Jeanne Mackin
Extension Staff Writer
Consumer News Service
Cornell University, Ithaca, New York

"Never a borrower nor a lender be" is a familiar maxim that often has little to do with the economic realities of our times. Borrowing money has become common, but because money available through financial institutions has become tight and expensive, more people are turning to friends or relatives for loans.

There are several ways someone may arrange, or be responsible for, a loan. A person can co-sign an institutional loan; lend the money and document the loan with a promissory note; or offer the money on a very casual basis, says Elizabeth Wiegand, a specialist in family financial management for Cornell Cooperative Extension.

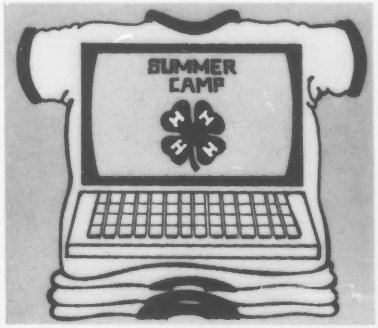
Loan Protection
All arrangements, even the most casual, should be put in writing to protect the borrower and the lender, she emphasizes. Wiegand is professor emeritus in the department of consumer economics and housing in the New York State College of Human Ecology at Cornell University.

Loans between individuals can be arranged with a simple promissory note, which should be signed by both parties and notarized.

The promissory note should state clearly the amount of money loaned, when and how it will be paid back, and what the interest charge is, if any. Security, and what would happen in case of default, should be stated in the note, also. It should be stipulated that the borrowed sum becomes part of the lender's estate, should he or she die before the loan is repaid.

Document for the Future
Even the most casual of loan arrangements, however, should be documented in writing for future reference. For instance, if parents lend money to a child without expecting the loan to be paid back during their lifetime, other siblings may expect the unpaid loan to be subtracted from the borrower's share of estate inheritance. Rather than trusting such matters to memory, the loan should be in writing. If it is an outright gift, that should be put in writing, too.

All loans should be made in very definite terms. "Make it clear whether it is a loan or an outright gift," Wiegand says. Not knowing if or when a loan must be repaid could severely strain family—and friendly—relationships, and cause resentment." □



4-H Computer Camp

Tom Leisy, Extension 4-H Youth Specialist, and Jim Emal, Extension Microcomputer Specialist
University of Nebraska-Lincoln

"Can I skip the campfire tonight and stay at my computer?"

That was a typical question staff and resource persons fielded at the first computer camp held at the Eastern Nebraska 4-H Center. Most youth plunged right in and were eager to learn the new computer lingo and logic statements. Students were introduced to AGNET, a computer communication network. Most of the 47 participants, given the choice, would have remained at their computers day and night.

Participants came from as far as 200 miles to attend the camp. Eighteen Nebraska counties were represented. Ages ranged from 11 to 17; however, most of the youth fell in the 12- to 14-year-old range.

Students paid a $55.00 registration fee for the 3-day workshop. That included all program supplies, lodging, and food.

The interest was extremely high for the 11- to 13-age group. In Nebraska, schools are providing computer instruction more to high school age youth than to junior high or elementary.

A Chance to Learn Basics
Computer camps give the younger boys and girls as well as those in remote areas an opportunity to learn basic computer skills. Some frustrations on the keyboard were evident as the younger boys and girls had not yet taken a typing course in school.

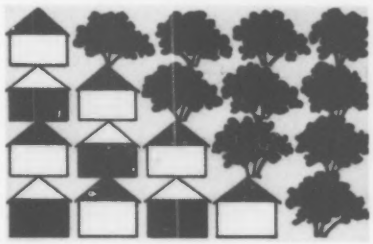
The camp was designed to provide an exciting and educational look into the world of computers for two different groups of youth. The first and largest target group was for youngsters just beginning to learn about computers, while the smaller second group was made up of youth already fluent in programming techniques in the BASIC language.

Beginner's Course
A network of Radio Shack Model III computers was used for the beginner group. Radio Shack's Basic tutorial Manual Unit #1 was also used as the basis for instruction. Each youth was provided with a workbook and assigned a work unit of four youngsters per machine. The computers were all linked together via the TRS-80 Network Controller #3 unit.

Instruction included sections on computer terminology, an introduction to the hardware (equipment), and about 14 hours of course work.

By the end of the 3-day camp all beginners had learned to develop and write their own BASIC programs including the use of the EDIT MODE used in changing program instructions.

Advanced Course
The dozen youngsters in this class utilized Apple II+ machines. Ten machines were provided this group to allow much more "hands on" time. More freedom was allowed in what the youth could work on, although classroom instruction time was spent mostly on developing computer graphics. A few youth worked on Assembly Language programming and a few others brought along programs from home to develop in more detail. □



Coping with the Crowded Community

Kurt Rogers,
Extension Publications Editor
University of Idaho

The problems of population and community growth are usually thought of as a Sun Belt phenomenon. But, that is not necessarily the case. The West too is experiencing the mixed blessings of growth.

Idaho is now one of the fastest growing states in the nation. U.S. Census data for 1970 reported 713,015 persons. Preliminary data for 1980 reported 943,629 persons, a growth rate of more than 32.3 percent in 10 years. The average annual growth rate is 3.2 percent.

Even with all of this growth, when judged solely by head count, Idaho essentially remains a rural state. Boise is the only Idaho city with a population in excess of 100,000 people. Most cities have a population of 2,500 or less.

Sixteen of Idaho's 44 counties have populations of less than five people per square mile. The infrastructure does not exist in many rural counties to accommodate a large population expansion. New industrial or mining developments can place severe strains on basic services and can cause alarming increases in local tax rates.

To help local governments and concerned citizens better understand growth and its problems, Idaho Cooperative Extension economists Neil Rimbey and Neil Meyer have authored a series of workbook bulletins.

Workbooks Permit Estimates
The lead book deals with residential growth and its benefits and costs to the local community. The seven other titles in the series deal with such basic services as public education, fire protection, police protection, sewage collection and treatment, county sheriff protection, solid waste disposal, and water supply.

Each publication contains worksheets for a better look at the cost of an individual service. Readers can draw their own conclusions on the merit of population growth caused by a development.

Concerned citizens or county board commissioners who use the Rimbey/Meyer books will gain a better understanding of municipal budgeting. They may conclude that their community will or will not profit and can or cannot afford the social and intangible benefits of growth. They may also decide that rules and regulations on growth may need to be altered. □

CORRECTION: Valorie R. Freeman, Media Coordinator, and author of "Veoila Bennett—Community Advisor" in the Fall 1982 "Volunteers" issue of Extension Review, is Director of Extension and Research Communication at North Carolina A&T State University in Greensboro and *not* North Carolina State University as so indicated.

United States
Department of Agriculture
Washington, DC 20250

OFFICIAL BUSINESS
Penalty for private use, $300

Postage and Fees Paid
U.S. Department of Agriculture
AGR-101