

LOUISIANA AGRICULTURE

Assuring Our Future Through Scientific Research and Education



Fall 2005
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BUILDING a Better **Louisiana**

*LaHouse
Offers Guidance
for Future Housing*

Social and Economic Development Issue

What's New?

Scientists Investigate Salty Surge Effects on Agricultural Fields

LSU AgCenter scientists hope they will soon be able to make recommendations for farmers whose fields were hit with saltwater contamination from Hurricane Rita's storm surge.

Steve Linscombe, the LSU AgCenter's regional director for Southwest Louisiana and also in charge of the Rice Research Station, said extensive soil sampling results are being analyzed to determine what, if anything, should be done to fields.



Photo by Bruce Schultz

Keith Fontenot, left, county agent in Evangeline Parish, and Carlos Smith, horticulture specialist in the Central Region, were among the crew taking soil samples to test for salinity in the aftermath of Hurricane Rita.

with salt levels in irrigation water rather than the effects of a storm surge. He said the LSU AgCenter wants to make certain its recommendations are sound.

"People would like to have answers today, but this is something we have to approach cautiously," Linscombe said. ■ **Bruce Schultz**

LSU AgCenter Tags Eight for Patent, PVP Club in 2005

Eight more LSU AgCenter scientists became members of the "Patent & PVP Club" in 2005. They joined the 35 who have already received patents or have been awarded plant variety protection (PVP) certificates for their inventions.

Inductees included seven members of the sweet potato research team, who have developed new sweet potato varieties. They are James "Mike" Cannon, extension sweet potato specialist and director of the Sweet Potato Research Station in Chase, who has since retired; Christopher Clark, professor in the Department of Plant Pathology and Crop Physiology; Abner Hammond, professor in the Department of Entomology, who does research on the insects that pester sweet potato production; Don La Bonte, professor in the Department of Horticulture; Richard Story, also an entomology professor and researcher; Arthur Villordon, assistant professor at the Sweet Potato Station; and Paul Wilson, also a researcher and professor in horticulture.

(continued on page 11)

"We won't be able to answer all the questions, but we'll have a better idea of where we stand," he said.

Research is being done in a greenhouse to determine how well rice will grow in different soils collected from seven locations in Vermilion Parish. Linscombe said those locations also will be retested throughout the winter.

In addition, two products are being tested for effectiveness at helping plants overcome high salt levels.

Linscombe said most of the research published so far about salt contamination deals

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ON THE COVER: LaHouse under construction. Photo by John Wozniak.

LSU AgCenter Responds Heroically to Hurricane Disasters

Rusty Gaudé's father died August 28, the day before Hurricane Katrina struck. The next day Gaudé, an LSU AgCenter fisheries agent and resident of New Orleans, had to leave his father's remains at a funeral home in Folsom and evacuate, not knowing what was going to happen.

Gaudé was back in Louisiana three days later, and he and his brothers buried their father with a plan to hold a proper funeral whenever possible. (It was – six weeks later.)

But despite all of this going on in his personal life, Gaudé was back at work the day after he buried his father, helping his fellow workers and clientele in Plaquemines and St. Bernard parishes, two of the hardest hit by Katrina.

One of the more challenging projects Gaudé is working on is getting a marine lift to the fishermen in the two parishes so they can get their stranded boats off land and back into the water where they can be made ready for fishing.

"We have a network with the other Sea Grant people around the country," Gaudé said, speaking of the federally funded program in U.S. coastal states. In Louisiana, the LSU AgCenter partners with Sea Grant, and Gaudé has a joint appointment.

This is just one of many stories of AgCenter employees who despite personal loss were back on the job quicker than you can say coastal restoration.

"They said they wanted to get back to work," said LSU AgCenter Chancellor Bill Richardson. That was the overwhelming response he received from employees displaced by hurricanes Katrina and Rita.

For a while he was worried about finding all of them.

"It took nearly 10 days (after Katrina), but we accounted for everyone," he said gratefully. The AgCenter has about 1,500 employees around the state including nearly 160 in the Katrina-affected area. None had been injured but several had lost homes and everything they owned.

"I don't have a house. I'm thankful I have a job," Carol Jacobsen, secretary in the St. Bernard extension office, told a group gathered at Knapp Hall on September 16, as she held back tears. The group included about 40 displaced AgCenter employees and AgCenter administrators there to talk about the next steps.

Ramona Gentry's home in Port Sulphur was washed off its foundation. A Plaquemines Parish extension agent, she now lives in a FEMA trailer next to the extension office, her days and nights filled with the disaster recovery effort.

"We have our administrators to thank for getting those trailers so fast," said Mark Schexnayder, a fisheries agent in Jefferson and Orleans parishes who heads the AgCenter's

Katrina Recovery Task Force. "Others are still waiting."

Schexnayder, whose home in Metairie miraculously suffered only wind damage and no flood damage, praises the response of AgCenter administrators to the crisis.

"They were there for us. It made all the difference in the world," he said.

The LSU AgCenter's Katrina response was fast and thorough. Employee safety was top priority.

The chancellor was back at work early on August 30 and had called in the two vice chancellors, David Boethel and Paul Coreil, and several of his staff. He kept his office open to answer calls throughout that next weekend, which included the Labor Day holiday.

Communication was a problem those first few weeks with both phone and cell phone service knocked out in certain areas.

"It was frustrating trying to find out what was happening," Boethel said. In addition to many other crisis-related tasks, Boethel handled requests to use AgCenter property for staging efforts for relief workers and for housing and offices for faculty and students from other LSU schools and U.S. Department of Agriculture Southern Regional Research Center in New Orleans who had been displaced by the storms.

As vice chancellor for research and director of the Louisiana Agricultural Experiment Station, he was especially worried about the people, animals, buildings and projects at the research stations.

The Citrus Research Station, which sits near the levee north of Port Sulphur, is the closest to the Gulf of Mexico. And it got a lot

Photo by Bruce Schultz



Cattle are herded along a flooded rural road in the Vermilion Parish, which was hit by Hurricane Rita. The animals were directed to La. Highway 82, about 2 miles to corrals.

closer as the ocean surge reached just south of Port Sulphur.

One of the research assistants at the Citrus Station, Joe Alexis Jr., nearly lost his life trying to check on the station the day after Katrina hit. As he neared the levee in his pickup truck, the water started coming over.

"It looked like Niagara Falls," he said. It came so fast his truck was swept up by the current. He managed to climb out and grab hold of a tree, where he clung for about an hour along with some desperate snakes. He then swam to safety at his parents' house not too far away.

The Citrus Station suffered major damage – more than \$2 million – including destruction of citrus, Formosan subterranean termite and vegetable production research projects.

"We had also planted black mangroves to address coastal erosion and restoration," Boethel said.

The Southeast Station in Franklinton, where the state's dairy production research is conducted, had 220 cows to be milked, storm or no storm.

Mike McCormick, station director, hurriedly collected enough data the day before Katrina hit, Sunday, to finish one research project. But by Monday, it was down to him, Doug McKean and Justin Jones to feed and milk all 420 animals. The rest of the staff, including the eight who do the twice-a-day milking, had evacuated.

All dairies have generators for emergencies, because it takes electricity to milk cows. But the critical need they all faced, including the Southeast Station, was diesel fuel to operate the generators.

"Next time a storm even enters the Gulf, no matter where it's headed, I'm going to make sure my diesel tanks are full," McCormick said.

Not wanting to take away fuel from the commercial operations, McCormick turned to the other AgCenter research stations to provide fuel when his ran out, and they did. On Thursday, Pat Bollich, director of the Central Station in Baton Rouge showed up not only with fuel but with three generators and eight helpers, who cut trees off fences, fixed equipment and re-wired to keep the generators going.

Meanwhile, Aubrey Posey, Ronnie Bardwell and other AgCenter agents, worked round-the-clock finding and getting fuel to distraught dairy farmers.

All over the state, AgCenter people stepped up to serve as demand dictated. For example, Jane Jones, the director of the Grant Walker 4-H Educational Center near Pollock, ran a Red Cross shelter there for evacuees, primarily from St. Bernard Parish. She heroically rallied volunteer support from the local community. At its peak, she saw to the care of nearly 600 people.

"The Red Cross told us this was one of the best-run shelters in the state," said Coreil, who is the vice chancellor for extension and director of the Louisiana Cooperative Extension Service.

Linda Hooper-Bui took time from her fire ant research to organize the first set of volunteers for the rapidly put-together pet shelter at Parker Coliseum. Shannon Bere, who coordinates the AgCenter's livestock shows, and her crew worked day and night to transform the coliseum from a large animal facility to one that could handle dogs and cats.

"And some pet ferrets, birds and a few pet snakes," Bere said.

Another AgCenter crew – Royce Fontenot, Jeremy Birch and Jay Grymes – set up a portable weather station at the New Orleans airport on September 3 to provide data for several days for the control tower.

"The airport was without reliable direct weather data because some of the equipment was out of commission," Coreil said. "Thousands of people who flew in and out of that airport those



The Cameron Parish extension office was swept off its foundation by the surge from the Gulf of Mexico during Hurricane Rita on September 26.

few days, including President Bush, benefited from the AgCenter weather data."

Then, the unthinkable happened. Another Category 5 hurricane, Rita, came along on September 26 and flattened and flooded the other half of South Louisiana.

And again the AgCenter response was swift and selfless. For example, Andrew Granger, Vermilion Parish agent, pitched in to save cows and distribute donated feed to cattle producers in his area. By night, he had to deal with his own flooded home and his own cattle, also stranded by the storm surge that engulfed pastures.

Right after Rita, just as they did after Katrina, AgCenter people provided aid to victims, met with local governmental bodies and networked with colleagues all over the country to bring much-needed relief to Louisiana.

If there is anything good that can come from this tragedy, it is that the LSU AgCenter is getting more recognition from the media, including the national media, as a valuable source of practical, research-based information. Our people continue to appear regularly in the New Orleans *Times-Picayune*, for example. Housing specialist Claudette Reichel has been quoted frequently on how to clean mold. Economist Kurt Guidry is recognized as the authority on dollar losses to agriculture. County agent Howard Cormier told the world in an interview on MSNBC about the devastation Rita did to rice farmers.

Every AgCenter employee pitched in, even if spared the storms' direct wrath. They developed educational materials to distribute to evacuees. They assisted at shelters. And they grieved, whether they want to admit it or not, for a New Orleans, a Louisiana, an LSU AgCenter that will never be the same again.

No one knows what the future will bring. New programs are likely to emerge as we continue with our vital coastal restoration research, our research to add value to agricultural products, our efforts to assist biotechnology start-up companies, and our LaHouse program, dedicated to building better housing in the state.

But everyone knows it will most likely get worse before it gets better.

"The residual impact will result in streamlining of budgets," Richardson said.

But one thing's for sure. The LSU AgCenter's mission will stay the same. We're here to serve the people of Louisiana. It's more than a job. It's a way of life. ■ **Linda Foster Benedict**

Enhancing the Quality of Life

Frances C. Lawrence

The primary mission of the LSU AgCenter is to enhance the quality of life for people through research and education. This issue of *Louisiana Agriculture* concentrates on the AgCenter's research and education efforts to enhance the social and economic development of families and their communities.

In the aftermath of hurricanes Katrina and Rita, the costliest natural disaster in U.S. history, the AgCenter's research and outreach activities related to social and economic development are more critical than ever. The articles in this issue highlight the ways in which AgCenter personnel play crucial roles in strengthening the capacity of citizens to be key players in the future of their communities, helping them discover new economic opportunities and providing resources for local decision-makers to make informed choices and helping families, communities, farms and businesses attain prosperity and security.

Matthew Fannin's article explains how LSU AgCenter research and extension activities have adapted over time to address the development issues of a changing rural economy. As the non-farm population of rural Louisiana grows and competition for globalized markets increases, AgCenter faculty will continue

to incorporate innovative research and extension programs to address the evolving rural economy.

The AgCenter's work in community development is one of many examples of research-based outreach effort that build the capacity of Louisiana citizens. Leadership programs, such as those described by Sandy Dooley and Karen Overstreet, help citizens acquire leadership skills and economic development knowledge to strengthen their communities. They help build capacity. In many Louisiana communities, residents participating in AgCenter leadership programs have started local recycling programs, created farmers markets, established child and adult day centers, and improved local drainage, zoning, education and transportation.

Other community development efforts are more directly related to creating economic opportunities in rural parishes. Deborah Tootle focuses on the challenges of the new rural economy. She points out that LSU AgCenter faculty are helping members of rural communities improve their quality of life, the local business environment, and opportunities for economic development. Entrepreneurs and new value-added enterprises are emerging in those rural communities, providing the appropriate social and civic infrastructure.

In addition, the LSU AgCenter has recognized the potential of turning to nature for revitalizing communities and creating new jobs. Louisiana has an abundance of natural resources including rich farmlands, productive forests, diverse wildlife and navigable waterways. Cynthia Pilcher shows how the AgCenter is helping rural landowners diversify the economics of their communities by capitalizing on the natural resources in their own backyards.

The LSU AgCenter is an important source of expertise for problem-solving and a source of technology to assist the creation of new businesses and to stimulate growth in existing businesses. In a recent report to the LSU System, the AgCenter's Office of Intellectual Property was cited as the "crown jewel" of the

LSU System. Patrick Reed identifies the AgCenter's many successes in patenting university inventions and licensing the inventions to outside businesses. By reaching out to the business community, the AgCenter is creating new industries in Louisiana and helping to increase the number of quality jobs.

Most people recognize that an unacceptably high percentage of Louisiana citizens live in poverty. Louisiana has one of the highest rates of poverty in the nation. One out of every four people in rural Louisiana lives below the federal poverty line, and roughly three-quarters of our rural parishes are defined as persistent poverty counties. Research on socioeconomic well-being includes applied work on poverty and poverty policy, health, education, rural development strategies, and racial/ethnic inequalities. Mark Schafer and Tim Brown provide an overview of human capital development trends in Louisiana. This article compares Louisiana's human capital to other states. Outreach efforts provide rural and community leaders, policy-makers and stakeholders with information, expertise and capacity to make public policy decisions and help rural residents learn about and take advantage of economic opportunities and help individual and families learn how to move from public assistance to self-sufficiency.

Early childhood education and teacher quality have been recognized as keys to increasing student achievement and breaking the cycle of poverty. To address these issues, research studies have been conducted related to appropriate classroom teaching techniques for young children. Diane Burts and her co-authors have identified developmentally appropriate practices conducive to children's academic achievement and healthy emotional development. Not only is research being conducted related to formal classroom teaching, it is also focusing on parenting education. Recent work by Robert Laird and others related to the parenting of teens noted that experiences during the teenage years play a large role in determining whether teenagers grow



Photo by John Wozniak

Frances C. Lawrence

Frances C. Lawrence, Alumni Professor, School of Human Ecology, LSU AgCenter, Baton Rouge, La.

up to become productive and engaged citizens.

The article I co-authored with Claudette Reichel shows that challenges related to housing, typically the largest slice of a family or individual's budget and directly related to quality of life, are numerous. The LSU AgCenter is leading a public-private partnership to design, build and operate Louisiana House Home and Landscape Resource Center (LaHouse). LaHouse will be an educational showcase and program to stimulate consumer demand and industry change for sustainable housing and development.

LaHouse will demonstrate ways to combine environmental stewardship with economic benefits and enhanced quality of life – showing how it is possible to have more comfort, durability, value, convenience and better health with less property damage, energy, water, pollution and waste. In the aftermath of hurricanes Katrina and Rita, the LaHouse project is playing a prominent role in

The LSU AgCenter is an important source of expertise for problem-solving and a source of technology to assist the creation of new businesses and to stimulate growth in existing businesses.

recovery as a regional resource for consumer educational outreach and training on mold remediation, home restoration and hazard-resistant rebuilding.

Financial security is the cornerstone of prosperous communities, nurturing neighborhoods, and strong families. It is a key component of a family or individ-

ual's quality of life. AgCenter personnel help Louisiana citizens acquire the knowledge, skills and motivation to build financial security. Programs target youth, financially vulnerable populations and consumers making financial decisions throughout their lifetime. Jeannette Tucker and Ann Berry address the need for Louisiana youth to be financially literate to function as self-sufficient and productive members of the state's workforce. They have taken a proactive approach by conducting in-depth training in financial issues for more than 400 teachers.

