Each year, 20,000 to 35,000 migrant agricultural workers come to Minnesota to work in farm fields and food processing plants. Migrant families typically spend April through November in Minnesota, and often return to the state to work with the same farmers or companies year after year. The vast majority of migrant workers in Minnesota are permanent legal residents of the United States from the border region of southern Texas and northern Mexico.

Farmworkers were initially recruited to work in Minnesota’s sugar beet industry during the 1920s and 1930s. Enganchistas (recruiters) traveled to southern Texas and northern Mexico to recruit migrant workers to the Red River Valley region of northwestern Minnesota, where farmworkers worked in all aspects of sugar beet production, including planting, thinning, weeding, blocking, and harvesting. Today, mechanization and the increased use of pesticides have reduced the number of jobs for migrant workers in the sugar beet industry. However, farmworkers are increasingly recruited to work in other regions of the state, including southeastern and south-central Minnesota. Most farmworkers in south-central Minnesota work in agricultural field labor, in vegetable cultivation and processing, in horticulture, and in forestry.
In 1997, CURA’s U-Migrant Project and Communiversity Program, in cooperation with the University of Minnesota Extension Service, sponsored a survey of migrant farmworkers in south-central Minnesota. In the pages that follow, we describe the design and method of the initial farmworker survey and summarize the results of that research. We then discuss the subsequent formation by migrant workers of Centro Campesino (Farmworkers’ Center), a membership-based advocacy group intended to create long-term, institutional changes that promote equity and justice in Minnesota farmworker and non-farmworker communities. This article is written in the spirit of generating discussion, awareness, and positive social change related to the issues facing migrant farmworkers in south-central Minnesota.

Purpose and Methodology of the Research

The initial survey research project was initiated to better understand the issues facing migrant farmworkers in south-central Minnesota, and to lay the groundwork for actions aimed at long-term change and improvement in the lives of migrant families. The study design was based on participatory research methodologies. Specifically, researchers followed the principles of the participatory rural appraisal (PRA) and activist participatory research (APR) approaches.

The PRA approach was initially developed in the 1980s. The main principles of PRA include building respect among researchers and research participants, and empowering research participants through access to and ownership of shared community knowledge generated by the research. Researchers, in turn, must examine their cultural biases and preconceptions in order to avoid drawing inaccurate or biased conclusions from the research. Information is continuously gathered from research participants in the community until visible patterns in thinking begin to emerge. The data gathered using this approach are descriptive in content, and represent a collection of ideas about the lives and experiences of the participants.

APR methodologies are based on the work of Brazilian popular educator and researcher Paulo Freire. Main principles of APR applied in this work include ensuring that the local people being surveyed manage the research process, recognizing that the role of the outsider is as a facilitator of the research process, and ensuring that local participants direct any actions or change resulting from the survey. The data gathered are qualitative in nature, and a wide variety of approaches are used by APR teams, including community dialogues, oral histories, and semi-structured one-on-one conversations.

Both the PRA and APR philosophies are particularly well suited to learning about the complex problems facing people who are involved in agriculture and live in rural communities. Both approaches identify local communities as the owners of the information gathered, and as the appropriate initiators of any subsequent action that stems from the research.

Under the direction of a veteran farmworker, a multidisciplinary team of volunteer researchers loosely employed PRA and APR methodologies to conduct a survey of migrant agricultural workers in Minnesota. To develop and implement the survey, University of Minnesota staff and other consultants with backgrounds in agricultural science and education were teamed with migrant community members who had backgrounds in health, organizing, and community service. Researchers learned about PRA and APR methodologies through reading materials, training sessions conducted by the Minnesota Institute for Sustainable Agriculture, and faculty mentoring by members of the Department of Curriculum and Instruction and Department of Agronomy and Plant Genetics at the University of Minnesota. CURA supported a portion of research costs for the survey. Researchers volunteered many hours of time and many miles of travel to complete the work.

The community members who participated in the research work and live in the south-central region of the state from April through November. Survey team members engaged in in-depth conversations with farmworkers in various public places in Minnesota, including churches, restaurants, supermarkets, and migrant housing camps. The primary researcher traveled to Texas border communities to talk with farmworkers who regularly come to southern Minnesota each year to work. One-on-one conversations were held in Spanish with each participant, and conversations were structured around a series of 24 questions developed by the research team. Researchers recorded the details of the conversations by hand on an open-ended questionnaire form. In all, researchers conducted conversations with 180 migrant agricultural workers. Participants did not receive payment or other compensation for their participation.

Results for each question were then entered into a computer database, and the data were examined for patterns of similarity and difference. The research team analyzed the responses to each question, and determined the percentage of community members who responded similarly to the question. Once results were compiled, the research team held a series of community meetings to discuss and analyze the outcomes of the study and to decide what action should be taken based on the results. During these meetings in 1998, farmworkers who had participated in the research suggested that the group form an organization that would advocate for farmworker members and work toward long-term changes in housing, working, and living conditions. As a result, Centro Campesino was born.

The Experiences of Migrant Farmworkers in South-Central Minnesota

This section summarizes the responses of the 180 migrant farmworkers who participated in the research. The topics discussed by these workers included where they live when not working in Minnesota, agricultural companies’ recruitment practices, housing and work conditions, the contributions farmworkers make to Minnesota communities, and the general experiences of migrant farmworkers. Nuestros Hogares: Where Do Minnesota’s Migrant Farmworkers Live during the Off-Season? The majority of the migrant workers who participated in the research project live in Texas and Mexico during the months when they are not working in Minnesota. More than half of the families have their permanent residence in the Texas border towns of Eagle Pass, Mission, or Del Rio. Approximately one-fourth of the families come from Mexico. The majority of farmworkers who come from Mexico are from Reynosa or Saltillo in the states of Tamaulipas and Coahuila. The other families come from a variety of states other than Texas. Figure 1 summarizes these results.

Migrant families drive an average of 1,800 miles one-way to work in Minnesota. Undeniably, the economy of
Farmworkers of America, has observed, Rodriquez, president of the United Texas is set at $3.35 an hour. As Arturo minimum wage for farmworkers in to drive such a long way for work. The willingness of many migrant workers southern Texas contributes to the

satisfaction to Minnesota employers and access to housing in a company-owned

Unemployment and poverty in the Rio Grande Valley of south Texas is among the highest in the country. While the national unemployment rate is around 4% and it is low in Texas overall, it ranges between 14% and 16% in the largely agricultural and Mexican-American south Texas counties, according to state figures. When workers who don’t file for unemployment benefits are considered, joblessness in south Texas jumps to between 25% and 30%.