This issue of *Louisiana Agriculture* provides a summary of selected research and outreach programs that address social and economic development issues in Louisiana. Included are ways to strengthen the capacity of Louisiana citizens through education, leadership development, financial literacy and parenting. Also included are economic development strategies, such as technology transfer and farmland diversification. ■

PERSPECTIVE

Rural Development Makes Louisiana a Better Place

Gail L. Cramer

Rural development makes America a better place in which to live and work. Rural development emphasizes the well-being of people rather than economic growth itself. Development increases real per capita incomes and employment as well as improves housing, fire and police protection, schools, libraries and other government services. These quality-of-life amenities in rural communities are directly influenced by farmers. Also, the well-being of farmers is affected by communities.

Rural communities are the service and shopping centers for farmers – where they buy supplies, market their products, handle their finances, purchase their food, educate their children and spend their leisure time. Rural communities de-

pend on farmers to provide employment and a desirable place in which to live. Most farm people feel the quality of life in rural America should be comparable throughout the nation. Farm and rural families are no different from urban families in that they are concerned about the quantity, quality and costs of the public and private goods they purchase.

According to U.S. Department of Agriculture's Economic Research Service, rural America includes 2,052 counties or parishes, contains 75 percent of the land in the United States and is home to 49 million people – 17 percent of the population. Retail trade, services and manufacturing are the main economic forces in rural America.

Maintaining quality services in rural



Photo by John Wozniak

Gail L. Cramer

Gail L. Cramer, Professor and Head, Department of Agricultural Economics and Agribusiness, LSU AgCenter, Baton Rouge, La.

communities is the result of community involvement and a progressive governance structure at the local and national levels. Federal and state grants as well as taxation policy can significantly determine the quality of schools, hospitals, libraries, parks and other services.

In the past, economic growth in rural areas was tied to agriculture, and increasing commodity production provided substantial economic growth. With changes in farm technology and the industrialization of agriculture, agriculture has consolidated, resulting in fewer and larger farms. As production has moved to bigger farms, agriculture's impact on the local economy has been reduced. These larger farms purchase their inputs and market their products in larger trading centers, bypassing local dealers. In addition, the industrialization of agriculture has reduced links to local communities. Industrialized farmers receive their inputs from major processors and market their outputs to national processors, again bypassing local communities.

In recent years, growth in employment and income in rural communities has come from attracting agricultural-related industry, entertainment, tourism and entrepreneurial investment.

Agricultural-related industry and value-added agricultural activities provided jobs and employment to rural areas. However, recent globalization and the flat world economy have decreased the need for the resulting industries in rural areas since the products can be produced as effectively elsewhere in the world. Attracting entertainment and tourism is a niche market. Casino gambling and scenic attractions can be exploited in some areas; however, they are constrained by the political, geographic and natural characteristics of an area.

Entrepreneurial investment seems to be the best alternative for sustained economic growth in the future. Developing and inspiring entrepreneurial investment tries to exploit an area's comparative advantage – a region tries to develop those activities that can take advantage of its natural and community resources. For example, a sweet potato processing facility would be located to take advantage of the location of production, local labor supplies, transportation costs, costs of other inputs and distribution costs.

The land-grant universities, through experiment stations and extension services, have delivered research results and outreach programs to rural communities that provide the basis for economic development. Extension services also

have provided leadership and business training.

The LSU AgCenter develops several innovations and inventions per year, providing driving forces for economic development. This issue of *Louisiana Agriculture* highlights rural development as it influences the quality of services and growth in rural Louisiana. Particular emphasis is placed upon education. Education is vital to development by training a productive and innovative workforce able to compete in a global economy. An emphasis on education needs to begin at pre-kindergarten and continue for a lifetime. A lifetime of education is the prerequisite to a quality workforce.

Also, higher education is needed to advance technology. This investment in human capital can create a quality workforce that can use the technology to produce new products in rural areas and market those products anywhere in the world. Information technology in rural areas adds another resource to give rural

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communities the same advantages as urban areas.

The Internet has allowed people to live anywhere. Rural communities must position themselves to be able to appeal to those workers who want to live in a smaller, close-knit community. The quality of available labor appears to be a major consideration to rural business establishments in planning a business location or siting technology companies. The areas need to be attractive places in which to live for the owners, managers and professional employees to relocate. These communities need to be able to market such things as low crime rates, community activities, beautiful parks and good school systems.

Rural manufacturers have excellent access to foreign markets. A recent study found that when similar plants are compared in rural and urban places, there is no difference in participation in export markets. Also, a lack of access to capital in rural areas was not a constraint. Both rural and urban establishments had equal access.

The Louisiana Cooperative Extension Service has full-time AgCenter faculty members and full-time area agents working in rural development throughout the state. The Louisiana Agricultural Experiment Station has full-time researchers dedicated to rural development strategies.

Studies underway include:

- Impact of welfare mothers moving from public assistance programs to the work force
- Achievement levels of students in rural schools
- Strategies to reduce persistent poverty in rural areas
- Costs of rural care facilities
- Formation of cooperative forestry associations to improve the return from forestry resources

Programs being implemented include:

- Grant-writing workshops
- Developing new technologies in agricultural production and processing industries
- Economic impact analyses of rural investments
- Economic feasibility studies
- Development of business plans
- Leadership programs and community resource assessments

LSU AgCenter research and policy analysis focuses upon socioeconomic well-being of rural households, the effectiveness of federal and state assistance programs and factors influencing rural infrastructure, agribusiness, and industrial and economic bases of rural areas.

The USDA's Rural Business-Cooperative Service is committed to the future of rural communities. They have offices in all states (for example, Alexandria). They offer business and industry guaranteed loans and renewable energy and energy efficiency programs. Other programs are enterprise grants, opportunity grants, rural economic development loans and rural economic development grants. In 2003, they made 623 loans and 703 grants totaling \$1 billion. They estimated they created or saved 87,615 jobs and served 11,904 businesses in rural America. Also, state government has been active in promoting economic development through grants, incentives and tax policy. Offices involved include economic development, Office of Community Programs and rural development. The AgCenter is cooperating with these and many more organizations at the national, state and local levels to enhance the quality of life in Louisiana. ■

NEW RURAL ECONOMY

Implications for Louisiana

Deborah M. Tootle

The U.S. rural economy is often described as declining, even devastated, and at best as in a state of flux. To be sure, many rural communities in the United States are struggling to exist. Today's economy is far less local than it ever has been. Because of technology, we can buy and sell almost anything globally in the time it takes to click "send" on our computer screens.

The rapidly changing global economy has left rural communities, once dependent upon agriculture and natural resource extraction, now dependent upon nondurable manufacturing, retail trade and consumer services. Today, nearly 90 percent of farm households in the United States depend on off-farm income. As traditional economic opportunities in rural areas decline, it is becoming more difficult for some farm families to find reliable sources of income.

The consequences of economic transition are not consistent across space. In some areas, manufacturing remains an important component of off-farm income. In others, a decade of downsizing and closing manufacturing plants has left many rural areas in need of serious alternatives. Many companies are relocating operations in countries where costs of production are lower. The consequences of relocation and global outsourcing can range anywhere from negligible social problems to high unemployment, declining opportunities for income, population loss, shrinking tax bases, and the inability of local governments to provide basic services. In other locations, however, rural communities have recognized that new challenges mean new opportunities. These communities have embraced change to pursue innovative rural development strategies.

Roughly one quarter of the Louisiana population lives in rural areas where income and earnings are lower while unemployment and poverty are higher than in urban areas. The rural economy in Louisiana has traditionally relied on

One-quarter
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agriculture and manufacturing. However, those activities that encouraged rural development 10 or 20 years ago are no longer effective. Traditional agricultural enterprises and industrial recruitment can no longer be depended on to bring jobs to rural Louisiana, and a shortage of jobs is eroding away the population base.

Industrial Recruitment

Traditional rural development strategies relied on identifying weaknesses or deficiencies in the local economy and recruiting businesses and industries that could fill these needs. One of the problems with this approach is that it can provide a quick, but not sustainable fix.

In today's global economy, capital is mobile and the "easy come, easy go" philosophy prevails. It is also an expensive approach to rural development. State and local governments throughout the United States spend an average of \$4,000 per job when they recruit industries. Most state and local governments today are hard-pressed to find those kinds of funds for industrial recruitment. Moreover, the socioeconomic forces that once encouraged industry to relocate to the rural South now lure manufacturing and jobs out of the country. Louisiana has seen its share of global outsourcing and relocation. Many areas of the state have yet to recover from the loss of the apparel manufacturing in the late 1990s.

Out-migration

Louisiana's population has been slowly increasing over the past decade. Between 1990 and 2004, it increased by about 7 percent. However, almost all of this growth came from the urban areas, which grew at a rate of more than 8 percent. The rural population grew by about 3 percent during this period. Populations increase because of either an increase in the birth rate or an increase in migration from other locations. Much of the population increase in urban Louisiana reflects migration from rural areas.

In those communities less successful in finding alternatives to farming and small scale manufacturing, many farm families, the middle class backbone of rural communities, are relocating to urban areas in search of work and better economic opportunities. Extensive out-migration of farm families and educated young adults to urban areas creates serious problems for rural Louisiana communities as businesses and social institutions close their doors.

Local Initiative

Not all rural communities are experiencing decline in the global economy. Recent research shows that rural communities successful in developing industrial alternatives or nonagricultural forms of employment avoided decline and in some cases experienced population and economic growth. This has particularly been the case in communities adjacent to rural areas.

In other places, members of rural communities have taken actions to im-

Deborah M. Tootle, Associate Professor, Department of Agricultural Economics and Agribusiness, LSU AgCenter, Baton Rouge, La.

prove their quality of life, the local business environment, and opportunities for economic development. Entrepreneurs are emerging in those rural communities providing the appropriate social and civic infrastructure. Some of the rural parishes, especially those with an abundance of natural resource amenities, are actually growing as entrepreneurs and retirees from urban America relocate there. Many rural parishes are growing their enterprises. Small manufacturers, attracted to these rural areas by the quality of life, are working together in networks to capture the economies of scale previously only available to larger manufacturers.

Some Louisiana agricultural producers also are becoming entrepreneurs, initiating value-added production and adopting direct marketing strategies. Residents in rural areas are learning about entrepreneurship by participating in entrepreneurship workshops organized by the LSU AgCenter's Community Economic Development team. In the past two years, nearly 250 potential entrepreneurs and entrepreneurs from St. Charles,

Nearly 90 percent
of farm households
in the United States
depend on off-farm income.

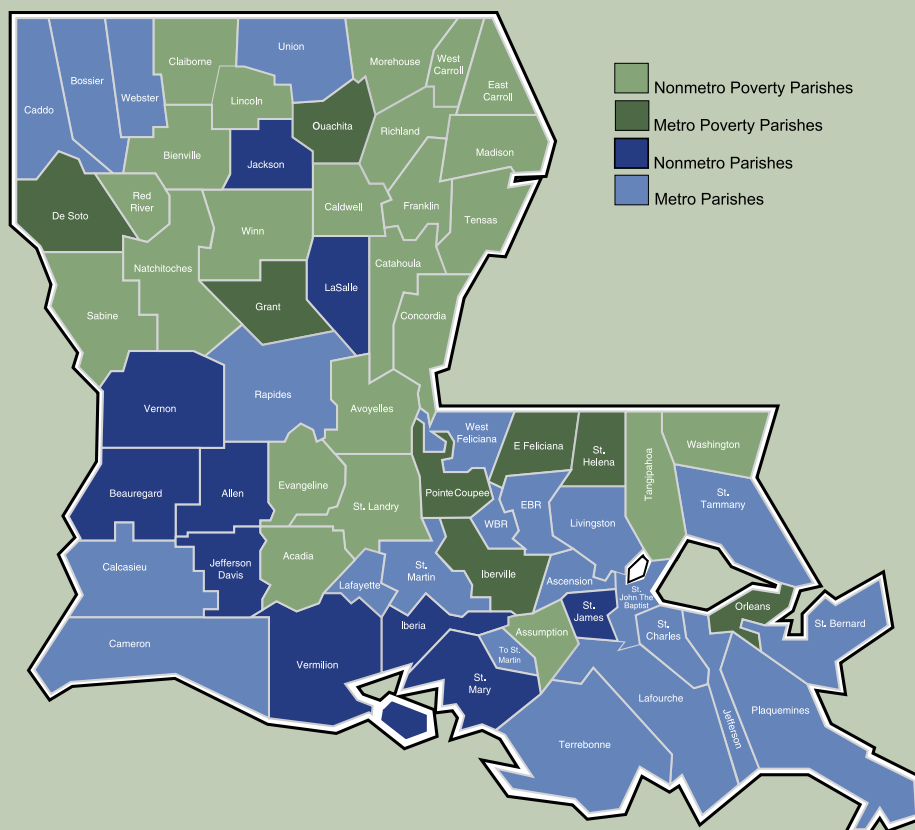
St. Bernard, Iberia, Franklin, Madison, Ouachita and Ascension parishes have participated in AgCenter training programs. Participants have learned what an entrepreneur is, whether entrepreneurship is an appropriate vocation, how to write a business plan, time management principles, how to evaluate business ideas, financial management and finding resources. A number of participants report successful business start-ups and growth.

One couple who participated in the entrepreneurship program reported that their business began when they made a batch of soybean candles for a local weekend craft show. This sale and another similar attempt showed them they

had a product that the public demanded. They could make several hundred candles a month in their kitchen, but they thought they could expand their business by moving it into a facility designed for candle-making. After the couple completed the LSU AgCenter's six-part, 15-hour entrepreneurship program, they decided to build a candle-making facility next to their home in rural Husser, La. The new facility was completed in the spring of 2004, and now the business can produce and sell several thousand soybean candles a month.

In other areas farmers are working together with community groups in food systems marketing alliances and other cooperative ventures. Still others are thinking about biofuels and other alternatives to traditional crops. With help from the LSU AgCenter and Louisiana Tech University, roughly 100 farmers and business owners learned about the availability of U.S. Department of Agriculture funding for value-added product development. Several participants formed producers' cooperatives and applied for

Poverty Persists in Louisiana



Louisiana continues to suffer from a persistent poverty rate within 24 of its 35 nonmetro parishes. Since 1970, 20 percent or more of the population in these parishes have fallen below the poverty line. The U.S. Department of Agriculture defines these as persistent poverty parishes. All but three of these parishes are also designated as black high poverty parishes by the USDA. This means that within those parishes more than half of the poor population is black. Seven of the nonmetro parishes also fall into the USDA's category as housing stress parishes. Housing in these parishes fails to meet any one of four qualities by (a) lacking complete plumbing, (b) lacking complete kitchen facilities, (c) having rent or owner's costs more than 30 percent of the household income or (d) having more than one person per room. The root of poverty cannot be derived by any single function; therefore, fighting poverty is addressed by promoting education and economic development. Community development strategies that are multi-faceted are generally more successful than those that focus on only one approach. ■ **Matthew Peterson**

USDA funding. One group of producers obtained funding for a feasibility study relating to the use of soybean oil and meal. They were awarded the first value-added producer grant funding in the state.

Tour Louisiana

Other producers and business owners are exploring and venturing into the “agri-tainment” industry as the demand for eco- and agri-tourism opportunities grows. Tourism continues to be a major rural development strategy for Louisiana’s rural areas. In the past year, the AgCenter’s Community Economic Development team, which consists of Dora Ann Hatch, Cynthia Pilcher and Kay Lynn Tettleton, has provided technical assistance and educational programming for rural tourism through a variety of programs. Efforts include a program for workers in the hospitality industry and a visitor infrastructure awareness program, which helps communities learn whether the local infrastructure is prepared to accommodate tourism.

The Community Economic Development team has been instrumental in the development of the Delta Outdoors and Wildlife Association (DOWA) and several agri-tourism ventures. Approximately 50 landowners in Northeast Louisiana participated in the organization of the DOWA. With help from the AgCenter, DOWA has conducted tours for other interested landowners and the press and completed a marketing package with a Web site, brochures, a trade show exhibit and video. Association members have participated in trade shows throughout the South. As a result of the increase in recreational activity, more than 100 Louisiana residents in Central and North

Louisiana have increased the value of marginal farm lands by opening or expanding some form of business based on natural resource and recreational tourism. (See related article on page 39.)

One of the new agri-tourism ventures in the state had been a struggling dairy operation. It is now a successful outdoor classroom for school field trips. It draws students from a 100-mile radius. This facility, which opened in the fall of 2003, grossed approximately \$20,000 in its first two months of operation. Other farmers, including a dairy farmer in Ohio, have been contacting the LSU AgCenter for assistance with similar projects.

Future of Rural Louisiana

Research on the rural economy suggests (a) local economic conditions are shaped by a complex array of global and local forces, and (b) the consequences of economic transitions, such as the transition into a global economy, are not consistent across space. These examples of successful practices and outcomes in rural Louisiana communities suggest there are new and positive rural development opportunities associated with the new rural economy.

The LSU AgCenter is committed to helping rural Louisiana in the identification and implementation of these new rural development opportunities. The AgCenter’s newly organized Louisiana Center for Rural Initiatives (LCRI) is working to address these and other rural and community development issues. LCRI is a cooperative of social scientists and policy professionals engaged in research and extension programs that contribute to sustainable community and rural development in Louisiana. AgCenter

LSU AgCenter Launches Center for Rural Initiatives

In February 2005, the Louisiana Board of Regents granted conditional approval for the Louisiana Center for Rural Initiatives, a rural development research and outreach center located within the Department of Agricultural Economics and Agribusiness. The director of LCRI is Deborah M. Tootle. Also in 2005, the LSU AgCenter opened the Delta Rural Development Center in Oak Grove, La., which serves as an outreach satellite to LCRI. James Barnes is the director of DRDC. Together, these two entities will contribute to rural development and increase Louisiana efforts to receive outside funding for rural development. The faculty of LCRI includes both LSU AgCenter and the Southern University Agricultural Research and Extension Center members. They will collaborate with other rural developmental organizations to better integrate research and outreach. ■ **Kara LaFleur**

ter faculty participating in LCRI are in the process of (1) analyzing changes in social and economic conditions in rural Louisiana, (2) assessing the impacts of strategies for rural development, and (3) working with rural communities to build their capacity for rural development, increase local economic opportunities, and improve their quality of life. ■

Patent, PVP Club

(continued from page 2)

The eighth new member is Steve Linscombe, director of the Southwest Region and a rice breeder. He develops new rice varieties to help increase the rice production in Louisiana. LSU AgCenter-patented rice varieties also are grown throughout the southeastern rice-growing states.

“The fact that we have so many of our scientists whose work leads to patents and plant variety protection certificates shows how talented and prolific they are,” said David J. Boethel, LSU AgCenter vice chancellor for research. “These inventions and discoveries lead to technology transfer, licensing and marketing of new products, which ultimately contribute to the economic growth and development of our state.”

The LSU AgCenter’s Patent & PVP Club was started in 2002 to provide recognition and call attention to research and discovery. Other members include, alphabetically, Gerard Berggren, Gary Brietenbeck, Blair Buckley, John Chandler, Richard Cooper, Richard Corstvet, Tim Croughan, Donal Day, Philip Elzer, Fred Enright, James Farr, Lane Foil, Donald Groth, William Hansel, Stephen Harrison, Bobby Harville, Gregg Henderson, Jack Jones, Willem Kampen, Kenneth Koonce, Roger Laine, Kenneth McMillin, Rick Mascagni, Steven Moore, James Oard, James Ottea, Timothy Page, Samuel Rollason, Dearl Sanders, Michael Saska, Daniel Satterlee, Lee Southern, Ronald Thune, William Todd and Lakshman Velupillai. ■ **Linda Foster Benedict**

Human Capital Development Trends in Louisiana Since 1990

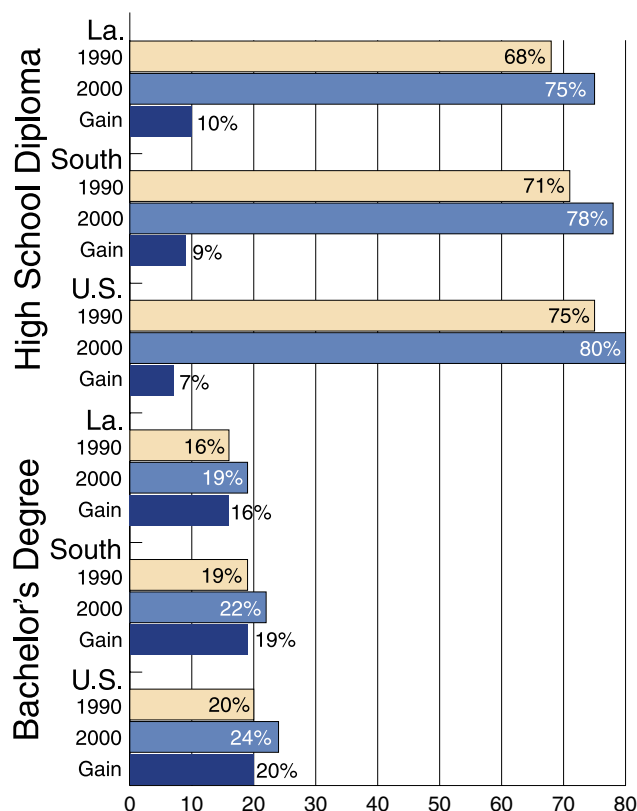
Mark J. Schafer and Tim Brown

For decades, globalization and advances in information and communications technology have been creating two different kinds of jobs in the United States. Primary sector jobs are high-skilled, high-paying, stable, interesting and offer opportunities for advancement. Secondary sector jobs are low-skilled, low-paying, unsecured, monotonous and offer few opportuni-

Mark Schafer, Assistant Professor, Department of Agricultural Economics and Agribusiness, LSU AgCenter; and Tim Brown, graduate student, Department of Sociology, Louisiana State University, Baton Rouge, La.

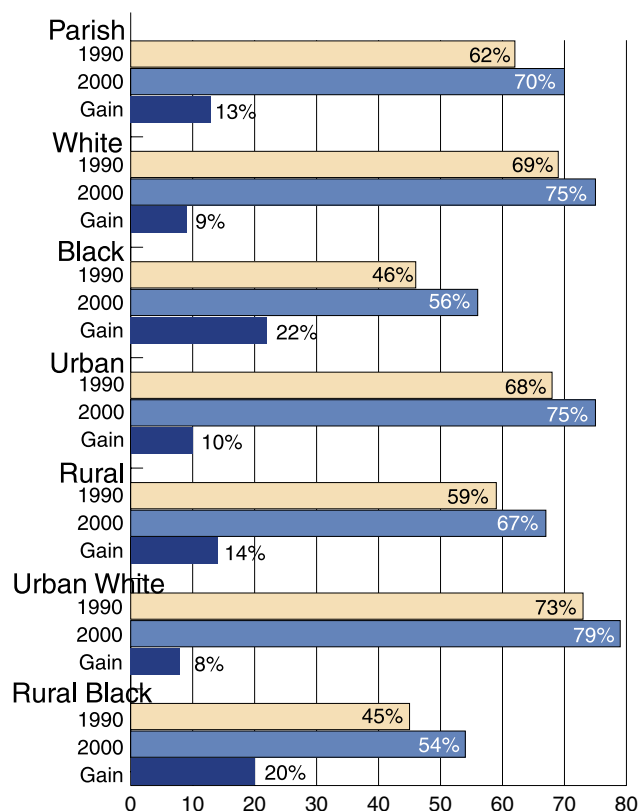
ties to advance. States that develop or attract primary-sector jobs have higher levels of human capital – a more educated, healthier and more skilled workforce. To achieve these goals, states must effectively address disparities in human capital attainment across racial lines and between wealthy and poor regions. Louisiana must continue to develop its human capital to compete in the changing, global economy. Human capital is a broad concept referring to workers' skills, knowledge, talents, ability and training; but in the current age, two specific factors have dominated research in human capital: formal educational attainment and health care.

Figure 1. High School Diploma and Bachelor's Degree Attainment: Louisiana, the South, and the United States.



Gain = (Attainment Rate 2000 - Attainment Rate 1990)/Attainment Rate 1990
 Sources: U.S. Census Bureau, Census 2000 Summary File 3.
 U.S. Census Bureau, 1990 Census of the Population.

Figure 2. High School Diploma Attainment in Louisiana by Race and Location.



Gain = (Attainment Rate 2000 - Attainment Rate 1990)/Attainment Rate 1990
 Sources: U.S. Census Bureau, Census 2000 Summary File 3.
 U.S. Census Bureau, 1990 Census of the Population.

Education

Education levels in the United States and across the globe have increased dramatically over the past half century. The good jobs of the future will need workers with higher levels of education. Two benchmarks in educational attainment that are particularly important measures of human capital are the high school diploma and the four-year college (bachelor's) degree.

Figure 1 compares Louisiana's educational attainment trends of the population aged 25 and older from 1990 to 2000 to the southern and national averages. The figure shows that Louisiana trailed the South and the nation at both high school and college benchmarks. Louisiana did attain above average gains in the number of adults with high school diplomas. On the other hand, despite a 16 percent gain in four-year college attainment, Louisiana's gains were not as strong as either the southern or national averages. So, the evidence is mixed. Louisiana showed absolute gains in both education benchmarks, caught up to the southern and national averages at the high school level, but fell behind at the college level.

Figure 2 presents racial and regional differences in high school attainment across the state. The average parish high school attainment increased from 62 percent in 1990 to 70 percent in 2000. Louisiana parishes saw greatest gains in black high school attainment, yet black attainment still trailed white attainment by nearly 20 percentage points (56 percent versus 75 percent) by 2000. Moreover, urban parishes had above average high school attainment *levels*, while rural parishes saw greater attainment *gains*. Whites in urban parishes had the highest high school attainment levels at 79 percent (a rate on par with southern and national averages). The data for bachelor's degree attainment (not shown) reveal similar findings. Urban and white rates exceed while rural and black rates trail the overall state averages. However, white (and urban) rates also showed greater gains relative to black (and rural) rates, indicating a deepening of inequalities in Louisiana's human capital as measured by completion of a bachelor's degree.

Health Care

Although the human capital concept has been equated with education in the United States, research in developing societies has highlighted the important link between health care and national development. This relationship is beginning to get renewed attention within the United States as well, due in part to our system of employment-based health insurance. Health is not as easily measured as educational attainment, but one nonprofit organization, the United Health Foundation, annually ranks states according to 18 indicators consisting of 12 health risk factors and six health outcomes. On this summary measure of state health, Louisiana has fared poorly, ranking 50th every year since 1990 except in 2003, when it ranked 49th.

Table 1. Louisiana's Health Indicators 1990 – 2004

Component	1990	2004	1990 - 2004
Personal Behavior Risk Factors			
Prevalence of Smoking (percent)	29	27	+
Motor Vehicle Deaths (per one billion miles driven)	31	21	+
Obesity (percent)	12	25	-
High School Graduation (percent graduating in four years)	62	59	-
Community Risk Factors			
Violent Crime (per 10,000)	69	66	+
Lack of Health Insurance (percent)	23	21	+
Infectious Diseases (per 100,000)	31	31	0
Children in Poverty (percent)	39	26	+
Occupational Fatalities (per 100,000 workers)	12*	8	+
Health Policy Risk Factors			
Percent of Health Dollars on Public Health	NA	19	NA
Health Spending (\$ per capita)	NA	22	NA
Adequacy of Prenatal Care	67	79	+
Health Outcomes			
Limited Activity (number of days in last 300 days)	54*	22	+
Cardiovascular Deaths (per 100,000)	43	36	+
Cancer Deaths (per 100,000)	21	22	-
Total Mortality (per 100,000)	93	96	-
Infant Mortality (per 1,000)	12	10	+
Premature Death (years lost per 100,000 population)	101	103	-

Source: United Health Foundation State Health Rankings <http://www.unitedhealthfoundation.org/shr2004>
 +=improvement, -=decline, * means 1990 and 2004 not comparable. **Bold** = above national average

Table 1 presents each indicator, Louisiana's score on each indicator for 1990 and 2004, and the direction of change from 1990 to 2004. The bold numbers in the 2004 column indicate Louisiana's score was greater than the national average. Louisiana has made positive changes in nine indicators and outcomes. Smoking, motor vehicle deaths, violent crime, lack of insurance, children in poverty, occupational fatalities, limited activity, cardiovascular deaths and infant mortality have all been reduced. On the negative side, Louisiana had more obesity, lower four-year high school graduation rates, more cancer deaths, higher total mortality and more premature deaths in 2004 than in 1990. Louisiana's only indicator more favorable than the national average is adequacy of prenatal care. Although not shown on the chart, the risk factors and health outcomes vary, like educational attainment, across racial lines and between urban and rural parts of the state.

Louisiana has been developing its human capital, but the progress has not proceeded equally on all fronts. While the state has outpaced the national average in high school attainment, it has lagged behind in four-year college attainment. While progress has been made on some components of health care, others have declined. To make more substantive progress, Louisiana must deal effectively with its internal inequality in educational attainment and health across racial lines and between urban and rural areas. ■

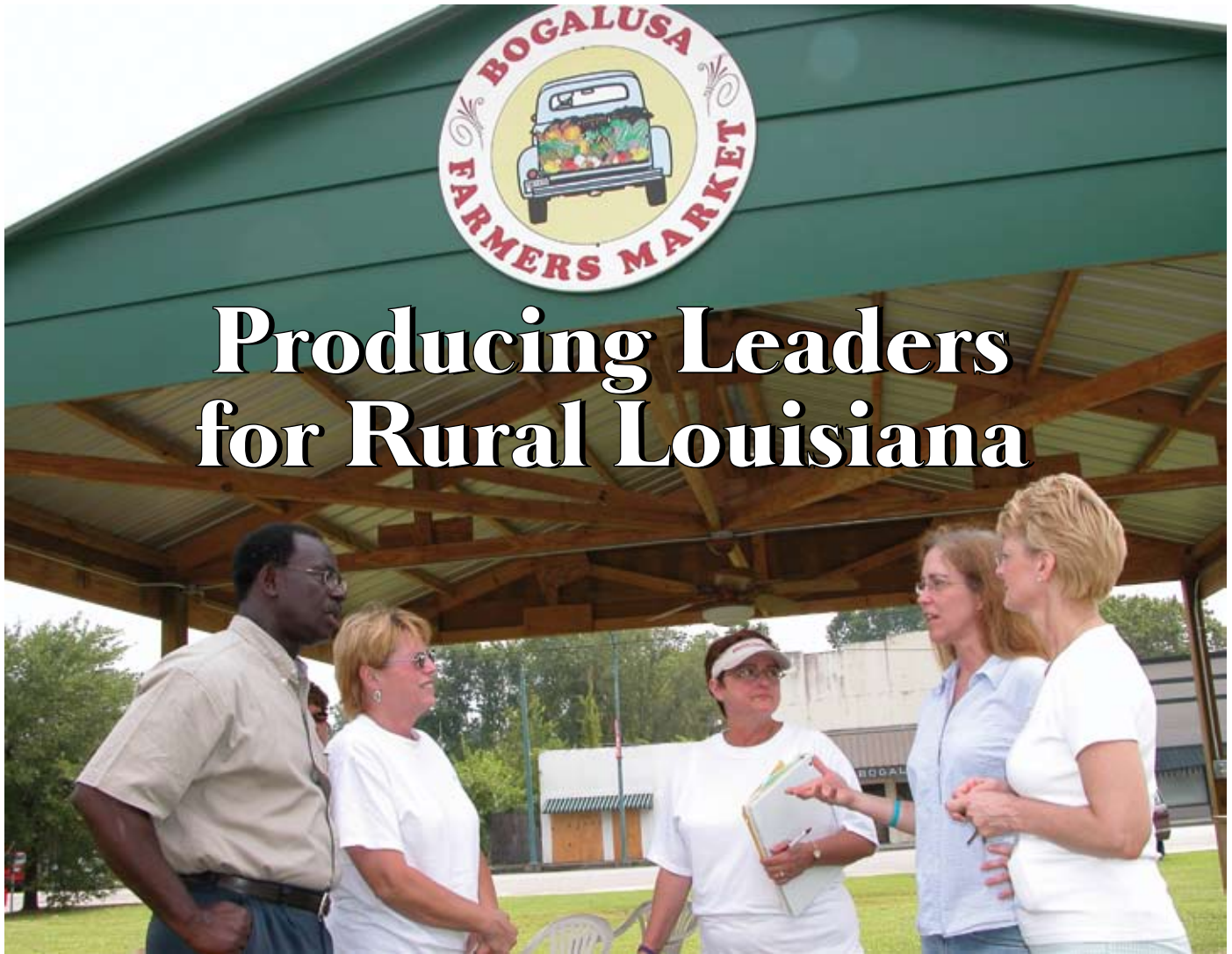


Photo by Johnny Morgan

County Agent Henry Harrison, left, discusses future plans for the Bogalusa Farmers Market with the market's board members, left to right, Johni Miles, Sandy Bloom, Marcelle Hanemann and Beverly Sheridan. Harrison and Hanemann are recent graduates of the Bogalusa CLED class. One of the class projects was to create a farmers' market in Bogalusa.