Contratistas, or crew leaders, determine who comes to Minnesota for farm work. Crew leaders are hired by agricultural companies and industries to recruit the majority of workers hired in Minnesota each spring. Crew leaders are most often the negotiator with Minnesota farmers seeking employees, and are typically from farmworker communities with their permanent residence in southern Texas. Most recruit from communities near where they live. Of the migrant farmworkers who participated in the study, 91% were hired to come to Minnesota by a crew leader, usually the same person year after year. The main advantage to farmworkers hired by a crew leader is their connection to Minnesota employers and access to housing in a company-owned

migrant camp. One of the disadvantages of being hired by a crew leader is that farmworkers are not afforded the opportunity to negotiate for their specific position within a company. Crew leaders often provide their employers with a list of the people they recruited; employers return the list with each worker assigned to a particular job. Among migrant farmworkers who participated in this study, 78% said that they would prefer not to be hired by a crew leader and would like to deal directly with employers.

The potential for abuse in the labor contracting system is high. A 1994 Department of Labor Study found that farmworkers who were employed by crew leaders are more likely than those who were not to be forced to pay for their equipment (45% vs. 16%), and for food, rides, or housing (34% vs. 14%). Crew leaders frequently misrepresent jobs and benefits to potential workers. They have significant power over workers because they decide who gets which job, and they often manage migrant housing. If a farmworker has an argument with a crew leader, the worker might not be hired the following year.

When migrant farmworkers work in the fields, crew leaders are usually in charge of managing the payroll. They are often late with pay, and in some cases crew leaders leave Minnesota still owing workers money. They often take a generous cut of workers’ earnings. When migrants work for a processing company, they usually receive their payments directly from the company. All of the participating farmworkers preferred to be paid directly by the company rather than via the crew leader. Luz del Carmen Flores, a Centro Campesino board member, explains, It is not fair that we risk our lives on the road to come to Minnesota when they contract us. They offer us work, and when we arrive in Minnesota, there is not much work and they pay us the same that we make here in the Valley. If we go as contracted workers, they should guarantee at least 40 hours of work. We struggle to get here. When I saw Minnesota for the first time, I was well received. We had traveled to Georgia as migrants and the pay was very low. We asked for a just pay raise, and they fired us from that company. And we think that Minnesota is a state of hope, but we have the fear that if one day we ask for a raise in any company in Minnesota, the same thing will happen to us here in Minnesota and we will be fired.

El Viaje de Texas a Minnesota: The Trip from Texas to Minnesota. On average, migrant farmworker families who participated in this survey spend $140 in fuel for the trip from southern Texas to Minnesota, and $15 per person for food. The majority of workers in this survey chose to drive their own cars for the trip. Because families spend three to five months in Minnesota, and because the rental housing units in which they live are unfurnished or only minimally furnished, families must bring with them linens, kitchenware, window curtains, air conditioners, clothing, and other items.

The trip from southern Texas is a 30- to 40-hour drive. Although the drive is long, none of the farmworkers surveyed stopped in a hotel to rest because they could not afford the expense. Families generally drive the trip straight through, stopping only for gas, food, or emergencies. A worry for many families is that someone will get sick during the trip.

Despite federal and state labor laws, the potential for abuse of the labor contractor system is high. Survey participants reported that crew leaders frequently misrepresent jobs and benefits, pay workers late, take generous cuts of workers’ pay, and—in some cases—leave Minnesota still owing workers money.
Arriving late to Owatonna means risking the loss of a job or prearranged housing, so in the event of illness, families will seek a doctor’s evaluation and then continue the trip to Minnesota.

Upon arrival in Minnesota, farmworkers reported, the ambience is one of happy reunion with friends, who in some cases have not seen each other since the previous year. At the end of the season, the majority of migrants surveyed return to their permanent residences with all of their belongings.

Los Campos: Farmworker Housing Camps in Southern Minnesota. The majority of the migrant farmworkers who participated in this survey arrive in Minnesota with housing prearranged in one of the migrant worker camps. Many workers in other regions arrive in Minnesota with no prearranged housing. The workers participating in this survey make arrangements for housing during the winter when they sign a contract with a crew leader in Texas.

Only 4% of the workers surveyed find the migrant camps comfortable. Of those surveyed, 78% mentioned problems with the rest rooms in the camps, and 27% were concerned about the quality of the water. Other problems that were mentioned included the lack of screens in the windows, the extreme heat inside the housing units during the day, the lack of hot water available for use inside individual housing units, and the lack of accessible public telephones in the camps. Others noted that housing camps are located far from municipal services such as libraries, hospitals, health clinics, courthouses, and schools.

Some camps feature communal restrooms with toilets, sinks, and showers. Farmworkers reported that early in the season, everything works in the restrooms. However, two or three weeks later, sewer problems often begin to appear. On busy days, the sewage water from the toilets reenters the restrooms through the drains on the floor. At the end of factory shifts or fieldwork, workers usually shower. The shower drains often become blocked, and the restrooms flood.

During Minnesota summers, insect pests are abundant. Many housing units have torn window screens or, in some cases, no screens at all, so it is necessary for residents to keep their windows shut to prevent pests from entering. The lack of screens and the need to keep windows shut prevents workers from ventilating their homes on hot summer days, and results in oppressive conditions inside the units.

Finally, farmworkers noted that in some camps, there is only one public telephone available for use. Because anywhere from 35 to 100 workers live in each camp, survey participants noted that it is not uncommon to wait in line for more than an hour to make a telephone call during the afternoon or evening.

Figure 2 identifies various housing changes suggested by farmworkers who participated in the survey. Most suggested that housing units should have their own private restrooms, and that hot, drinkable water should be available inside each housing unit. Many also noted that the problem of extreme heat inside the housing units during the summer could at least be partially solved by fixing window screens, allowing residents to ventilate their houses. Survey participants also suggested that fans or air conditioners be installed. Many families bring their own.

Looking for Housing: When Space in the Camps Is Not Available. In towns across Minnesota, migrant farmworkers arrive in April to begin work without previously having arranged for housing. Finding a temporary place to live for three to four months is difficult in a small city. Some farmworkers who were surveyed noted that after arriving in Minnesota, they had to sleep in their trucks for several nights before they found housing.

Affordable seasonal housing is almost impossible to find in many Minnesota communities. The majority of migrants without prearranged housing reported living in rooming houses, where they rent one or more rooms and share the common areas in the building with the rest of the residents. Other families are able to rent an entire house, and usually split the rent with another family or group of friends. People who cannot find a place to live after the first few weeks...
Many migrant worker camps have communal restrooms that all residents must share. In addition to the inconvenience and lack of privacy characteristic of these facilities, substandard plumbing and poor sewage systems cause frequent problems. On busy days, shower drains often become clogged, and sewage water from the toilets reenters through floor drains, flooding the restrooms.

often ask to stay with relatives or friends for the rest of the season. Some families move on and leave their jobs to find a community or state where housing and work are both available.

Los Trabajos: What Do Farmworkers Think about Their Jobs? Upon arrival in Minnesota, the majority of surveyed migrant farmworkers work in the fields 8 to 10 hours a day, seven days a week, picking rocks or performing other planting-related jobs. Later in the season, many migrants work in vegetable canning plants that operate 24 hours a day, seven days a week, from early July until late October or early November. Workers typically work 12-hour shifts, six to seven days a week.

The vast majority of farmworkers surveyed thought that the jobs they work are difficult. In the fields, perhaps the hardest and most frequently mentioned job was picking rocks. Farmworkers walk through the fields with a bag over their shoulder collecting rocks they find on the surface. This is done to prevent damage to the machinery that will be used for fieldwork throughout the season.

Workers also described their jobs as low paying. Only 2% of the migrant farmworkers who participated in the survey answered that seasonal canning factories pay a fair wage. Workers in the factories perform a range of tasks, including feeding produce into machines and moving canned produce to storage areas. Workers explained that the strongest workers usually get these higher paying jobs, while women and older people earn lower salaries for other jobs.

Of the workers who participated in the survey, 8% think that farmworkers in south-central Minnesota are paid a fair wage. The average wage for field workers among those surveyed was $5.50 an hour. Field jobs that paid more than $5.50 an hour were rare. The Farmworker Justice Fund reports that approximately 60% of migrant farmworkers in the United States earn incomes under the federal poverty line, and 73% of migrant children live in poverty.

Few of the workers surveyed felt confident they would be able to find another job if they left their current employment. The majority said that they did not know if it was possible to pursue other employment if they did not like their current job, but they were unwilling to try because of the risk of losing their housing. The camps where farmworkers live usually belong to the company, so if a person loses their job, they will likely lose their housing at the same time.

When asked about dangers in the fields, the majority of migrant farmworkers surveyed mentioned exposure to pesticides and other chemical products while they are working. Dehydration and sun exposure were also commonly mentioned. When asked about the risks associated with factory jobs, noise and hazards related to heavy-machinery operation were most frequently mentioned.

When asked if they would get paid if they had to leave their job due to an accident or illness caused by the job, only 3% of workers answered yes. Another 8% said that they would not get paid if they had to leave their job for health reasons. The remaining 89% did not know what the policies of the company were regarding health- or injury-related leaves.

Overall, 98% of the migrant workers surveyed felt that their employers have the ability and resources to improve workers’ quality of life, but have chosen not to do so.

How Minnesota Benefits from Migrant Farmworkers. The majority of those surveyed noted that the work of farmworkers helps to support Minnesota’s agricultural sector, and is necessary for the economy. One respondent commented, “Of course! Why else would they bring us here every year?” Another noted that “Migrant workers are the only source of temporary hand labor in peak production months to the farmers and food processing companies in the area.” When discussing how Minnesota companies benefit from migrants, 70% of the respondents thought that the farmers and food processing plants in the area benefit from their hard work. Some noted that migrant farmworkers are the only people willing to perform the jobs offered in the food processing plants. Others suggested that the main benefit that factories and farmers receive is cheap labor.

General Experiences in Minnesota. When asked about the good things related to coming to Minnesota, 93% of the workers mentioned the jobs that are available. The remaining 7% answered that they like to come to the region during the summer to be close to friends and relatives. As for problems, 53% of the migrants answered that transportation was the biggest problem they encountered in Minnesota. There is no public or private transportation system available for workers to travel from their houses to their jobs. Of the migrant farmworkers who participated in the survey, 65% are native Spanish speakers and do not speak English fluently. Nearly one-third (30%) of those surveyed see the language barrier as the biggest problem they face while they are living in Minnesota, and more than half would like to have interpreters available to facilitate communication with their bosses.
One-fourth of the migrant farmworkers who participated in the survey reported experiencing social discrimination, racism, or isolation while living in southern Minnesota. Some of the families felt discriminated against by landlords when looking for a place to live. Others reported feeling uncomfortable walking down the streets of rural cities because of negative reactions from some year-round community members.

Research to Action:
Founding Centro Campesino
Of the migrant farmworkers who participated in the research survey, 87% were interested in creating an association that focuses on the needs of migrant farmworkers. This overwhelming indication of support resulted in the creation of Centro Campesino (Farmworkers’ Center) in fall of 1998 during community discussions about the results of the research survey. The creation and incorporation of Centro Campesino was a response to the problems experienced by migrant farmworkers in Minnesota.

During the summer of 1999, two committees directed the work of the fledgling volunteer farmworker organization. The committees initially focused on childcare and educational opportunities for farmworker youth and children, primary concerns of migrant families in the region. Parents organized a cooperative childcare program, and negotiated with an employer for use of a unit in each camp for the babysitting program. Members of the committees organized a petition drive and a dialogue with the company concerning wages and housing conditions. That summer, farmworkers received a wage increase and some improvements in conditions. At the end of the 1999 harvest season, committee members developed a strategic plan for the organization under the training and guidance of Baldemar Velasquez (president and founder of the Farm Labor Organizing Committee) and other consultants. A small group of farmworkers stayed in Minnesota during winter 1999–2000 to build the organization and raise money.

Since June 2000, over 120 farmworkers have joined Centro Campesino as members. The first board of directors was elected during the general members’ assembly in August 2000, and the organization has formally established itself as a nonprofit corporation.

Philosophy and Priorities for Change. Centro Campesino was founded by and for migrant farmworkers with the purpose of establishing community and creating a powerful migrant farmworker and rural Latino/Latina voice in Minnesota. Centro’s mission is to improve working conditions and the quality of life for migrant workers and year-round Latino/Latina residents in the region. The organization is built on the philosophy that organized communities of migrant farmworkers in Minnesota and their allies must work together to change institutional structures that inflict poverty and oppression on migrant communities. As board member Lidia Sanchez Limón explains,

"We come here to work and are faced with much injustice. The reality is that nobody does anything to change the situation. We see that our rights are violated in all respects. This is one of the reasons that we have united in this organization, Centro Campesino. Through Centro, we are being heard and are acting together. I am proud of being in Centro Campesino because I am living my values and those of my community."

Centro Campesino addresses issues that impact farmworkers’ daily lives, including unfair recruitment and payment practices, low wages, dangerous working conditions, access to affordable and culturally appropriate childcare, healthcare, lack of affordable and comfortable housing, discrimination, and lack of access to Minnesota’s educational system. The organization’s current priorities, as established by its
boarding of directors, include community daycare facilities, youth educational programs, English classes, citizenship classes, physical and mental health, leadership development, immigration reform, improved wages, better housing conditions, safe working conditions, and increased availability of affordable seasonal housing in south-central Minnesota. Jaime Duran, community organizer, explains his involvement with Centro Campesino:

The enthusiasm to work in Centro Campesino is because I have been a migrant farmworker for 18 years, and I know all the sacrifices that migrant people have made; and though I haven’t gone to school, I have the knowledge of what it is to be a migrant. All of my family has worked and struggled to have a better life, and now that we are working with Centro, not only are we fighting for our families, but for all migrants in general. We have come to understand that this struggle is not anything easy, but we will continue, with everyone’s support and the help of God.