Sanford B. Dooley and Karen B. Overstreet

The lack of basic leadership skills and economic development knowledge is often identified by focus groups and advisory councils as a problem in rural areas. The LSU AgCenter and other agencies traditionally use advisory councils, focus groups or other citizen groups to identify issues as part of the program development process. Although there are many leadership programs around, few target rural parishes or smaller communities, and fewer still combine leadership and economic development training. Existing programs such as those by chambers of commerce in larger areas typically recruit existing or emerging leaders and are often expensive. Rural chambers seldom have the resources to conduct these programs.

The LSU AgCenter created the Community Leadership & Economic Development program (CLED) in 1994 in an attempt to bring citizens together to improve their future. A partner in developing this program was Cajun Electric, then a major supplier of electricity to rural electric cooperatives. As the partnership grew, it provided increased linkages among rural communities and professional economic developers. Today, CLED partners include the Association of Louisiana Electrical Cooperatives, Louisiana Economic Development and the Louisiana Police Jury Association. At the local level, utility companies also serve as partners.

Critical Mass

CLED is based on the belief that rural communities need a critical mass of trained leaders and interested citizens with the skills, knowledge, courage and vision to bring about change. The objective is to develop knowledgeable leaders with the ability to work together despite differences that often divide communities. Through this program, a community will engage in intensive self-analysis and start to formulate a strategic plan for sustained growth and development.

Unlike many programs that target existing and emerging

Sanford B. Dooley, Professor and Extension Specialist, Department of Agricultural Economics & Agribusiness, Karen B. Overstreet, Professor and Extension Specialist, School of Human Ecology, LSU AgCenter, Baton Rouge, La.

leaders, CLED is designed for everyone who has a vested interest in the area. Many times good ideas are defeated at the ballot box or die from lack of interest because the population hasn't been included in the planning. Efforts are made to ensure a cross section of the community or parish is represented, including students. In addition, extra efforts are made to recruit those who don't see themselves as leaders. Program adaptations are made to accommodate participants who may be functionally illiterate – a group that's often left out of leadership programs.

Part of the program is learning to understand and appreciate the perspectives of others. By participating in the program, people acquire skills and an understanding of leadership and the economic development process. They also make contacts with others from whom they can draw support and share ideas.

30 Hours Later

CLED classes meet three hours a week for 10 weeks. The first classes focus on process skills, including leadership styles, communication and team-building. These classes foster a sense of camaraderie and confidence in participants' abilities as a group. The focus then shifts to the local area through the development of a historical timeline and a look at socioeconomic data. The last sessions are devoted to working on issues identified by participants. Topics have ranged from apathy to zoning. Committees are formed around the issues, and plans for addressing the issues are developed.

Rather than the LSU AgCenter or a state agency doing a program for a community, special efforts are made to ensure that the community sees it as its program. A local steering committee is established with representation from various groups within the parish or community. The steering committee is responsible for local arrangements, recruiting participants and raising the funds needed to conduct a class.

Finding local sponsorships for the class is part of getting local buy-in. The program costs approximately \$3,000, with most of the monetary donations at \$100 or less. Donations for meeting space and food also reduce the cost. When local businesses, civic groups and individuals donate funds or supplies to the program, they feel ownership and are more committed to seeing the program and ensuing projects succeed. All funds raised stay in the community, and the steering committee is responsible for paying the bills.

More Than 600

Twenty-three programs in 18 parishes have been completed since CLED began, with more than 600 graduates. Each graduate receives a report of the work done in his or her class. Several times this report has served as evidence of community involvement for grant proposals. A survey of community leaders who have taken the classes revealed the following about the participants:

- More than 30 percent of the participants have run for or been appointed to public office.
- Ninety-two percent of the survey respondents serve as volunteers in their communities.
- In excess of 80 percent say they have been involved in community projects since completing the class.
- Fifty percent say their volunteer efforts have increased as a result of completing the program.

Changing citizens' attitudes about their role in improving their community is the first major step in community development. Although it's possible to quantify some of the outcomes, the most profound long-term effects will be from intangible results such as these:



Sandy Dooley, CLED program coordinator, meets with the East Feliciana Parish class that graduated in May 2005. This class was unique in that it had nearly equal numbers of younger and older members.

- A long-time parish leader in a small parish was amazed there were so many in the class he didn't know and who were willing to commit to making improvements.
- A high school student who couldn't wait to get away from his rural parish now wants to return after college and make a difference.
- A group of citizens in a racially divided community successfully worked through their issues together.
- A participant who was transferred to Louisiana by his company already had plans in place to move when he retired. After participating in the class, he realized he could make a difference and decided to stay in the parish after his retirement. He since has served as chamber director, is on the economic development district board and has helped sponsor a second CLED class in the parish.
- A CLED committee incorporated and was able to create an economic development district.
- After a CLED class, two chambers of commerce in the same parish but on different sides of the river decided to merge into one and work together for the whole parish.
- In a parish with several state facilities in need of workers and many residents on the welfare rolls, class members were able to dramatically reduce both numbers by establishing a job training program. CLED was credited with bringing together the appropriate agencies through their participation in the class.



Members of the East Feliciana Parish class met in the Clinton High School cafeteria three hours a week for 10 weeks in the spring of 2005. Some of the members of this class were 1996 graduates of the CLED program and were invited back for a refresher course.



These East Feliciana Parish residents are recent graduates of the LSU AgCenter's Community Leadership and Economic Development class, known as CLED. The program is designed to provide training for community volunteers to help them make their communities better places to live. It involves 10 weeks of classes provided by LSU AgCenter faculty members and has been conducted in a variety of areas across Louisiana over the past few years.

- A group of attorneys in a small town met in the class and decided to form a local bar association so they could continue their community service activities as an organization.
 - Classes report improved communication among various organizations in the community. This, in turn, has led to governmental entities working together rather than competing for economic development projects.
- Other CLED projects include establishing local recycling programs, farmers' markets, job fairs, welfare-to-work projects, recreational trails, community enrichment centers, housing facilities, economic development districts, downtown development, after-school programs, industrial parks, business retention and expansion programs and child and adult daycare centers as well as efforts to improve water, drainage, zoning, education and transportation. ■

Community Development Program Wins National Award

The LSU AgCenter's Community Leadership and Economic Development Program received the 2005 training achievements award from the International Economic Development Council during the council's annual meeting in Chicago in September.

"Economic development pursuits have always played an invaluable role in strengthening the nation's economy one locality at a time, and, as our country faces challenges ranging from an elevated national debt to a declining yet still significant unemployment rate, these efforts take on an even greater importance," said Steven J. Budd, IEDC chairman. "This award honors pace-setting organizations in economic development, an excellent example of which is the LSU AgCenter."

The LSU AgCenter created its Community Leadership and Economic Development Program in 1994 to address the need for improved leadership capacity and economic development readiness of Louisiana's rural communities. Partnering with such organizations as the Association of Louisiana Electric Cooperatives, the Louisiana Department of Economic Development, the Louisiana Police Jury Association, the Louisiana Public Facilities Authority and Cleco Power, the program has been offered in communities across the state.

Known as CLED, for short, the program is designed to provide training for community volunteers to help them make their communities better places to live.

It involves 10 weeks of classes organized by LSU AgCenter faculty members, and hundreds of Louisiana residents have completed the program in the past 10-11 years.

"The class offers an opportunity for everyday people to get involved in making things happen in their communities," said Karen Overstreet, an LSU AgCenter specialist and one of the program coordinators.

Another of the coordinators, LSU AgCenter economist Sandy Dooley, echoes those sentiments about teaching "ordinary citizens" how they can become involved in making their communities more attractive to new and existing businesses – as well as making them better places to live for everyone.

"The program is designed to attract ordinary citizens into the work of economic development in their own communities," Dooley said. "It not only provides an opportunity for interested citizens and community leaders to come together to study and solve local problems, but it also stresses there has to be a long-term commitment by local leadership to improving their area's economic potential."

Officials from the International Economic Development Council say the LSU AgCenter program was a "clear standout" in its awards competition. The program was recognized in the category of outstanding College/University Economic Development Training Achievements by organizations serving areas with populations under 50,000.

The International Economic Development Council is headquartered in Washington, D.C. Its mission is to provide leadership and excellence in economic development for communities, members and partners. IEDC's professional economic development awards annually recognize excellence in the economic development profession. ■ **Tom Merrill**

LaHouse Paves the Way for Sustainable Housing

Claudette Hanks Reichel and Frances C. Lawrence

Sustainability (meeting current needs without jeopardizing future generations) is an emerging necessity. Natural disasters such as hurricanes Katrina and Rita in 2005 cause billions of dollars in damages to homes and lost productivity. The average repair cost for homes infested by Formosan subterranean termites is \$11,000. Mold litigation and claims have prompted their exclusion from homeowners' insurance, and in South Louisiana, homeowners' insurance is either unavailable or costly. Rising energy, water and waste management costs create an economic burden for families and local governments. The high rate of asthma and the aging population increase family and public health costs. The list of state and national challenges doesn't stop there.

Sustainable housing and development must integrate and balance resource efficiency, durability and health with practicality and convenience. Typical new housing either ignores these criteria or addresses them in a piecemeal manner. The multiple barriers include increased production costs, confusion, multiple options, complexity of building systems, and limited local market awareness and demand. Yet, it is projected that 40 percent of the U.S. housing stock in 2030 is yet to be built.

To address these issues, the LSU AgCenter is spearheading an interdisciplinary public-private partnership initiative to create the Louisiana House Home and Landscape Resource Center (LaHouse). Now under construction on the Louisiana State

University campus, it will include a permanent demonstration house with changing exhibits, seven acres of environmental landscape exhibits and a multi-media teaching center. LaHouse will be operated by the LSU AgCenter as a southern region educational and applied research center and outreach program to stimulate both consumer demand and industry change for sustainable homes and development.



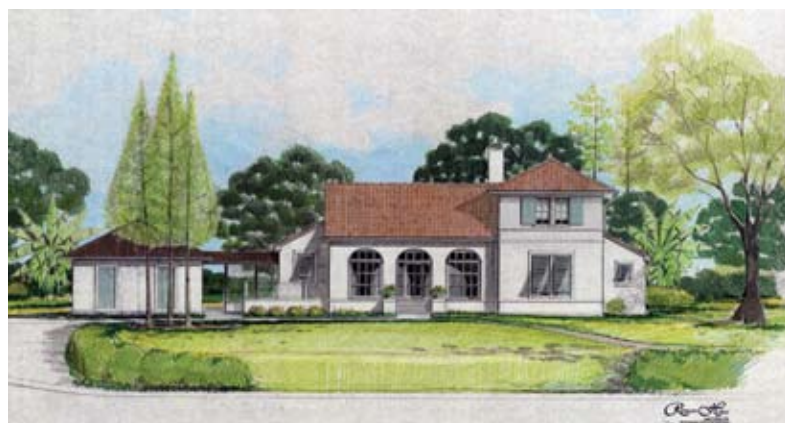
Future Living

The LaHouse vision is to shape the future by demonstrating ways to combine environmental stewardship with economic benefits and enhanced quality of life – showing how it's possible to have more comfort, durability, value, convenience and better health with less property damage, energy, water, pollution and waste. The LaHouse marketing slogan – shaping the future for Louisiana living – reflects the growing consumer desire to have a sense of control and to make a difference. LaHouse capitalizes on that sentiment to motivate and equip citizens with the research-based knowledge they need to distinguish and demand higher-performance homes.

Claudette Hanks Reichel, Professor, and Frances C. Lawrence, Alumni Professor, School of Human Ecology, LSU AgCenter, Baton Rouge, La.



LaHouse is situated on a 7-acre site to demonstrate sustainable landscaping as well as building design.



When it's finished, LaHouse will feature several options for building systems as well as roofs, walls, floors and foundations.



One building system features foam panels that can be locked together and filled with concrete to create strong walls with built-in insulation value.



The insulating concrete forms (ICF) are held together with reinforcing steel bars, which add strength to the walls when the concrete is poured.

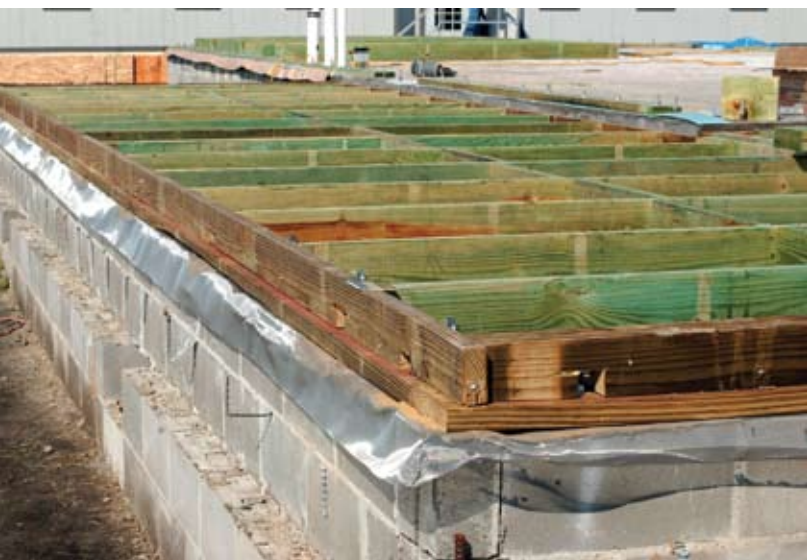
Photos by Mark Claesgens



A rebar-reinforced concrete block stem wall is filled with compacted soil and covered with a concrete slab cap to comprise one of the elevated foundation models.



A traditional pier and beam foundation features piers built over footings in the ground with a wood subfloor supported by beams.



A foundation wall of concrete blocks on footings creates a crawl space when it's covered with a wood floor. The wall includes "flood vents" to allow water to flow in and out in the event of a flood.



Stack framing using 2x6 wall studs placed 24 inches apart align with the rafters and floor joists to improve the process of tying the structure with hurricane straps, increase stability and increase energy efficiency.

LaHouse features a range of alternative solutions along the cost-benefit and technology continuum, from low-cost to high-end.

- Four wind-, water- and termite-resistant, energy-efficient building systems (borate-treated 2x4 wood frame with engineered wood products, 2x6 advanced framing, structural insulated panels and insulating concrete forms) – all with hurricane connectors, rain screen drainage planes and other details that demonstrate EnergyStar and Fortified for Safer Living guidelines (130 mph wind resistance) as well as moisture control and mold prevention.
- Nine types of energy-efficient windows and a variety of impact-resistant protections.
- Two long-life, hail- and hurricane-resistant, cool roofing systems with upgraded underlayments.
- Three heating, cooling, ventilation and dehumidification systems for high comfort, efficiency and indoor air quality.
- A low-cost, severe-weather safe room suitable for Louisiana risk levels.
- Three elevated foundation systems for flood zones, dry-floodproofing, and wet-floodproofing demonstrations.
- High-performance, low-water fixtures and rainwater harvesting systems.
- A universal design and family-friendly features.
- Advanced, energy-efficient appliances, lighting, controls and structured wiring.
- Low-maintenance, long-life, environmentally friendly and locally produced products.

Anticipated Effects

LaHouse will stimulate change in the marketplace and housing stock to produce several benefits:

- Homeowners will have more comfortable and durable homes with lower utility bills and higher resale value.
- Children will grow up in healthy, safe homes free of mold and asthma triggers.
- The elderly will live in homes that accommodate their changing needs and facilitate independent living.
- Future generations will enjoy the environmental quality and natural resources we have preserved and protected.
- Communities will save public dollars with lower requirements for waste disposal, water treatment, flood control and disaster recovery.
- Insurance companies will have lower losses, helping to stem premium increases and policy writing restrictions.
- Mortgage lenders will have better collateral and fewer delinquencies on loans secured by homes that preserve their value and cost less to operate and maintain.
- Home builders, designers and suppliers will profit from increasing demand for their sustainable products by a growing market segment.
- Energy companies will reduce peak demand loads and generation emissions.
- Housing and horticulture professionals will have new continuing education opportunities.
- Teachers will have a unique educational resource in environmental science, building science, horticulture and technology.
- Tourism and economic development initiatives will gain from the recognition, visitation and economic activity generated by LaHouse. ■



Steel mesh between cement foundations and wood sill plates prevents termites from using gaps in the concrete to get to the wood. First the mesh is cut to fit. . .



fastened down with rivets. . .