Centro Campesino works to achieve long-term changes through popular education, peer training, leadership development, and community organizing, and relies on the intertwined values of faith, hope, justice, and solidarity to achieve its aims. As cofounder Victor Contreras observes,

Our members make us strong. Our foundation is our commitment, our values, our culture, and our community. We are united to improve the laws and living conditions, to guarantee human rights and social justice. We work from the base of respect and dignity of our work since we are the ones who work so hard, year after year, so that there may be food on the plates of Minnesotans.

Implications and Lessons Learned
We have learned many lessons from this research process and from the formation of Centro Campesino. The following are recommendations for policy makers, community-based organizations, researchers, and Minnesota rural communities based on our experiences:

Further research in migrant farmworker communities must directly involve farmworkers in the inception, development, and implementation of the research project, and in the ownership and use of the data. The lack of easily accessible, basic information on migrant farmworkers is a barrier for many organizations, agencies, and municipalities attempting to address issues facing farmworker communities because government bodies and agencies in the United States require substantiated, well-documented information in order to justify action. Despite this lack of information, migrant farmworkers often report feeling “studied to death.” Many of the farmworkers we interviewed had previously participated in research conducted by private organizations, public service groups, or university researchers, and some were reluctant to participate in our survey because past research has resulted in few concrete changes in the lives of migrant families.

Whether or not they recognize it, researchers develop relationships with the communities they research, and impact future opportunities for researchers to engage in conversations or research with that community. If the research experience is negative or results in few changes, a community might understandably close its doors to future research. Consequently, migrant farmworker research should be based on the interests and concerns of migrant communities. Researchers must make a commitment to engage these communities in a genuine dialogue that results in empowerment, action, and change. Community-based research that involves community members in all stages of research development and implementation is best suited to such an outcome.

A common and flexible definition of migrant agricultural workers that is honored across agency, county, school district, city, and state boundaries must be established. Of great frustration to many migrant families and advocates is the lack of consistent terms for and definitions of migrant agricultural workers across jurisdictional and agency lines. Families are frequently allowed entry into programs or offered services based on different (sometimes contradictory) qualifying definitions. Indeed, in some counties, the school system, health system, legal system, social services system, city, and childcare programs all have different definitions of who migrant farmworkers are, what “they” qualify for, and what “they” do not. This lack of consistency creates significant frustration in migrant communities, and makes documentation and research almost impossible. With no common definition of who is a migrant agricultural worker, those seeking change are hard-pressed to provide data to support important
community-based policies or initiatives designed to help migrant families.

**Livable and affordable housing must be made more available in rural Minnesota.** Mainstream news sources currently bemoan the depopulation of rural Minnesota, and the end of an era of family-based businesses and agriculture in the region. This painful transition is difficult for all to endure. However, many people are moving to rural Minnesota, and many more are interested in living in rural towns and cities throughout the state. One significant problem these people face is the lack of affordable housing, which is almost impossible to find in many rural areas. The living conditions in existing affordable housing often leaves much to be desired. Efforts to develop livable affordable housing are crucial to assist new residents in moving to rural Minnesota.

**Encourage safe jobs that pay a wage on which families can comfortably live.** Hand-in-hand with affordable housing is a salary that allows migrant farmworkers to pay the rent and the bills, maintain a united family, and improve their family’s quality of life. Families need jobs that are safe, and that provide adequate compensation for work-related injuries. Already on the books are two legislative tools that could make this goal easier to accomplish, and Centro Campesino recommends increased enforcement of these workplace safety and workers’ compensation laws. In addition, migrant farmworkers should have federal protection for collective bargaining and the right to organize.

**Translate agency and service materials into Spanish, and encourage second and third language acquisition for everyone.** There are a dearth of materials and services available in Minnesota in Spanish. Many agencies, organizations, and communities do not provide Spanish-language materials, and do not have bilingual/bicultural staff or translation services. A new appreciation and support for multiple cultures seems to be arising in the United States, and it is now more widely recognized that culture, religion/spirituality, and language are interconnected in ways that are very painful and often detrimental for people to unweave. Centro Campesino supports non-English speakers learning English through English as a second language (ESL) classes in order to survive and defend themselves in Minnesota. At the same time, we encourage non-Spanish-speaking individuals and communities to learn Spanish, and provide services and materials to residents in their native languages.

**Encourage cross-cultural dialogue and an inclusive approach to community development in Minnesota.** Cultural misunderstanding causes many unintentional community problems. We could all benefit from a better understanding of dominant cultural structures in the United States, and the many ways that culture impacts our actions and decisions. An inclusive approach to community decision making—one that acknowledges existing power imbalances in the United States, and the unearned access and control that many European Americans enjoy—is critical to the development of communities that encourage the participation and respond to the needs of all their members.

Victor Contreras has been a migrant agricultural worker for 17 years in states throughout the United States. He has been working in Minnesota agricultural production and food processing for the past nine years. In 1998, Mr. Contreras led the research survey discussed in this report, and he is a cofounder of Centro Campesino.

Jaime Duran has been a migrant agricultural worker in Texas, Michigan, and for 11 years in Minnesota. His agricultural work has included hand labor such as detasseling, weeding, and producing fruits and vegetables, as well as managing tractor and machine operations and supervising a cotton crew for 13 years. Mr. Duran has also worked in reforestation, and has monitored wild turkey populations in several states. He was a member of the founding board of directors of Centro Campesino, and now works with Centro as a community organizer.

Kathryn Gilje has worked with community-based social change organizations in Minnesota and Michigan for 10 years. She most recently worked with the Institute for Agriculture and Trade Policy on issues such as ecolabeling, marketing sustainable agriculture, and farmworker justice. Ms. Gilje’s experience is in group facilitation and grassroots organizing, and she has an academic background in agricultural science. Ms. Gilje is a cofounder of and community organizer with Centro Campesino.

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Voices from Home: How Diverse Families Support Children’s Learning in Similar Ways

by Amy Esler, Yvonne Godber, and Sandra L. Christenson

It has been estimated that students spend over 90% of their time from birth to age 18 outside of school, with about one-quarter of children’s waking hours spent in school once they start kindergarten. Given these statistics, it is not surprising that home support for children’s learning has been identified as holding great potential for improving students’ chances at succeeding in school. Findings from numerous studies have demonstrated that family involvement in children’s education promotes a variety of desirable outcomes, including higher academic achievement and lower dropout rates. Home support for learning is facilitated by a school’s ability to collaborate effectively as partners with families. However, educators often report difficulty involving all families, particularly families with diverse ethnic backgrounds. As a result, much remains to be learned about how families in general, and families from diverse ethnic backgrounds in particular, socialize their children as learners.

Recent legislative policies addressing the multiple social problems facing children and youth encourage—and even mandate—that schools develop partnerships between parents and educators to promote children’s academic and social development. In practice, however, educators often do not recognize parents’ involvement when it occurs at home. To broaden understanding of family involvement among different ethnic and cultural groups, the Keeping Involvement Diverse in Schools (KIDS) Project sought to understand the various ways families help their children learn at home. Based on an extensive review of family, school, and community influences on students’ school engagement and success, the following six practices were identified as critical for children’s learning:

1. Standards and expectations: the level of performance expected by key adults in children’s lives
2. Support: the guidance provided by, the communication between, and the interest shown by adults to promote student progress in school
3. Structure: the overall routine and monitoring provided by key adults in children’s lives
4. Climate/relationships: the amount of warmth, friendliness, praise, and recognition; and the degree to which the adult-youth relationship is positive and respectful
5. Opportunities to learn: the variety of learning options available to youth in the home, at school, and within the community
6. Modeling: how adults value learning and working hard by demonstrating desired behaviors in their daily lives

To this point, these practices have not been examined from the perspective of diverse families. This study sought to answer three questions:

- Do parents’ beliefs about the importance of the six practices for children’s learning differ as a function of ethnic and cultural background?
- Do parents of different ethnic and cultural backgrounds differ in the frequency with which they implement indicators of the six practices?
- Are there ethnic and cultural differences in the conditions that enhance learning and school success?

Methodology

For the study, the KIDS Project recruited African-American, Native American, and European-American families whose children attended the Minneapolis Public Schools. African-American and Native American families were recruited because they often report feeling alienated from schools, and participate less often in school activities. On average, students from these ethnic backgrounds do less well in school on common marker variables (e.g., lower graduation rates, more likely to fail basic skills tests, etc.). A goal of the KIDS Project was to understand the voices of parents that are characteristically least heard by schools; however, it was not our purpose to compare minority ethnic groups and their beliefs and practices to those of the cultural mainstream (i.e., European-American families). Furthermore, we were not interested in focusing only on families of color. Our interest in ethnic and cultural diversity
included recognition of “European American” as a cultural group. Finally, because research has demonstrated that parent involvement in education decreases as children’s age increases, we included families of children in elementary and middle school.

All K–5, K–6, and K–8 elementary schools in the school district were solicited for participation. Seven schools agreed to participate in the study. School district policies for recruiting families were followed, which involved sending home informational flyers in students’ home-school weekly communication folders. If they were interested in participating, parents signed the flyer and returned it to a contact person at their child’s school. We collected the returned flyers from each school, and contacted interested parents to explain more about the study and to set up a time for the telephone interview. The phone interviews were scheduled at the families’ convenience, and lasted an average of 45 minutes. Parents received a small monetary payment for completing the interview.

Our sample of over 100 families included an even distribution of African-American, Native American, and European-American families. Significant between-group differences existed in families’ income and education levels. Native American families in our sample had significantly lower household incomes than African-American and European-American families. African-American and European-American respondents in our sample reported attaining higher levels of education (an average educational attainment of some college education) than Native American respondents (an average educational attainment of graduation from high school).

We asked each family we interviewed to talk about how they helped support their children’s learning. To capture the process through which parents socialize their children to be learners, we asked parents to answer 14 open-ended questions about what children need to see, hear, feel, and do to enhance their learning and school success. Next, we asked them to respond to 42 fixed-response questions by indicating on a six-point scale (where 1 meant “rarely or never” and 6 meant “daily”) the frequency with which they performed various activities. These questions (which are listed in Figure 1) were patterned after the six critical practices for children’s learning identified earlier.

### Figure 1. Fixed-Response Questions Regarding Families’ Home Support for Learning Practices

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<tr>
<td>• I know how to set realistic expectations for my child’s school performance.</td>
</tr>
<tr>
<td>• My child knows that attendance and participation in school is important.</td>
</tr>
<tr>
<td>• My child understands my expectations for his or her schoolwork.</td>
</tr>
<tr>
<td>• My child understands why school is important.</td>
</tr>
<tr>
<td>• I talk about my goals for my child’s performance in school with my child.</td>
</tr>
</tbody>
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<table>
<thead>
<tr>
<th>Support</th>
</tr>
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<tbody>
<tr>
<td>• I think of myself as a “teacher” of my child.</td>
</tr>
<tr>
<td>• There are opportunities (by phone, by note, in person) for my child’s teachers and me to communicate about my child.</td>
</tr>
<tr>
<td>• My child knows I’ll call school when I have a problem or concern.</td>
</tr>
<tr>
<td>• My child’s homework is checked for accuracy and completion.</td>
</tr>
<tr>
<td>• I communicate with school personnel (by phone, by note, in person).</td>
</tr>
<tr>
<td>• I contact the school when there is a concern.</td>
</tr>
<tr>
<td>• I contact my child’s school for positive reasons.</td>
</tr>
<tr>
<td>• I participate in school activities and attend school functions.</td>
</tr>
<tr>
<td>• Someone is available to help my child learn at home.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Structure</th>
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</thead>
<tbody>
<tr>
<td>• My child has a regular time for and place to do homework.</td>
</tr>
<tr>
<td>• There are regular, set times for mealtimes, bedtimes, etc. in our house.</td>
</tr>
<tr>
<td>• The amount and kind of TV my child watches is monitored in our home.</td>
</tr>
<tr>
<td>• My child and I talk about schoolwork and school activities.</td>
</tr>
<tr>
<td>• My child’s out of school activities are monitored and supervised.</td>
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<thead>
<tr>
<th>Climate/Relationships</th>
</tr>
</thead>
<tbody>
<tr>
<td>• I feel welcome when I visit my child’s school.</td>
</tr>
<tr>
<td>• My child knows I will listen to his/her thoughts or problems.</td>
</tr>
<tr>
<td>• My child is praised for effort in learning, not just the final product.</td>
</tr>
<tr>
<td>• I talk about my child’s strengths with my child.</td>
</tr>
<tr>
<td>• My child and I make joint decisions about my child’s use of time.</td>
</tr>
<tr>
<td>• I listen to my child and try to understand his/her point of view.</td>
</tr>
<tr>
<td>• My relationship with my child is generally positive and not strained.</td>
</tr>
<tr>
<td>• When my child makes a mistake, we discuss how to avoid it in the future—what should be done next time.</td>
</tr>
</tbody>
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<thead>
<tr>
<th>Opportunities to Learn</th>
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</thead>
<tbody>
<tr>
<td>• My child and I spend some relaxing time together on a regular basis.</td>
</tr>
<tr>
<td>• I read with my child (elementary school); I encourage my child to read on a regular basis (middle school).</td>
</tr>
<tr>
<td>• I involve my child in learning activities at home (e.g., cooking, drawing, gardening, fixing things).</td>
</tr>
<tr>
<td>• My child and I have conversations about daily events at school, in our neighborhood, or the world.</td>
</tr>
<tr>
<td>• My child is encouraged to try new things.</td>
</tr>
<tr>
<td>• Opportunities are created for my child to become involved in other interests (e.g., sports, music, dance, art).</td>
</tr>
<tr>
<td>• I discuss books, stories, and TV programs with my child.</td>
</tr>
<tr>
<td>• Learning tools are available in my home for my child’s use (i.e., books from home or the library, paper, pencils, crayons, computer).</td>
</tr>
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<thead>
<tr>
<th>Modeling</th>
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</thead>
<tbody>
<tr>
<td>• I use reading and math skills at home.</td>
</tr>
<tr>
<td>• My child sees family members set personal goals and work toward achieving them.</td>
</tr>
<tr>
<td>• I admit when I am wrong and listen to suggestions from my child.</td>
</tr>
<tr>
<td>• My child sees adults and siblings learning new things.</td>
</tr>
<tr>
<td>• I speak positively about my child’s school, teacher, and assignments.</td>
</tr>
<tr>
<td>• I discuss my values with my child and talk about the values I would like my child to have.</td>
</tr>
<tr>
<td>• I share lessons I have learned in life with my child and how education has helped me.</td>
</tr>
</tbody>
</table>
Finally, parents were asked two open-ended questions about how schools currently support them in helping their children learn, and how schools could improve on that support.