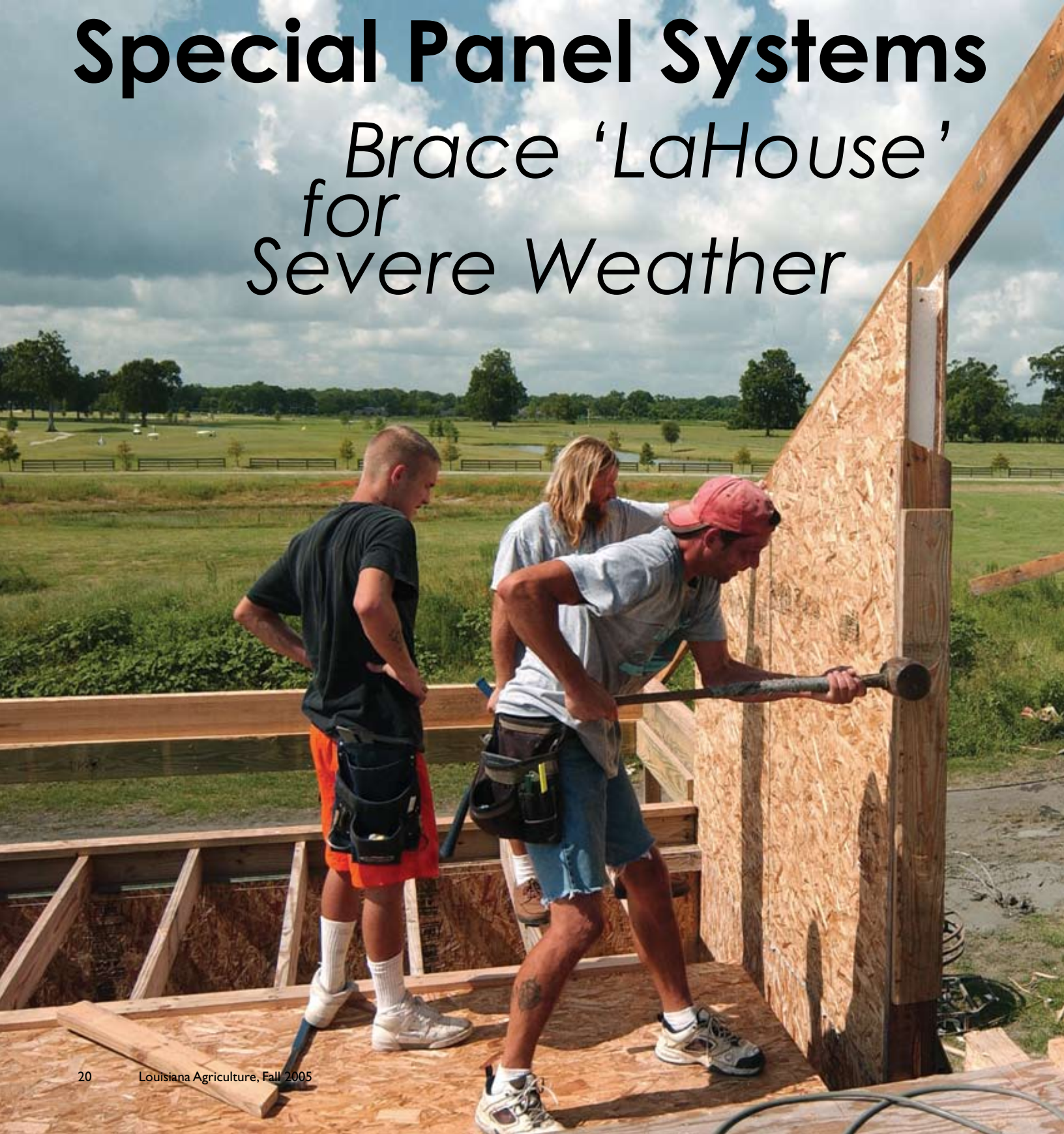
and covered with a final barrier before the sill plates are attached.

Factory-made wall, ceiling and roof panels are among the four building systems of the LSUAgCenter's state-of-the-art demonstration house that can withstand Louisiana's climate and harshest elements, including hurricane winds.

Photo by Mark Claesgens

Special Panel Systems

Brace 'LaHouse' for Severe Weather



The panels are called SIPS – structural insulated panel systems. They are incorporated into LaHouse, which is the shortened name for the Louisiana House – Home and Landscape Resource Center. This structure is being built near the LSU campus as a demonstration, exhibit house.

“LaHouse incorporates various design

and construction advances into a safe and healthy, attractive, practical and efficient home, which also is kind to the environment. It is a dynamic educational tool for consumers, students and industry alike,” said LaHouse Project Chair Claudette Reichel.

The SIPS – used in LaHouse consist of expanded polystyrene (EPS) rigid foam

insulation sandwiched between oriented strand board (OSB). They can be used for wall, ceiling, roof and floor framing in both commercial and residential structures.

The east wing of the house features the SIPS. Other parts of the house use the other three building systems. The center of the house uses conventional 2x4 framing with engineered wood products. The west wing includes advanced framing with 2x6 lumber. The “garage” building system is insulating concrete form walls with wood roof and interior wall framing. All are reinforced with hurricane connectors and other features to resist high wind loads.

The SIPS act as both framing and insulation, which makes construction much faster than stick-framing. The quality of construction often is more consistent, too, because there are fewer components, thus fewer places to make mistakes.

The SIPS are highly energy-efficient. In a 2003 study, Oak Ridge National Laboratory in Tennessee documented a 65 percent energy-use savings in a SIP-built home over the same house built with conventional technology.

Even with 4-inch walls having an insulating R-value of about 15, SIPS typically outperform an R-19 framed wall because the insulation is continuous (no gaps for studs) and the joined panels form an exceptionally air-tight shell.

“In this climate, reducing air leakage brings a much greater energy saving benefit than increasing insulation levels,” Reichel said.

SIPS meet national building codes for load-bearing capacity and fire tests. The panels inherently provide high wind-shear resistance without additional sheathing. In addition, the particular SIPS used in LaHouse (by R-Control) resist termites, because both the EPS insulation and OSB panels are treated with borates, a natural mineral formulated to resist the insects. They contain no hazardous chemicals.

“SIPS are right for our climate,” said Sandy Scallen, LaHouse coordinator. “They are strong, airtight and energy efficient.” The panels can be pre-cut with window and door openings to order, or ordered whole and cut on-site.

In LaHouse, SIPS are used for the walls in the kitchen, dining and home office areas. A SIPS ceiling with a framed, vented attic covers half of this area, and a SIPS roof system tops the other half in part of the unvented, partially air-conditioned attic exhibit room.

Although the cost of material is higher, SIPS construction is gaining popularity because of its labor- and time-saving assembly.

■ **Mark Claesgens**

A structural insulated panel system – or SIPS – is featured in LaHouse to create an airtight, insulated attic.



Huffs & Puffs

Won't Blow These



Losing the roof on your home to high winds can be an expensive proposition.

High winds can literally lift the roof off a house. Then you not only have to take care of the damage to the roof itself but also the damage to the inside of the house.

Most experts agree that the cost of water damage can be greater than the cost of replacing the roof. And experts also agree that homeowners can reduce the potential for water damage by making roofs more wind-resistant.

One significant way of making roofs more secure is to be sure

enough fasteners are used to attach the roof decking to the rafters, said Jeff Burton, building codes manager for the Institute for Business and Home Safety (IBHS). Burton visited the LSU AgCenter's LaHouse project in August as a consultant. LaHouse is the shortened name for the Louisiana House Home and Landscape Resource Center, which is being built near the LSU campus as a demonstration, exhibit house.

IBHS, located in Tampa, Fla., is a national nonprofit initiative of the insurance industry to reduce deaths, injuries, property damage, economic losses and human suffering caused by natural disasters.

Roofs Down



Roof, floors and walls are all tied together with hurricane straps that also tie the structure to the foundation. When the wind blows, the force is transferred to the ground rather than allowing the house to blow apart.

Since they all are tied together, energy from the wind blowing on the roof is transferred to the ground.

Pat Skinner, LSU AgCenter disaster programs coordinator, said that when the rafters are strapped to the wall, the wind must also lift the wall as well as the roof. And when the wall and sill plate are strapped to the foundation, the wind also has to lift the foundation. "Strapping transfers the uplift force on the roof all the way to the ground," she said.

If you manage to keep the roof structure and most of the covering, a little roof damage can create quite a problem – if it's raining.

"You can get a tremendous amount of water damage from small roof failures," Skinner said. "So it's important to tape the seams of the sheathing, then use roof underlayment and coverings that are resistant to both wind and water."

Traditional roofing felt is fairly vulnerable to high winds, Skinner said. If your shingles, tiles or other covering blow off, the felt will soon follow. LaHouse is demonstrating three newer underlayment products, including one waterproof peel-and-stick product.

"With this type of product, a loss of shingles or tiles should result in little water intrusion," Skinner said. "The tile and metal roofs selected for LaHouse are hurricane rated."

LaHouse construction exceeds the requirements of the International Residential Code as it would apply to Baton Rouge, Skinner said. The building code for roofs includes consideration for windborne debris and resisting uplift.

LaHouse is "code plus to be a Louisiana model for IBHS's Fortified for Safer Living program," Skinner said.

The experts emphasize codes are considered minimum requirements.

"You can affordably build a house to a higher level than the minimum code," Burton said. "You want to make sure people are safe."

Although codes are designed for new construction, homeowners can retrofit existing homes to protect roofs from wind, Burton said. For example, nails can be spaced more closely when a new deck is installed, or an existing deck can be renailed when new roofing is installed. This is particularly important if the original deck was attached with staples rather than nails.

Other considerations include assuring the roofing material is rated for the area's wind expectations and that the material is installed according to the manufacturer's specifications, Burton said.

■ Rick Bogren

LaHouse construction exceeds the requirements of the International Residential Code.

Codes set the number of nails per foot, Burton said. And nails, rather than staples, are the preferred fastener. While much of Louisiana doesn't have residential building codes, builders can still use the codes as a guide to building stronger, safer buildings.

LaHouse goes beyond nails in creating a wind-resistant roof by incorporating a "continuous load path for uplift." The rafters are strapped to the walls, and the walls are strapped to the foundation.

Safe Room

Offers Protection from Storms, High Winds, Intruders

Photos by Mark Claesgens

With recent hurricanes battering the state, Louisianians are increasingly concerned about how to protect themselves from strong winds.

One way is a "safe room" designed to protect against injury from high winds, said Pat Skinner, LSU AgCenter disaster programs coordinator.

A safe room is being incorporated into the LSU AgCenter's LaHouse. LaHouse is the shortened name for the Louisiana House Home and Landscape Resource Center, which is being built near the LSU campus as a demonstration, exhibit house. Self-contained and structurally isolated from the rest of the building, the safe room doubles as a walk-in closet in the master bedroom.

The ceiling and walls are fortified with extra sheathing, and the connections between the foundation, walls and ceiling are reinforced. In addition to a normal closet door, it features an impact-resistant steel pocket door that can be pulled closed to keep out blowing debris.

The ceiling of the closet-safe room is structurally separate from the floor of the second story.

"If the second floor would blow away, the ceiling of the safe room would remain in place," Skinner said. "It's a solid box."

The safe room has no windows but includes a telephone and security system so it can also serve as a hiding place to avoid intruders. No one can break in, and the telephone or security system could be used to summon help.

The Federal Emergency Management Agency (FEMA) has produced specific designs for tornado safe rooms, although the safe room in LaHouse isn't built to FEMA standards, Skinner said.

"First, here in Baton Rouge, the wind risk is less than on the coast from hurricanes, and we don't see many of the stronger tornados



Claudette Reichel shows where the steel pocket door would protect occupants of the safe room if they were to use it to escape the threats of high winds or intruders.

that are typical of North Louisiana," she said. "Second, the LaHouse safe room is a practical solution, providing a lot of protection using conventional building materials at a cost that many homeowners can justify."

Skinner said homeowners can make an existing home stronger and safer by adding shutters and hurricane straps, but retrofitting to include an interior safe room would be fairly costly.

"A better alternative would be to add a free-standing safe room that appears to be either a building on the property or an addition to the existing building," Skinner said. "This could be done at the back of a carport or similar area. In places such as mobile home parks, a free-standing safe room could serve many people."

The disaster programs coordinator warns that although the safe rooms are designed to protect from high winds in hurricanes and tornados, people should not consider the rooms safe from hurricane storm surge or flood water.

"If you're in an area prone to flooding, you need to evacuate when a hurricane is coming," Skinner said. ■ **Rick Bogen**



Open houses at LaHouse during November and December gave homeowners, homebuyers, builders, architects and others the opportunity to see the building while construction was still going on.

YOUTH AND MONEY

Building a Financially Literate Workforce

Ann A. Berry and Jeanette A. Tucker

Financial security plays a major role in a person's overall feeling of well-being and satisfaction. Anxiety about money affects how people feel about themselves, how they relate to others, their productivity at work and many other aspects of their everyday lives. Research suggests that personal financial stress negatively affects the productivity of 15 percent of workers, and one in six financially troubled employees is involved in a threat of violence in the workplace.

The Jump\$tart Coalition for Personal Financial Literacy is a partnership comprising representatives from business, industry, government, education and nonprofit groups that seeks to improve the personal financial literacy of young adults. Its purpose is to assess the financial literacy of young adults and promote the teaching of personal finance in grades K-12.

A financially literate individual has the financial management knowledge and skills to budget, spend, use credit, save to function in everyday life. In a survey of the financial literacy of Louisiana high school seniors, which was conducted in 2004 through the Jump\$tart program, the average score was only 46 percent. Louisiana is graduating too many students who are not financially literate – a deficiency that can affect them both personally and professionally throughout their lives. It is not surprising that more than 10 percent of working families have financial troubles, more than 60 percent of families live on 110 percent of their income, bankruptcies among people under 25 have more than doubled and colleges lose more students because of financial difficulty than academic failure.

To better prepare youth to become financially literate consumers and self-sufficient, productive members of the state's workforce, legislation was enacted in 2004 requiring financial education in free enterprise classes in Louisiana schools. Research suggests that a minimum of 10 hours of financial education

Colleges lose more students because of financial difficulty than academic failure.

can positively affect the personal financial practices of students. This financial education could potentially save future employers money through increased worker productivity, reduced absenteeism and reduced human resource administrative costs. It can generate a positive return on every dollar or hour invested.

The LSU AgCenter has taken a proactive approach in preparing Louisiana's young people to be financially literate. During the summer of 2004, extension family resource management faculty members conducted 18 six-hour teacher training sessions at 13 locations across the state. The AgCenter financial educators partnered with Louisiana Jump\$tart, which provided \$110 stipends to 191

participating free enterprise teachers who received in-depth training in saving, investing, money management, financial and career planning, insurance and credit.

The sessions included interactive, hands-on learning experiences. Such train-the-trainer programs yield a significant multiplier effect. The participants reported they would use information and resources learned at the workshops to teach more than 15,000 students during the 2004-2005 school year. A total of 407 teachers participated in training session during 2003 and 2004. These teachers indicate they will teach approximately 35,700 students annually (for an average of 91 students each).

The National Endowment for Financial Education's High School Financial

Ann A. Berry, Assistant Professor, and Jeanette A. Tucker, Associate Professor, School of Human Ecology, LSU AgCenter, Baton Rouge, La.

Photo by Mark Claesgens



Sheri Fair, LSU AgCenter agent in Ascension Parish, was one of the presenters at a statewide "Louisiana Youth Financial Educators' Summit" July 27-28, 2005, in Baton Rouge, La.

Planning Program (HSFPP) curriculum formed the basis of the program. Each participant received free a 400-page teacher manual and 100-page student workbook. The teachers were able to order sufficient quantities of student workbooks to provide a copy for every student they would teach. Teachers' self-assessments of their preparation to teach financial management to high school students increased 36 percent.

To measure the effect of the teacher training initiative on students, pretests and post-tests along with scan sheets were provided for teachers to assess their students' knowledge gained from the curriculum. The teachers were also given addressed envelopes for returning the tests to the AgCenter for analysis. Properly completed assessments were received from 1,704 students representing 25 high schools. Respondents included 789 males and 639 females.

Questions in the assessment tool were designed to measure students' knowledge of principles of saving, investing, money management, budgeting, credit, insurance and the basics of financial and career planning.

Analysis of the student assessments showed an increase in overall knowledge gained, with mean scores increasing from 62.69 to 70.03. Male students scored higher on the pretest than female

students; however, the overall knowledge gain of female students exceeded that of males.

Pretest scores were highest in financial planning (78.95), followed by career planning (72.12), budgeting (61.44), credit (63.28), insurance (54.11) and saving and investing (47.28).

Students posted the greatest knowledge gain in budgeting, a key skill for future financial success. Mean scores increased from 61.48 to 76.52. Scores measuring students' knowledge about insurance followed with mean scores increasing from 54.11 to 63.45. Saving and investing scores increased from 47.28 to 55.36. Students posted lowest pre-test scores on this topic. Scores on the credit portion of the survey improved from 63.28 to 69.58. While knowledge relating to saving and investing and credit showed great improvement, the scores suggest additional emphasis should be given to these topics.

Less knowledge gain was measured in those topics that received the highest pre-test scores. For example, knowledge of career planning increased from 72.12 to 76.52. Scores on test questions measuring financial planning concepts showed minimal increase from 78.95 to 82.24. This suggests that students learned more about the topics in which they had little prior knowledge.

While research suggests that financial education begin as early as preschool and continue throughout the lifespan, this study indicates that tenth grade is the most effective level to incorporate this financial management curriculum. Tenth grade students posted the greatest knowledge gain (11.73 percent) and highest total scores of all groups (mean = 74.41).

Louisiana free enterprise classes are most often taught in tenth grade. This study suggests that tenth grade is the most appropriate level for instruction in the HSFPP curriculum. It also suggests that classroom instruction in this curriculum is most effective when targeted to students who are 15-16 years of age. Their scores increased over 10 percent.

A limitation of the study is that teachers did not report the number of hours devoted to financial management instruction or the teaching methods they employed. Future evaluations will study the impact of delivery methods used, as well as the number of classroom hours devoted to instruction using this curriculum. Evaluation of this AgCenter program reveals that instruction in the HSFPP curriculum increases students' knowledge, thus preparing them to become financially literate consumers and self-sufficient, productive members of the state's workforce. ■

Photo by Mark Claesgens



LSU AgCenter agents Kathy Mauthe, left, and Laura Lea Perault, center, discuss teaching high school students financial literacy. Others participating are Tom McNitt, seated at left, teacher at Pope John Paul II Catholic High School in Slidell; Randy Benefield, loan officer at Citizens Bank & Trust in Covington; Rebecca Daulton, seated in center, teacher at Dubach High School in Ruston; Claire Loop, Federal Reserve Bank of Atlanta in New Orleans; and Christy McMaster, teacher at Denham Springs High School, at far right.

Entrepreneurs Lead Rural Economic Development

J. Matthew Fannin

Rural economic development addresses factors to increase the quality of rural life including the availability of infrastructure. The research and extension activities of the LSU AgCenter have adapted over time to meet the changing structure of our rural economies to promote their growth and well-being.

In the years following World War II, the growth of the American economy became increasingly driven by innovation. Key innovations such as hybrid seed varieties, commercial fertilizer and pesticides increased productivity of American farmers. In addition, there was an increasing emphasis on how these inputs could be more effectively combined to increase agricultural outputs while meeting other goals such as environmental benchmarks. During this time, agricultural research and extension developed best management practices to maintain and improve the quality of the soil, water, forests and the larger ecosystem while still providing farm households with incomes to maintain an adequate standard of living.

The overall efforts of research and extension through the 1990s have generated a positive return on investment. According to an aggregate analysis of post-war studies by the International Food and Policy Research Institute, the rate of return on investment in agricultural research and extension exceeded 36 percent. That is, every one dollar invested in research and extension returned \$1.36 to citizens from increased agricultural productivity.

The model of growth in today's 21st Century economy is driven by strategic innovation to meet the increased demands for goods and services from businesses and consumers. Today's innovations include both generating new products and services for consumers and finding more efficient and cost-effective ways of producing existing products. The LSU AgCenter is leading efforts in both of these strategic areas.

AgCenter researchers have been effective in generating new discoveries that have assisted farmers in being more productive, while at the same time pro-

viding resources for the next generation of innovation. Recent examples include BASF Clearfield rice and Delta & Pine Land Paymaster cotton seed varieties. As an institution, the AgCenter exceeded the national average of universities with 34 invention disclosures arising from \$51 million in research funding in 2003. These efforts led to 19 patents applied for and eight patents granted during the period. Licensing revenue from these inventive activities generated more than \$1.02 million in 2003.

Rural development in the 21st Century economy is also being led by entrepreneurs who are highly skilled in organizing resources and managing risk to create new jobs by more effectively and efficiently producing existing goods and services. The LSU AgCenter in cooperation with the Southern University Agricultural Center has recently formed the Louisiana Center for Rural Initiatives to address this and other rural development issues. This center includes faculty members from multiple departments and schools across both campuses dedicated to the sustainable growth and development of rural communities in the state.

As a part of this effort, AgCenter faculty members have been actively involved in assisting aspiring entrepreneurs interested in starting a business. Community economic development faculty members are delivering workshops in each region of the state to assist entrepreneurs in the earliest stages of business development. These workshops assist individuals who may have an initial idea about a product or service but are seeking direction to identify essential features of a business plan such as discovering markets, identifying financing tools and understanding regulatory issues.

To meet the growing demand for value-added entrepreneurial activities, the AgCenter has established the Delta Rural Development Center (DRDC). The center is housed at the Thomas J. Lingo Community Center in Oak Grove and is directed by James Barnes, an assistant professor with the Department of Agricultural Economics and Agribusiness. (See related article on page 28.)

The DRDC focuses on providing extension and research programs to promote the economic health of rural communities in the multi-state delta region as well as to provide a model for regional community economic development support for the entire state. The DRDC provides assistance for both agricultural and nonagricultural-based rural entrepreneurs who are developing business plans as well as those seeking financial support through various federal and state assistance programs. The DRDC offers new businesses programs that focus on helping people understand some of the most critical dimensions of business management, such as how to start a business, entrepreneurship, customer relations, business ethics and leadership.

The center also offers public-sector organizations such as chambers of commerce, hospitals, school boards and police juries a number of programs aimed at improving organization and operations. For example, the DRDC offers Healthy Boards, a program aimed at improving the governance and management of boards. The program teaches board members how they can govern using healthy organizational principles for success. Other innovative programs will be developed to help these public-sector organizations more effectively deliver these vital public services, all of which build local capacity and infrastructure for long-run, sustainable economic growth.

Research and extension activities have adapted over time to address the development issues of a changing rural economy. As the nonfarm population of rural Louisiana grows and competition for globalized markets increases, LSU AgCenter faculty members will continue to incorporate innovative research and extension programs to address the evolving rural economy. ■

J. Matthew Fannin, Assistant Professor, Louisiana Center for Rural Initiatives, Department of Agricultural Economics and Agribusiness, LSU AgCenter, Baton Rouge, La.

Bringing Rural Development To The Delta

James N. Barnes

The continuing transformation of U.S. agriculture profoundly affects the economies in rural America. A snapshot of the agricultural sector reveals some troubling, persistent trends, none of which bode well for the economic development of rural regions. Consider the changes on-farm operations have experienced in the last 40 to 50 years. Less than 10 percent of the rural population lives on farms; only 7 percent of employment can be attributed to farming; and farm income represents only 2 percent of total rural income. Farming counties, those where 20 percent or more of the total county income is derived from farming, represent 18 percent of total U.S. counties and 25 percent of rural counties. Since the 1950s, the number of farming counties has steadily declined due in part to increased global competition in commodity markets. At the same time, U.S. agricultural subsidy programs continue to be phased-out, thereby creating more pressure on rural economies. In concert with recent higher fuel prices and other rising inputs costs such as fertilizer, these economic pressures continue to marshal the attention of all U.S. livestock, vegetable and grain producers.

However, there is also pressure on nonagricultural businesses located in rural regions of the United States. According to the Institute for Strategy and Competitiveness at the Harvard Business School, the business environment in rural areas tends to be weaker than in most metropolitan regions. A weaker business environment means rural economies will struggle to recruit and retain enterprises. The factors contributing to a weaker rural business environment can largely be contributed to low population densi-

ties. As a result, rural economies often face multiple challenges to improve their business environments including: (1) a higher cost to maintain basic infrastructures; (2) fewer resources to recruit and retain clusters of companies; (3) a greater dependency on government intervention in the form of subsidies; and (4) a rising wage gap (currently 33 percent) between rural and metropolitan regions. Unfortunately, these results of a declin-

ing agricultural sector coupled with a weaker business environment mean rural economies will continue to struggle.

By now this story of economic hardship is all too familiar to people living in the delta states of Louisiana, Arkansas and Mississippi, where poverty has persisted for decades. For example, compared to the U.S. average, Louisiana ranked 49th in annual export growth (minus 3.65 percent compared

Photo by Linda Foster Benedict



James N. Barnes, Director and Assistant Professor, Delta Rural Development Center, Department of Agricultural Economics and Agribusiness, LSU AgCenter, Oak Grove, La.

James N. Barnes is the new director of the Delta Rural Development Center in Oak Grove.

to 4.41, 1995-1999); 46th in wage growth per year (3.03 compared to 4.03, 1990-1999); and 37th in average wages (\$26,259 compared to \$32,109, 1999). Arkansas and Mississippi do not fare much better. Such economic difficulties have long been recognized in the delta. Observing the paltry economic performance of the delta is easy; counteracting poor economic performance is not.

To strengthen the business environment for agricultural and other entrepreneurs in the delta, the LSU AgCenter has taken an active role by establishing a rural economic development center, the Delta Rural Development Center (DRDC). Armed with rural development educational programs and other technical assistance capabilities, DRDC has begun working with local governments, nonprofit and for-profit organizations. With its eye on improving the quality of life for people in the delta, DRDC took roots in 2004. But tackling the economic challenges of the delta requires a nontraditional, hands-on strategy of rural development, one driven by some new rules to promote innovation in the region.

Rule Number One: Start with a new location and a great alliance partner

The mission of DRDC, which is located within the Thomas J. Lingo Community Center at Oak Grove, La., is to enhance economic opportunities for people in the Louisiana delta. DRDC provides executive education programs for boards of any type, management teams in public and private organizations, and assistance with grant writing, among other services.

By locating in the region to be served rather than on the LSU campus, DRDC has taken a more hands-on approach to rural development. Its rural location provides some distinct advantages for economic development, which include: (1) greater involvement with coordinating regional efforts among multiple agencies and organizations involved in development efforts; (2) increased learning capabilities about economic opportunities in local areas because of proximity to clients; (3) increased ability to develop long-term trust with local governments; (4) improved coordination to work with rural farm and nonfarm businesses; and (5) communities have a lower cost access point for information, technology and other resources needed to effectively assist with development efforts.

Because of its rural location, DRDC

has also been able to establish local alliance partners, such as the Northeast Educational Development (NEED) Foundation. The NEED foundation was established on April 14, 1997, as local entrepreneurs Shelton and Patsy Ruffin and James Gregory decided to take a proactive role to improve economic conditions in Northeast Louisiana. The NEED foundation was established as a non-profit corporation and has three primary purposes: (1) assist in the development of educational opportunities for students in the area; (2) enhance the local farming community; and (3) enhance economic opportunities for residents in Northeast Louisiana.

The NEED foundation has successfully completed a number of economic development projects in the area, including the construction of a new vocational agricultural building for the Oak Grove High School, funding an after-school tutoring program for elementary and high school students in West Carroll Parish and the construction of a multi-million dollar facility, the Thomas J. Lingo Community Center, which houses NEED, the West Carroll Cooperative Extension office and DRDC. The most recent project is the Oak Grove Hotel, a \$1.5 million dollar investment, which will open in 2006 and boast a mix of almost 40 rooms and suites. The NEED foundation is managed by directors John Mercer and Sheila Pepmiller.

The NEED foundation alliance has provided many resources to enable DRDC to emerge as a new rural development center, such as rental space and other infrastructure necessities. DRDC continues to develop other alliances, all of which will further rural economic development efforts.

Rule Number Two: Start with a new team-based approach

Rural development efforts at DRDC require teamwork. DRDC works with the LSU AgCenter's Community Economic Development team represented by Cynthia Pilcher, Kay Lynn Tettleton and Dora Ann Hatch. One of the most popular workshops has been customer relations, a hands-on learning experience for front-line employees to learn communication skills, business protocol, workplace ethics, interpersonal relationships, human relations skills and community pride. In addition, the team has played a vital role in the development of an initiative to promote tourism in Northeast Louisiana. The team provided organi-

zational assistance to several interested entrepreneurs who eventually formed the Delta Outdoors and Wildlife Association. The primary mission of this initiative is to promote and facilitate economic diversification, environmental-resource sustainability and economic revitalization through alternative land use in the delta region of Northeast Louisiana.

DRDC also has begun collaborating with other academic institutions, including Southern University. Working with Glenn Dixon, a community economic development agent, DRDC recently delivered one of its executive education programs to assist Heifer International with training needs for its board members.

Rule Number Three: It's all about promoting innovation

Most of the economic development research emphasizes the importance of innovation as a fundamental driving force for revitalization of rural communities. DRDC promotes three types of innovation – organizational, community and entrepreneurial.

Organizational Innovation refers to new ways of governing organizations or allocating resources to produce new products, services or to improve coordination of existing markets. DRDC activities support both agricultural and nonagricultural organizations. DRDC provides executive education workshops, such as Healthy Boards. These workshops are suitable for board members who serve on any type of board. The workshop teaches board members how they can govern using principles of healthy governance, which strengthen accountability and build trust among members. The program has been delivered to hospitals, chambers of commerce, and agricultural organizations such as Heifer International. Executive Director of Heifer International in Louisiana, Emily King, said the HB program was "a real help in giving the board members a better understanding of their roles and obligations to the organizations they serve. I'll be working this coming year to find ways to get this training to all groups in Louisiana."

In West Carroll, the Healthy Boards workshop was attended by members of the Oak Grove Chamber of Commerce. Sheila Costello, Agency Manager for West Carroll Farm Bureau, said, "The board training provided by DRDC was a tremendous asset. We had the best of intentions but needed the guidance to know

exactly what our positions entailed. The workshop gave us boundaries and a direction. We now have a better grasp of our responsibilities as a Board. I believe this training could benefit any group that wants to use their time most effectively for those they are representing.”

Other DRDC activities have supported alternative types of organizational innovation among agricultural producers in Northeast Louisiana. DRDC has begun to work with local vegetable producers to explore value-added agricultural ventures. To further these efforts, DRDC is pursuing grant funding to create a new cluster of agricultural producers in Louisiana, Arkansas and Mississippi. The grant funding will be used for strategic planning to organize new value-added agricultural ventures. In addition, some grant funding will be used for conducting workshops to further support organizational development of the cluster. Risk management, legal forms of ownership, contracting best practices and financial

management are the primary set of workshops that will be delivered.

Community Innovation refers to new, improved ways of coordinating regional projects or providing technical assistance to improve infrastructure assets. For example, DRDC has begun working with other Louisiana institutions, such as Louisiana Economic Development and the Northeast Louisiana Economic Alliance organization. The collaboration involved collecting data from residents in Northeast Louisiana, starting with West Carroll Parish. The data collected characterizes labor supply and skill sets of local residents. The data can be used to better coordinate efforts to recruit and retain businesses among institutions in Northeast Louisiana.

“We know that if we can document the people of West Carroll, we will have a tremendous asset from an economic development perspective. It was imperative that we have a good team to work on this effort and the basis for the team needed

to have a local presence. DRDC provided that base. On top of a good team we had a team that enjoyed working together because we all have one goal and that is to show what this great community of Oak Grove and the larger West Carroll, Louisiana has to offer,” said Miriam Russell, Northeast Regional Director, Louisiana Economic Development.

Other DRDC activities include working with a feed mill to develop a business plan for expansion of its product lines, supporting infrastructure expansion of the Oak Grove airport, providing technical assistance for business plan development for entrepreneurs wanting to move their businesses to Northeast Louisiana, and finding potential grants that the local school system in West Carroll could pursue to purchase computers for classrooms. And finally, DRDC continues to work with the local West Carroll police jury to identify grants that could be used to improve infrastructure.

Entrepreneurial Innovation refers

New Delta Development Program Gets Under Way

The LSU AgCenter has added strength to its quest to help organize an economic development strategy in the Northeast Louisiana. The added force is James Barnes, new director of the Delta Rural Development Center in Oak Grove.

Barnes came from Oklahoma in February. Already, he has helped the AgCenter achieve several goals.