**Study Results**

Across all items, two findings were clear: Parents reported remarkable similarity in both the activities and practices they used to support their children’s learning, and in the frequency with which they performed them. For the fixed-response questions, parents reported using the six practices at similar rates, regardless of ethnicity or school level.

**Frequency of Parental Support for Learning Practices.** Responses from the total sample of parents were used to rank order the 42 interview items representing parental support for learning practices. The 10 most frequently performed and the 5 least-often performed activities appear in Table 1. These rankings were similar across all groups, regardless of ethnicity. As shown in the table, parents most often reported engaging in activities that did not involve direct contact with schools.

Parents reported performing the top 10 activities between “a few times a week” and “daily.” Providing learning materials; providing time, space, and assistance with homework; monitoring and planning children’s time; and talking with children about school and other things were performed most frequently by all parents. Regardless of ethnic background, five activities (15%) were performed least often by all parents in the study. Interestingly, these activities involved more direct contact with schools. Parents reported that they communicated with schools and participated in school functions a few times per month.

Figure 2 illustrates the mean frequency of use for all six practices across all families. As the figure illustrates, parents reported using some practices more frequently than others. Climate/relationships, structure, opportunities to learn, and modeling practices were implemented most frequently (between “a few times a week” and “daily”). Parents reported using support on average between “once a week” and “a few times a week.” Standards and expectations practices were used least often, with an average frequency between “a few times a month” and “once a week.”

No significant mean differences in parents’ use of support, standards and expectations, and climate/relationships activities emerged. Statistically significant differences were found for opportunities to learn, structure, and modeling. African-American families reported providing more opportunities to learn activities (mean = 5.4) than Native American families (mean = 4.87); European-American families reported using more structure (mean = 5.6) than Native American families (mean = 5.1); and African-American families reported using more modeling (mean = 5.2) than European-American families (mean = 4.7). However, the extent to which these differences are practical is a relevant question, because the average rates of parents’ reported use demonstrated only a 0.5 mean difference on the six-point scale (e.g., engaging in an activity a few times a week vs. every day).

The similar voices of parents in this study also are revealed in their responses to the open-ended questions. Parents tended to describe using all six

<table>
<thead>
<tr>
<th>Ten Most Frequently Performed Activities:</th>
<th>Total Sample</th>
<th>African-American Families</th>
<th>Native American Families</th>
<th>European-American Families</th>
</tr>
</thead>
<tbody>
<tr>
<td>Learning tools are available in my home for my child’s use.</td>
<td>5.9</td>
<td>5.9</td>
<td>5.7</td>
<td>6.0</td>
</tr>
<tr>
<td>Someone is available to help my child learn at home.</td>
<td>5.8</td>
<td>5.9</td>
<td>5.6</td>
<td>5.8</td>
</tr>
<tr>
<td>My child and I have conversations about daily events at school, in our neighborhood, or the world.</td>
<td>5.7</td>
<td>5.7</td>
<td>5.7</td>
<td>5.7</td>
</tr>
<tr>
<td>I listen to my child and try to understand his/her point of view.</td>
<td>5.7</td>
<td>5.6</td>
<td>5.8</td>
<td>5.6</td>
</tr>
<tr>
<td>My relationship with my child is generally positive and not strained.</td>
<td>5.6</td>
<td>5.6</td>
<td>5.6</td>
<td>5.6</td>
</tr>
<tr>
<td>My child is praised for effort in learning, not just the final product.</td>
<td>5.6</td>
<td>5.7</td>
<td>5.5</td>
<td>5.5</td>
</tr>
<tr>
<td>My child and I talk about schoolwork and school activities.</td>
<td>5.5</td>
<td>5.5</td>
<td>5.4</td>
<td>5.7</td>
</tr>
<tr>
<td>My child has a regular time for and place to do homework.</td>
<td>5.5</td>
<td>5.7</td>
<td>5.3</td>
<td>5.6</td>
</tr>
<tr>
<td>My child sees adults and siblings learning new things.</td>
<td>5.5</td>
<td>5.6</td>
<td>5.5</td>
<td>5.3</td>
</tr>
<tr>
<td>There are regular, set times for meal times, bed times, etc. in our house.</td>
<td>5.5</td>
<td>5.4</td>
<td>5.4</td>
<td>5.6</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Five Least Frequently Performed Activities:</th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>I talk about my goals for my child’s performance in school with my child.</td>
<td>3.9</td>
<td>4.3</td>
<td>3.9</td>
</tr>
<tr>
<td>I communicate with school personnel (by phone, by note, in person).</td>
<td>3.8</td>
<td>4.0</td>
<td>3.8</td>
</tr>
<tr>
<td>I contact the school when there is a concern.</td>
<td>2.9</td>
<td>3.3</td>
<td>2.8</td>
</tr>
<tr>
<td>I contact my child’s school for positive reasons.</td>
<td>2.8</td>
<td>3.2</td>
<td>2.5</td>
</tr>
<tr>
<td>I participate in school activities and attend school functions.</td>
<td>2.7</td>
<td>3.0</td>
<td>2.5</td>
</tr>
</tbody>
</table>

Note: Entries are mean responses on a scale from 1 (rarely or never) to 6 (daily).
practices in very similar ways. The accompanying sidebar includes representative responses from parents for each of the six practices we considered.

**Parental Advice for Schools.** In the two questions about schools’ roles in supporting families, similar themes again appeared across families from all ethnic groups. Curiously, the same topics of concern for parents that emerged in their descriptions of what schools do well in supporting them also emerged in their descriptions of what schools could do to better support them. Each of these areas is described below, accompanied by representative responses from parents.

**Communication.** Parents were clear that three kinds of communication were necessary for them to be able to support their children’s learning at home. They consistently reported wanting communication at the first sign of a problem, regular communication about their children’s progress, and communication about the curriculum. Of particular interest to many parents was communication from schools at the first sign of a problem. Some parents noted that schools wait too long to contact parents about learning or behavior concerns, thus hindering families’ abilities to resolve the problem. One African-American elementary school parent noted:

Parents should be notified immediately if something happens or doesn’t seem quite right. Don’t let parents find out in the neighborhood that something is going on with their children. Then parents and teachers can work together to ameliorate the problem before it escalates.