“We have applied for more than \$340,000 in grants,” he said. “This money will go toward doing research on how to recruit doctors and other medical practitioners to rural areas. We want to look at what are the best practices of contracting and what incentives are necessary to recruit doctors to rural areas.”

Barnes also plans board governance and entrepreneurship programs. The board governance program, or Healthy Boards, is a workshop open to all members of community boards. In this workshop, board members learn how to work together by learning how to trust one another and consider everyone’s ideas for making their governing body stronger.

The entrepreneurship program is a program designed to introduce high school students to the business world. The students learn how to manage people, as well as how to work in a business environment.

“I believe great potential exists for us to help this area of the state achieve economic success,” Barnes said. “The Delta Rural Development Center can establish itself as the premier center for the study of rural development in the United States.”

John Mercer, director of the Northeast Educational Development Foundation (NEED), said Barnes “is just what this area needs” to help its people achieve economic success.

“He is a hard worker, very energetic,” Mercer said. “With

him being here, the future is looking brighter. The people in this area have never had someone like Dr. Barnes they could turn to. His being here has opened new doors for them and for economic development in this region. He’s a fine young man and we are proud to have him as a part of our community.”

Barnes received his doctorate in agribusiness management from the University of Missouri-Columbia and his master’s and bachelor’s degrees in agricultural economics from Oklahoma State University. He also has received training in “Business Strategy and the Supply Chain” from the Massachusetts Institute of Technology.

In addition to being director of the Delta Rural Development Center, Barnes is also an assistant professor in the Department of Agricultural Economics and Agribusiness.

Before coming to the AgCenter, Barnes was an assistant professor of rural development at Oklahoma State University. In addition, Barnes has served as an agricultural economist for the U.S. Department of Agriculture’s Economic Research Service.

Barnes relates to the delta region of Louisiana because he grew up in a small town, population 500, in Soper, Okla.

“I saw the struggles my mom and dad went through with living on a small cow-calf operation in rural Oklahoma,” Barnes said. “I also saw other businessmen and women in my community struggle with their businesses. And, I saw how these people overcame their struggles to make life better for their families and their communities.

“If you care about people at all, you want to help them,” he said. “Rural development is about developing people. I care about the people living here and I want to live here so that I can know firsthand what their needs are.” ■ **A. Denise Coolman**

to new ways to promote small business development. DRDC offers a number of executive education workshops designed for small businesses, which include high performance teams, agribusiness management, conflict resolution, entrepreneurship, business ethics, customer relations and contract economics for community leaders, among others. In addition, DRDC is actively involved in developing an entrepreneurship program for youth. The entrepreneurship program will feature the use of simulation games to teach high school students business principles to learn techniques for managing people and complexity within a business environment. DRDC is pursuing grant funding from numerous sources to pilot such a program in the delta.

Taking Stock, Looking Ahead

The easy work of DRDC has been taking stock of the problems faced by businesses, residents, local institutions and organizations such as police juries,

chambers of commerce and agricultural enterprises. The challenge ahead is to help people find solutions to improve the quality of life in rural communities of the Delta.

The LSU AgCenter is committed to helping people in the rural areas of the Louisiana delta overcome poverty and the other barriers to economic prosperity. The establishment of DRDC marks a new, hands-on strategy to begin the difficult task of improving economic conditions in the delta. DRDC will continue to work with its agricultural economists, social scientists and other economic development agencies in the region to conduct research and extension programs that contribute to improving economic conditions. Specifically, DRDC will continue to assist boards, organizations and local governments with organizational development workshops. DRDC will continue to assist agricultural entrepreneurs with finding new markets, and

new ways of organizing their resources to boost on-farm incomes. And finally, DRDC will continue to promote entrepreneurship throughout the delta, especially working among youth involved in 4-H and FFA clubs.

Three core values of DRDC shape how its activities will be developed and delivered in the future. These values represent the three “Ps” of DRDC work:

- **Passion** – having a strong professional will to do whatever it takes.

- **Purpose** – knowing rural development is important because improving the welfare of people is important.

- **Persistence** – always applying the new rules of rural development to make a difference in the lives of the people living in the delta.

Obviously promoting organizational, community and entrepreneurial innovation won’t solve all of the economic problems in the delta. But it’s a good start. ■

Hurricane Recovery Message to 4-H: ‘Don’t Give Up’

“Don’t give up” was the message from one state’s 4-H’er to those in Louisiana who were affected by the recent hurricanes.

The message was part of North Carolina 4-H’s “Helpful Hands, Healing Hearts” campaign. 4-H’ers from across North Carolina collected school supplies, toiletries and stuffed animals for victims of hurricanes Katrina and Rita. The items were packed into “Boxes of Hope” that arrived in Louisiana October 17.

Two 18-wheelers brought more than 2,500 boxes to Baton Rouge – where 4-H’ers and LSU AgCenter agents were ready to receive them and distribute them to others.

“We are loading up the boxes and sending them out to the affected parishes,” said Trey Williams, executive director of the Louisiana 4-H Foundation.

Among those helping was one Livingston Parish 4-H’er who took time from his afternoon to help load the boxes.

“I want to help these people,” said Daniel Wendt, a sixth-grader at Southside Junior High.

Many of the boxes were headed to 4-H’ers affected by the storms. But with so many boxes, the campaign will reach more youth.

“It’s not just for 4-H’ers; that’s the starting point,” said Williams. “It’s bigger than 4-H. We’re out to touch every youth we can.”

North Carolina 4-H moved into action after a 4-H’er saw a news image of a 4-H stuffed bear in the rubble of a home.

“It goes to show you that one person can make a difference,” Williams said.

North Carolina 4-H’ers are not the only ones who opened their hearts to Louisiana hurricane victims. 4-H members from 46 states also donated to the Louisiana 4-H Foundation’s hurricane relief effort.

“It really shows that even though we are miles apart and in different states that we do have a common bond and that 4-H and the 4-H clover is that,” Williams said. ■ **Tobie Blanchard**

Photo by John Wozniak



Baton Rouge 4-H’ers Tina Mouch, at left, and Katee Craig from St. Joseph’s Academy pick up some of the “Boxes of Hope” to be distributed to those affected by hurricanes this summer.

Brains Bring Bounty

Louisiana Benefits From LSU AgCenter Intellectual Property

Patrick Reed

A robotic boat that scares birds from catfish ponds, a rice variety resistant to herbicides, genetically modified chickens that lay eggs containing pharmaceutical ingredients, a dyeing process that incorporates precious metals such as gold into fabric, a jerky-like product created from yogurt, and a chemical found in ordinary ballpoint pen ink that termites will follow to a toxic compound – these are just a few of the inventions that the LSU AgCenter’s Office of Intellectual Property manages.

Intellectual property is creativity with commercial value. This includes copyrighted property such as literary or artistic works and “ideational” property such as patents, business methods and industrial processes that arise from abstract, conceptual thinking.

In a recent report to the LSU System, an auditor of LSU’s technology transfer activities referred to the AgCenter’s Office of Intellectual Property as the “crown jewel” of the LSU System. We earned that moniker because of our successful activities in patenting inventions, licensing these inventions to outside businesses and receiving income from these businesses as a result of their sales. The portion of this money that comes to the AgCenter is used to fund additional research.

Technology Transfer Takes Off

Universities actively became involved in technology transfer after Congress passed the Patent and Trademark Law Amendments Act, more commonly known as the Bayh-Dole Act, in 1980. Before this legislation, federal agencies rarely permitted universities to own the inventions created with federal funds. Instead, the agency retained ownership and made these inventions available through nonexclusive licenses to anyone who wanted them. Companies were understandably unwilling to license these inventions and invest additional money into further research and development unless they had some protection from competitors who could market the same product. As a result, the government remained unsuccessful in attracting private industry to license government-owned patents. Although taxpayers were supporting the research, they were not benefiting from commercial products or the economic development that would have occurred.

The 1980 legislation, however, changed the policy and allowed universities and businesses to own inventions they created with federal funding and to be responsible for the commercialization process. Economic stimulation would occur through universities’ licensing new inventions to businesses that would, in turn, manufacture the resulting products in the United States.

Getting Technologies to Market

We actively protect intellectual property and transfer these technologies to the marketplace for the benefit of both the AgCenter and the state of Louisiana. Royalties from the sale of a successful product or process are distributed to the inventors or developers of the licensed technology and to the AgCenter to be funneled back into additional research.

The Office of Intellectual Property evaluates research results to determine marketability. We routinely deal with patents, plant variety protection certificates, trademarks, service marks and copyrights. Our office sees a diverse collection of creative ideas.

Louisiana benefits directly from the protection and commercialization of AgCenter research when the fruits of faculty labors become products available to consumers. Stellar examples of money-making inventions at other universities include Gatorade, the sports drink developed at the University of Florida, and one of the world’s most successful cancer drugs Taxol, which researchers at Florida State University found a cheaper way to manufacture.

By excluding others from being able to use these licensed technologies, a university allows an industrial partner the ability to further develop and market a product without excessive competition. This exclusionary right allows these companies to justify the expense of marketing and commercialization when they bear the risk of licensing and developing early-stage technologies.

AgCenter Examples

When an existing commercial partner cannot be found to license a promising technology, the AgCenter has the option to work with a newly formed, or startup, company that can build its new business around the AgCenter technology. Startups have the potential for creating high-paying, technical jobs within Louisiana and building the state’s reputation for entrepreneurship. The AgCenter has played a role in creating more than 10 startup companies, most of which are incorporated in Louisiana. These include:

- TransGenRx, based in Baton Rouge, a biotechnology company working to produce pharmaceutically relevant proteins in chicken eggs. Ideally, biological products used in medicine produced in this manner will provide cost-effective manufacturing solutions to the pharmaceutical and biotechnological industries.

- Impediatus Biolytic of Louisiana, based in Baton Rouge, has licensed from the AgCenter a biocide that can kill harmful microbes, such as anthrax spores and salmonella in chickens.

- University Products, also based in Baton Rouge, produces a vaccine effective in fighting anaplasmosis, a serious disease in cattle.

By reaching out to the business community, our institution is creating new industries in Louisiana, providing farmers with superior plant varieties and helping create new jobs. ■

Patrick Reed, Office of Intellectual Property Associate, LSU AgCenter, Baton Rouge, La.

Parenting Teens: Investing in Human Capital

Robert D. Laird, Diane Sasser and Holly Bell

Experiences during the teenage years play a large role in determining whether teenagers go on to become productive and engaged citizens as adults. Although common depictions of adolescence as a time of “storm and stress” are often exaggerations, adolescence is a period of great transition both for teenagers and their families. In fact, parents report being more nervous and apprehensive about adolescence than any other period in their child’s life. One particular challenge faced by parents of teenagers is figuring out when and how to offer increased freedom and responsibility.

Simultaneous increases in freedom and responsibility are evidence of increased autonomy. Autonomy is similar to independence, but autonomy denotes the freedom to act independently while maintaining social responsibility. When making decisions, autonomous adolescents and adults are expected to make appropriate and wise choices and to accept responsibility for their actions. The development of autonomy has great relevance for human capital because appropriate autonomy prepares adolescents to face new challenges as adults in an ever-changing world.

The primary challenge for parents is to grant sufficient freedom to their children without being overly permissive.

Successful parents find a way to balance their desire to supervise and guide adolescents’ behavior and development with their desire to promote independence and independent thinking and decision-making. Parenting that promotes autonomy provides children and adolescents with opportunities to make their own decisions and form their own opinions while also providing guidance and support to enhance the development of responsibility. Parental monitoring has been identified as a key parenting practice during the teenage years because of its role in promoting autonomy.

Parental monitoring implies that parents are aware of their children’s whereabouts, activities and friends. Parents’ knowledge of their teenagers’ whereabouts and activities is considered a protective factor for a range of problem behaviors and outcomes including conduct problems, violence and delinquency; drug, tobacco and alcohol use; early initiation of sexual intercourse and risky sexual behavior; and poor school performance.

Despite strong and consistent evidence that well-adjusted adolescents have well-informed parents, little is known about how parents obtain information and maintain their connection to their children. Parents are often encour-

aged to obtain information by asking questions and by having and enforcing family rules as evidenced by the advice offered through the National Youth Anti-Drug Campaign’s public service announcements (for example, “The more you know”) and Web page (www.theantidrug.com). However, some recent research conducted in Sweden suggests that adolescents’ willingness to inform their parents of their whereabouts and activities, rather than whether parents ask questions and have rules, is the key to parents becoming and remaining informed.

Research funded by the Louisiana Board of Regents is being conducted through the LSU AgCenter to further understand how parents in Louisiana get and stay informed. For the past two summers, interviews have been conducted with 12- to 15-year-old adolescents and their mothers. Interviews have been conducted with boys and girls and with white and African-American families. Parents and teenagers are interviewed separately, but the interviews contain many of the same questions for each. The interviews include standard questions about parenting, parents’ and teenagers’ expectations for freedom and responsibility, how well the parents and teenagers communicate and get along with one another and whether the teenager is involved in several different problem behaviors. More than 85 families have been interviewed.

So far, results from this AgCenter research tell us that parents believe they know nearly all there is to know about their teenagers’ whereabouts and activities. Although the teenagers agree that

Laird Receives \$336,898 Grant

The National Science Foundation has awarded a \$336,898 grant to Robert Laird through LSU A & M. Laird has a joint appointment with the LSU AgCenter, and the grant will allow him to continue his research on parenting teenagers.

Laird seeks to understand how parents’ awareness and interactions with their children change as children become teenagers. Laird’s research team plans to recruit 200 fifth grade students and their parents and interview them once a year for the next three years. They will focus on identifying change in parents’ awareness and intrusiveness and will attempt to connect changes in awareness and intrusiveness with developmental changes in the child, the parent and the parent-child relationship.

The research will provide information for parents, interventionists and therapists on how the transition from childhood to adolescence influences parenting and parent-child relationships. ■

Robert D. Laird, Associate Professor, and Diane Sasser, Associate Professor, School of Human Ecology, LSU AgCenter, Baton Rouge, La.; Holly Bell, Instructor, LSU-Eunice, Eunice, La.

their parents know a lot, they tell us their parents do not know everything that goes on in their lives. Parents tell us they ask lots of questions and have and enforce rules concerning with whom their teenagers are allowed to spend time, where they can go, what they can do and what time they have to be home. Teenagers agree that their parents do these things, but they don't think they do them very often or very consistently. Parents and teenagers agree that teenagers tell their parents whom they were with and what they were doing a little over half of the time.

Why are some parents more knowledgeable about the lives of their teens than others? Parents participating in the AgCenter study are more knowledgeable when they have and enforce rules and when they engage in more-frequent conversations with their teenagers about their friends, interests and activities. It does not matter whether the conversa-

tions are started by the parents or by the teenagers – what matters most is that parents and teens talk about these things. Parents also are more knowledgeable when parent-teen conflict is relatively infrequent and minor, when parents and teens can talk openly with one another and when teenagers feel supported and trusted by their parents.

Positive experiences in the parent-teen relationship – limited conflict, open communication, support and trust – make parents more likely to ask about the teenagers' friends and activities and make it more likely that teenagers will respond truthfully and follow their parents' rules. Thus, positive parent-teen relationships appear to facilitate parenting behaviors that encourage autonomy and produce well-adjusted teenagers. However, it is surprising that other research results also tell us that negative parent-teen relationships and frequent teen behavior problems also result in increased

freedom from parental supervision. This premature and undeserved independence is likely to undermine true autonomy and lead to maladjustment.

When teenagers receive too much independence – and particularly when such independence is poorly monitored by parents – teenagers are much more likely to become involved in problem behavior and are less likely to go on to be productive citizens as adults. However, parents can facilitate and encourage autonomy by providing increased freedom and responsibility. In doing so, parents should actively monitor their teenagers' behavior and work to maintain positive and supportive relationships with their teenagers. ■

Acknowledgment

This research was supported by a grant from the Louisiana Board of Regents through the Board of Regents Support Fund.

'Be Child Care Aware' Campaign Reaches Families

The two-year "Be Child Care Aware!" educational campaign, launched in the fall of 2003, reached at least 205,000 people with information on quality child care.

The campaign is a joint project of the LSU AgCenter and the Louisiana Department of Social Services' Office of Family Support. It involved wide dissemination of information to families and child-care providers about the importance of quality care in the development of young children.

Among the many efforts were weekly newspaper columns, weekly radio announcements, educational displays, informational brochures for child-care providers and for parents, educational presentations for child-care providers and parents and an informational Internet site.