**Service Delivery.** Parents had much to say about the services their children’s schools provided. Specifically, they discussed the schools’ academic support for students, discipline policies, and the lack of information for parents about academic programs. Variability among families was noted; some families reported that schools and teachers were addressing these areas well, while others reported the need for improvement.

In addition to desiring more communication about their children, parents reported wanting more information about what their children were learning in school. Although parents stated that receiving weekly flyers and other communication about the school’s curriculum was helpful, many parents expressed a need for more practical information. Parents said that knowledge of and assistance with the curriculum allowed them to better help their children with homework assignments and other home learning activities. One European-American middle school parent noted, “With homework, they’ll send home explanations, but it’s useless if I don’t understand it. A lot of times, they’ll send worksheets home, but not the textbook, and I’m not sure what they’re wanting her to do.”

Individual help for students was also identified as beneficial. Generally, parents reported that their children’s schools provided extra assistance to help their children be successful in learning. However, some parents reported that their children’s schools needed to provide more supports for students, particularly beyond school hours. One Native American middle school parent noted:

We need more opportunities for kids after school and during the summer. Nothing affordable and close by is available for my children this summer. They sit at home the whole time, since I don’t let them outside much.

**Discipline Policies.** In the wake of the shootings at Columbine High School in the spring of 1999, many parents who participated in the study were concerned about their schools’ discipline policies. Parents reported concerns about chaotic, disruptive environments, and the need for more
Representative Responses from Parents Regarding the Six Practices Critical for Learning

The similarity of voices among parents in this study is revealed in their responses to two open-ended questions regarding the six practices critical for learning. Parents tended to describe using all six practices in very similar ways. Below are representative responses to the questions that are most typical of parents who participated in the study.

Standards and Expectations
“I guess they have to feel that knowledge is important, they need to feel that knowledge will open doors for them, and the more that they know, the more they’ll be able to do the things they want to do in life.”
—European-American elementary school parent

“[Friends and family] expect you to do well, so you need to expect it from yourself. Expectations, absolutely. If we don’t give them goals to strive for, who’s going to do it? And that’s not always an easy job.”
—African-American middle school parent

Support
“He needs to hear specific praise about his specific accomplishments, whether they are in the artistic field, whether it’s about some project he’s finished. Compliments that he’s really done something well.”
—European-American elementary school parent

“The most important way that I show our girls that learning is important is that we have regular contact with schools, send notes to the teacher, go and volunteer in the classroom when I have the time.”
—Native American elementary school parent

Structure
“Have a special time for doing homework and things like that, and a special time, a quiet, clean area. Reminder posters, stick-ups, stuff like that.”
—African-American elementary school parent

“Get plenty of rest, eat a good breakfast. Have a good lunch, and then they’ll have a good supper when they get home. And that will keep them going on their homework.”
—Native American middle school parent

Climate/Relationships
“Definitely need to hear positive things. They need to be encouraged; to know that they are special, capable individuals who are capable of doing anything they set their minds to. . . . Kids need to be encouraged. I try to end all our conversations on a positive note—I don’t ever want them to walk away from one of our conversations feeling discouraged—even if the topic isn’t necessarily a positive one.”
—African-American elementary school parent

“Definitely need to hear positive things about him.”
—European-American elementary school parent

“Get plenty of rest, eat a good breakfast. Have a good lunch, and then they’ll have a good supper when they get home. And that will keep them going on their homework.”
—Native American middle school parent

Opportunities to Learn
“Concerts, plays, and other out of the ordinary experiences are important. Exposure to many different things, to culture, and to camping or to whatever might broaden their horizons to what’s out there. There’s lots going on that can make their lives rich, and I want them to at least get an idea of what is out there.”
—African-American middle school parent

“A big part of their learning is how much time we are spending with them. That they are always right along side of their parents—even when we do something like getting gas—get right in there with us. Being very involved in your child’s life is very important. Skip the wash and spend some time with your kids—whether reading, playing whatever, spend time together.”
—European-American elementary school parent

Modeling
“He sees how I benefit from learning and going to school. He’s been to both my high school and college graduations.”
—African-American elementary school parent

“At home, I think it’s important that he sees me reading, sees me doing research on the Internet. I use the library. Read the newspaper.”
—European-American elementary school parent

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and that encouraged parent participation at school and in the classroom. Parents wanted to feel that they were welcome to visit or help out in their children’s classrooms, and they wanted to be able to contact teachers and talk with them about their children’s progress throughout the school year. A clear invitation to participate was important to parents in this study.

When parents spoke about how schools can remove barriers to parent involvement, some culturally specific differences emerged. Parents from all three ethnic groups tended to list scheduling or logistical problems as barriers to their participation, but several African-American and Native American families also cited cultural factors. One African-American elementary school parent noted:

“We need] more diversity. We need a more diverse teaching body. Teachers need to reflect the students they work with. It would make it easier for the kids to relate to teachers. Also, we need to see more men teaching in the elementary school.”

**Conclusion**

Clearly, the families we interviewed do many things to facilitate their children’s learning, and to communicate the importance of learning to their children. The 101 parents in our study reported performing diverse activities across all six practices with high frequency. Moreover, African-American, Native American, and European-American families in our study expressed a high degree of similarity in the activities they performed to promote their children’s learning, as well as the frequency with which they performed them. The 10 most frequently reported activities were performed an average of a few times a week or daily by the families we interviewed. Parents also expressed similarity in their descriptions of how they demonstrate to their children that learning is important. Finally, parents of all ethnicities desired more communication from schools, practical information about school curricula, and welcoming school environments free of logistical and cultural barriers.

Based on our findings, some conclusions can be drawn about how diverse families support their children’s learning. Cultural competence is sometimes interpreted as the need to tailor educators’ approaches to families according to each family’s ethnicity. The idea is that families from diverse cultural backgrounds are different in their views of education, and in their techniques for supporting children’s learning. Given the high degree of similarity in these parents’ responses regarding how they support their children’s learning, it is likely that there is as much diversity among families within ethnic groups as there is among families from different ethnic groups. Perhaps cultural differences based on ethnicity have been overemphasized. If so, schools might reach more families by adopting an approach that allows for flexibility in meeting the needs of individual families, rather than having a tailor-made approach based on a family’s cultural group membership. A similar conclusion can be drawn regarding economically diverse families. Although not a primary goal of our study, we investigated income and educational differences between ethnic groups. Although Native American families reported lower incomes and educational attainment than African-American and European-American families, responses across all three groups remained similar.

Another finding of the KIDS Project is that families are doing many different things at home to support their children’s learning. Indeed, parents reported performing home-based learning activities much more often than they reported attending school-based activities or functions. When educators think of parent involvement, involvement at school tends to dominate. Indeed, the focus of much of the research on parent involvement is on parents making direct contact with schools. However, this is only one aspect of how families are involved in their children’s education. If educators are surprised by our findings that parents are frequently involved in their children’s learning at home, it may indicate an overemphasis on involving parents at school. Parental home support for learning appears to be an untapped resource for schools to explore; according to many of the respondents, schools often do not create ways to support parent involvement at home.