The educational information was welcomed by child-care providers and parents alike.

For example, Veronica Finucane, director of the University Baptist Church Child Development Center in Baton Rouge, wrote that she "would like to applaud the LSU AgCenter for this effort. Keep up the great work!"

Finucane said she was grateful for the "aggressive approach to issues concerning child care" and added that the information developed in the "Be Child Care Aware!" campaign "helps families to make informed decisions about what to look for in child care." She also said the Web site was a valuable source of information for newsletters for the families with children enrolled in her center and her teachers.

Likewise, Aleta Jacobs, director of Bogalusa Head Start and Early Head Start, said the brochures on quality child care were valuable resources.

"Because we have a waiting list, we have decided to hand them out during the application process," Jacobs said. "If the child does not get into Head Start, then at least the parent will have some

knowledge of what to look for in another child-care setting."

Cadra Menard, a mother of three from Shreveport, was among those who wrote to say how helpful the Web site had been.

"I am the mother of three small boys – ages: 3, 2 and 7 months. Needless to say, there are several days where I need some advice," she wrote. "I just found the LSU AgCenter Web site and am beyond impressed by the information provided."

The training sessions for child-care providers, which were part of the campaign, also netted positive comments. Participants said the sessions helped them learn how to better communicate with parents, how to better assist children having trouble. The sessions also helped them learn to take better care of themselves so they can be better teachers.

Among the overall assessments of the classes were such comments as "These classes help make me a better teacher" and "These classes let me know that I am more than just a baby sitter." In fact, most participants indicated they had learned valuable lessons that would help them provide better child care.

Partners in the effort also were pleased with the results.

"The 'Be Child Care Aware!' campaign is an effective tool in enlightening Louisiana citizens about critical issues that impact families," Nannette Russell White of the state Department of Social Services wrote. "We have found this initiative to be a helpful component in decision-making that allows parents to make informed, educated choices regarding their children's child-care needs."

Although the grant funding for the two-year "Be Child Care Aware!" campaign ended in the fall of 2005, LSU AgCenter faculty members are continuing their efforts to educate the public about the importance of quality child care – and the educational Web site is being maintained and updated. You can view that site by visiting www.lsuagcenter.com/childcare and clicking on the Be Child Care Aware links. ■ **Tom Merrill**



Young children who spend time in an early childhood classroom that is developmentally appropriate have opportunities to move around the room and select from a wide range of interesting and challenging activities. Moving around the room, participating in a variety of activities, allows the children to interact with other children and adults, teaching the young children concepts and skills that will help them grow into prosperous adults. The researchers say that developmentally appropriate programs can be a sound economic investment of Louisiana's limited resources.

Developmentally Appropriate Educational Practices in Early Childhood Programs:

An Economic Investment for the Future

Diane C. Burts, Teresa K. Buchanan, Joan Benedict and Cynthia DiCarlo

The effect of early experiences on a child's later success is well-documented by social scientists. Because young children are increasingly spending more of their early years in a variety of settings, it is critical that they receive high-quality care and education during these formative years. The many types of early care and education programs include

licensed child care centers, family child care homes, Head Start and public and private pre-kindergarten and kindergarten programs. In Louisiana more than 57,380 children are in public kindergartens, and approximately 149,850 children are in the various early childhood programs that serve children under age 5.

Researchers have found that early

Diane C. Burts, Grace Drews Lehmann Professor, School of Human Ecology, LSU AgCenter, Baton Rouge, La.; Teresa K. Buchanan, Associate Professor, College of Education, LSU, Baton Rouge, La.; Joan Benedict, Assistant Professor and Director, Child Development Laboratory Preschool, and Cynthia DiCarlo, Assistant Professor, School of Human Ecology, Baton Rouge, La.

care and education programs have an immediate effect on local and regional economies. These programs support the economy when they pay employee wages and purchase supplies, materials and equipment. In fact, researchers in Louisiana have shown that child care has more direct and indirect positive effects on local and regional economies than other industries, including agriculture, con-

struction, manufacturing or retail. In addition, early care and education programs affect the economy indirectly through their long-term effects on children.

Developmentally Appropriate

Louisiana is beginning to make early childhood education a priority, but it is not enough to simply have more early childhood programs. Programs must be

of high-quality. What is high-quality? In 1987 and 1997, the National Association for the Education of Young Children (NAEYC) published position statements describing the best care and education practices in programs serving children from birth through age 8. The term used by the NAEYC to refer to this is “developmentally appropriate practice.” Appropriate practice requires that early care and education professionals understand the children and families they serve and that they keep abreast of research so they can make decisions to support children’s learning and their social, emotional and physical development.

When teachers use developmentally appropriate curricula and teaching practices, they derive their curriculum from what they know about their children’s interests, individual capabilities and cultural backgrounds. As the photographs illustrate, an early care and education environment that incorporates developmentally appropriate practices includes many opportunities for children to learn reading, math, science and social studies concepts. Children learn these concepts and skills as they move around the room interacting with adults and other children and selecting from activities that interest them and challenge them to think, solve problems and play creatively. Assessment is systematic and on-going. Teachers observe children involved in activities throughout the day, talk with them about their new discoveries and understandings and document their learning.

Inappropriate

In contrast, a developmentally inappropriate environment is predominately teacher directed and limits children’s movement, interactions, choices and activities. The teacher may rigidly follow a prescribed curriculum without attention to individual children’s needs, interests or backgrounds. Instruction may not challenge the children, or it may exceed their capabilities. Memorization and skill development are emphasized. Assessment is primarily limited to children’s performance on paper-and-pencil tasks measured sporadically, such as before a reporting period.

LSU Studies

During the past 15 years, LSU researchers have conducted studies in the area of developmentally appropriate practice. This body of work, known nationally and internationally as “The LSU Studies,” has been used by scientists in the United States, Argentina, Canada,

Photo by Joan Benedict



Children learn to read and write through daily classroom routines in a developmentally appropriate classroom. Experts say that an early care and education environment that incorporates developmentally appropriate practices includes many opportunities for children to learn reading, math, science and social studies concepts.

China, Greece, Korea, Russia and Uganda. One of the primary goals of the research is to determine the short- and long-term consequences of developmentally appropriate and developmentally inappropriate practices. To get this information, public and private pre-kindergarten and kindergarten teachers reported their beliefs and classroom practices on questionnaires; their responses were verified through observations. Children in classrooms where teachers used either predominately developmentally appropriate or predominately developmentally inappropriate practices were observed. Researchers recorded the activities in which the children were engaged and whether they exhibited signs of stress (for example, hand manipulation, nail biting, nervous laughter) during these activities. Report cards and state assessment measures were used to gather follow-up achievement information. Report cards and a teacher questionnaire provided information about the children's behaviors in later years.



Children learn science concepts as they explore their environments in a developmentally appropriate classroom setting. During the past 15 years, LSU researchers have conducted studies in the area of developmentally appropriate practice. The "LSU Studies" have been used by scientists in the United States and all over the world.

Major Findings

Children who were in pre-kindergarten and kindergarten classrooms where teachers used developmentally inappropriate practices exhibited twice the stress behaviors as children who were in classrooms where teachers used developmentally appropriate practices. In

another study, kindergarten children who were in a classroom where the teacher used developmentally inappropriate guidance strategies showed a decrease in positive social behaviors, while children in a kindergarten classroom where the teacher used developmentally appropriate

Magazine Expands Mailing List

Louisiana Agriculture serves as a window to the kinds of research and extension programs conducted by the LSU AgCenter. Our research occurs on the Baton Rouge campus as well as at 20 stations located across the state. We have a presence in every parish through our system of extension offices. A few are not functioning now because of hurricane and flood damage, but all will be back up and running in 2006.

The ultimate goal of our programs is the economic well-being of the state as well as enhanced quality of life for Louisiana citizens. Please let us hear from you about topics you would like covered in the magazine.

Please let us know if there are any changes to your address, if you want to be taken off the list, or if you want friends and family added to the list.

Please go to www.lsuagcenter.com and click on "Louisiana Agriculture" to go right to the magazine, which is available in PDF and HTML formats. Please send correspondence to the editor, Linda Foster Benedict, at lbenedict@agcenter.lsu.edu.



Children who take part in a developmentally appropriate classroom grow emotionally, socially and physically by interacting with other children, as well as adults.



Interesting activities that interest children and challenge them to think, solve problems and play creatively can be found in a developmentally appropriate classroom setting. An LSU study finds children who were in classrooms where teachers used developmentally inappropriate activities exhibited twice the stress behaviors as children who were in classrooms where teachers used developmentally appropriate activities.

Choose Child Care Carefully

It's a fact. Most tots and toddlers spend the majority of their waking moments in child-care programs. Child care comes in many forms both private and public and should be chosen to meet your needs and the needs of your child. Start your child-care search by asking family and friends for recommendations or contact a local referral agency. Once you have a list of potential caregivers, conduct interviews with them, visit their sites and ask for parent references. When visiting child-care centers you should consider these traits:

- Look for staffing ratios that are small.
- The temperament of the caregiver should be warm and caring.
- Look for an environment that is clean, comfortable and cheerful.
- Child-care daily routines are important, yet there should be enough variety to stimulate your child's development.
- Child-care providers should have developmentally appropriate toys for each age group.
- Inspect indoor and outdoor play areas for safe equipment and adequate space.
- Meals and snacks should provide healthy nutrition.
- Parents should be informed of the day-to-day activities of their child
- Parents should sense that their child is important to the caregivers.
- All local licensing standards should be upheld.
- Child-care providers should make your child's safety a top priority.

While cost and convenience are important considerations in selecting care, parents should also consider what is the best child-care arrangement based upon their children's ages, abilities, interests and personalities. Contact your local Office of Family Support or school board for information pertaining to the different child-care options that may be available to you. ■ **Tobie Blanchard**

ate guidance showed an increase in positive social behaviors during the school year.

Follow-up studies indicate that the growth trajectories beginning in early childhood tend to persist over time. Children who had been in kindergarten classrooms where teachers used developmentally inappropriate practices had lower report card averages in first, second, third and fourth grades; lower state assessment reading scores in third grade; and lower grades for conduct and work habits in first, second and third grades. They also exhibited more aggression, hostility and hyperactive-distractible behavior over time. All of these outcomes were mediated by the children's stress behaviors observed when they were in kindergarten.

The LSU Studies are cited in numerous publications and are used to substantiate the benefits of developmentally appropriate practice and the negative consequences associated with developmentally inappropriate practice. Teachers have re-examined their classroom practices, and administrators have supported teachers' movement toward developmentally appropriate practice. Direct involvement in the research has resulted in individual classroom teachers changing their teaching practices to be more developmentally appropriate.

Other researchers have found evidence of direct economic benefits of early care and education experiences. The LSU Studies help show that the quality of those early childhood programs is critical. High-quality programs have important short- and long-term effects on children that could benefit the economy in the long term. If programs are developmentally appropriate, they can be a sound economic investment of Louisiana's limited resources. ■

Order Publications

The "Be Child Care Aware" program includes two publications that you may order free of charge. One is for caregivers and the other is for parents. Both are available at LSU AgCenter parish extension offices or by going to the www.lsuagcenter.com. You may also order by contacting the LSU AgCenter publication office at (225) 578-6598.

Nature-based Tourism

Blazes Trail for Economic Growth

Cynthia F. Pilcher, Kay L. Tettleton and R. David Neal

Rural America is turning to nature to revitalize its communities. Ironically, farming communities with enhanced natural amenities may boost business opportunities. While past generations looked to towns and cities as destinations for tourism, today's travelers are seeking the authentic experiences found in the rural South.

Innovative, interactive opportunities to experience nature through hunting, fishing, birding, hiking, camping, biking, horseback riding, canoeing and photography are among the experiences offered by rural communities. The quiet country atmosphere enjoyed by generations of rural residents may become one of the hottest vacation destinations in America.

While travelers continue to look to metropolitan areas with their rich resources of culture, art, history and entertainment, green spaces are becoming increasingly more popular as vacation destinations. Youth and adults are choosing vacations that bring them close to nature.

The culture of the Mississippi River delta region, including northeast and central Louisiana, is rich with the folklore of King Cotton, "the blues" music and the archaeology of past civilizations. Some call this part of Louisiana the delta's "diamond in the rough." The area's cypress and moss-lined bayous teeming with wildlife in the warm months and waterfowl that pattern the sky during winter migration create the perfect setting for a nature lover's recreation destination. Waterways abound in the hardwood and pine forests, as well as the agricultural landscapes, making this region appealing.

The Louisiana delta region contains more than 1.6 million acres of agricultural land, plus nearly 200,000 acres in conservation programs. Hunting and fishing are a way of life in the northeastern area of Sportsman's Paradise, which is Louisiana's motto. Wildlife-related recreation is a \$1.6 billion industry in Louisiana and a \$108 billion industry nationwide.

Rural communities blessed with natural amenities are in an excellent position to diversify their economies by promoting nature-based tourism. The LSU AgCenter recognizes this potential and is directing resources to provide educational programs to facilitate and strengthen the effort. Tremendous opportunities for entrepreneurship and increasing community capital emerge from this growing industry.

The AgCenter is helping rural landowners diversify the economies of their communities by capitalizing on the assets in their own backyards. Economic diversification through outdoor recreation, heritage and cultural tourism is a window of opportunity for the economically depressed delta area in Louisiana.

The establishment of a new economic development initiative by the LSU AgCenter called "Discover Northeast Louisiana Outdoors" led to a regional effort to embrace new

ways to develop local economies. The primary mission of this initiative is to facilitate economic diversification, environmental-resource sustainability and economic revitalization through alternative land use.

Discover
Northeast Louisiana
OUTDOORS

Landowners in a 12-parish region worked collaboratively to promote this initiative through the formation of a nonprofit organization called the Delta Outdoors and Wildlife Association. This group includes business owners, landowners, agricultural producers and members of economic development organizations eager to develop, promote and market outdoor recreation and tourism.



Delta Outdoors and Wildlife Association members are working in conjunction with a recently organized grassroots economic development alliance called Louisiana Delta 65, Inc. The AgCenter community economic development program was the catalyst for the formation of this new entity, which was the vision of community leaders in Lake Providence. Through community coaching and facilitation, community leaders and elected officials from five parishes gathered in Tallulah to create this alliance. Emerging leaders are taking ownership of this regional project, thus increasing community capital through enhanced civic engagement.

Agri-tourism could play a major role in this initiative. From the Arkansas border north of Lake Providence to the Mississippi state line at Vidalia, U.S. Highway 65 provides a new frontier for tourists interested in agri-tainment. Louisiana Delta 65, Inc. is responsible for the reinstatement of the Highway 65 legislative commission, which is an advocate for highway improvements including widening the highway from two lanes to four lanes.

With increased emphasis on all aspects of rural tourism, needs of small businesses must be assessed. Customer relations skills are addressed to ensure each visitor is greeted with an old-fashioned dose of Southern hospitality and knowledge about the heritage of the area. These one-on-one conversations educate the traveler about the area and may lengthen the traveler's stay or encourage a return trip. Improving customer relations skills strengthens the sustainability of businesses in rural areas.

Through the AgCenter's Delta Rural Development Center in Oak Grove, community economic development agents offer workshops to assist entrepreneurs and front-line employees in honing skills to increase customer loyalty. Entrepreneurship and leadership skills development are viable assets for increasing community capital and diversifying the economy. E-commerce has provided an avenue for small businesses to increase revenues by selling Louisiana products worldwide.

For centuries, the waters of the mighty Mississippi created a rich alluvial flood plain. Future generations will reap the benefits of conservation practices and a diversified economy in the delta. Selling the rural experience through nature-based tourism may be one answer to economic sustainability in this region and to keeping main streets alive across the delta. ■

Cynthia F. Pilcher, Community Economic Development Agent, Northeast and Central regions, Winnsboro, La.; Kay L. Tettleton, Community Economic Development Agent, Northeast Region, Calhoun, La.; and R. David Neal, County Agent, Catahoula Parish, Harrisonburg, La.



Photo by John Wozniak

Going up on the LSU campus almost in the shadow of famed Tiger Stadium, the Louisiana House Home and Landscape Center – LaHouse – will be a permanent, evolving showcase with acres of educational landscape exhibits, a teaching center and exhibit space providing educational outreach to consumers, construction professionals and youth. LaHouse will include a range of practical and proven solutions, from no-cost to higher-end products and systems for both new and existing homes. LaHouse will be a hub of ongoing educational outreach through distance education and a network of extension educators on site and in all 64 parishes of Louisiana.

Inside:

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