A primary strength of the KIDS Project is the quantitative and qualitative examination it permitted of home support for learning practices among diverse families. However, several limitations of our research should be noted. First, the optimal frequency for the 42 activities in our survey was not determined. In other words, we made no judgments that performing a certain activity more frequently was related to better learning outcomes for students, nor did we seek to find out which of the six practices for promoting children’s learning were most strongly related to learning outcomes. Rather, we sought to describe only what kinds of activities parents were performing, and how often. Another limitation of our study involves the representativeness of the palette.
Across all ethnic groups surveyed, the most frequently performed activities among parents included providing learning materials, providing assistance with homework, and talking with children about school activities.

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Yvonne Godber is a doctoral candidate in school psychology in the Department of Educational Psychology at the University of Minnesota, and has an Ed.S. in school psychology. Her research interests include family-school relationships, school climate, and the delivery of comprehensive health services in schools.

Sandra L. Christenson is a professor in the Department of Educational Psychology at the University of Minnesota. Her recent research focuses on engaging students in learning, and identifying contextual factors that increase the probability for student success. She has also published extensively on strategies for engaging parents in school and learning, and has served on the editorial boards of several leading journals in the field.

Credits

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As it is in most states, the swine industry in Minnesota is a mix of small and large producers. Following national trends, the number of larger producers in Minnesota has grown rapidly, while the number of smaller enterprises has declined. Proposals have been put forth to limit the growth of large pork producers at both the state and local level, and proponents have cited many benefits of such limitations, including reduced environmental risk, reduced economic pressure on small farms, and preservation of rural communities. Conversely, critics of these proposals have suggested that restrictions on the size of pork operations might make the state less competitive nationally, risking the loss of processing plants and hurting both large- and small-scale producers.

Resolving policy disputes over the appropriate size of swine production operations in Minnesota requires both concrete facts about the environmental, social, and economic consequences of different-sized operations, and value judgments concerning the relative importance of each of these factors. This article reports on a study supported by CURA and the Minnesota Pork Producers Association that investigated the regional economic and fiscal impacts of the Minnesota pork production industry’s purchases on local and state economies and governments. The study considered two types of pork production operations (farrow-to-finish and finishing), and attempted to determine what the economic impacts would be if all pork production in Minnesota was of either one type or another. In addition, the study compared the relative impact of large- and small-scale operations of each type. We chose to compare current economic impacts at the state and county levels because it was anticipated that these impacts might differ, resulting in different policy outcomes or decisions at each level.

In the remainder of this article, we discuss the importance of the hog industry to the economy of Minnesota, explain the methodology for our study, analyze the results of the study, and finally, offer some conclusions based on this analysis.

**Statewide Economic Impact of the Pork Industry, 1995–1998**

Pork production is an important part of Minnesota’s economy. For the state as a whole, hog marketing gross receipts averaged $970 million per year over the four-year period 1995–1998. The pork industry purchased from other industries production inputs valued at $816 million. Feed costs accounted for $558 million of this total, capital costs (including depreciation, interest payments, and leases) for $104 million, veterinary and medical expenses for $27 million, and other expenses for about $127 million. The $154 million in residual value (16%) covered payments for primary inputs such as hired labor and business taxes, with the remainder as profit or return on the operator’s investment.

Nearly 70% of the hogs produced in Minnesota are slaughtered in the state. For the period 1995–1998, the average yearly slaughtered value of swine produced in Minnesota was approximately $1.2 billion. Pork production and processing accounted for about .75% of Minnesota’s total economic output in 1996. When one considers other industries that support pork production and processing, about 1.3% of the Minnesota economy was dependent on the state’s swine industry during the four-year period under consideration.

**Estimating Local Economic Impacts of the Minnesota Pork Industry**

Analyzing the local economic and fiscal impacts of swine operations is a difficult enterprise. Sales volume is a commonly used measure of the economic impact of an industry. However, a more complete measure would include both the direct (primary) economic impacts of an industry (i.e., the jobs and income generated by the industry itself) as well as the indirect (secondary) economic impact resulting from the industry’s multiplier effect (the ripple the industry sends through the local economy when it purchases supplies, pays employees who in turn buy consumer goods, etc.). Businesses that buy large amounts of inputs and buy them locally have greater multiplier effects than those that buy few inputs or buy them from...
outside the local economy. The size of the multiplier effect also depends on the structure of the local economy. For example, local economies that are highly integrated (i.e., composed of firms that primarily buy goods and services locally rather than outside the region) yield greater multiplier effects than those that are not. Consequently, two identical pork producers located in two different counties in the same state are likely to have entirely different impacts on their local economies. Different types of pork operations—for example, a farrow-to-finish operation that raises hogs from birth to market, or a finishing operation that obtains pigs from breeders and raises them for market—also purchase different types and amounts of inputs and have different multiplier effects.

Estimating how competitive the Minnesota pork industry might be in the future based on different-sized pork operations presents additional challenges. The most rapid growth in the pork industry today appears to be among large "mega" operations that have at least 2,500 sows and market a minimum of 50,000 head of swine per year. As the number of large swine operations in Minnesota has increased, the number of small operations has declined. The U.S. Department of Agriculture (USDA) estimates that the number of swine operations in the state with inventories of less than 2,000 head has decreased by one-third in just two years, from 58% of the state's pork producers in 1996 to 39% in 1999. Because of differences in input purchasing patterns, large and small swine operations have different multiplier effects on the economy. In addition, differences in competitiveness between large and small operations will likely result in future changes in industry volume. Both of these factors complicate the effort to estimate how competitive the Minnesota pork industry might be based on different-sized pork operations.

**Study Methodology.** Pork producers in four Minnesota counties were sent a mail survey asking where they purchased various types of inputs used in their operations. The responses for each input category were then classified based on where the input was purchased. Farm financial records were then used to determine expenditures for each input as a percentage of hog sales. Together, these two sets of data on direct economic impacts indicate how much particular counties in Minnesota, the state of Minnesota as a whole, and regions outside the state benefit economically from Minnesota's swine industry. Finally, we used an input-output model to explore the indirect economic and fiscal impacts of these purchase patterns to determine how they vary by county, and by size and type of swine operation.

The survey on geographic spending patterns was mailed to over 270 pork producers in four different counties in Minnesota, with an overall response rate of 48%. Pork producers were asked a variety of questions about where they purchase supplies and services for their operation, including:

- “Where do you purchase your swine health supplies?”
- “Where does your veterinarian have his/her office?”
- “Where are the boars you purchase farrowed?”
- “If you purchase any complete feeds, where is the feed mill located where most of your feed is processed?”
- “Where is the trucker based who does most of the trucking of your hogs to market?”

For each type of input in the survey, responses were classified into one of three categories: inputs purchased in the same county as the operation, inputs purchased outside of the county of operation but in Minnesota, or inputs purchased outside of Minnesota. These data allowed us to determine regional purchase coefficients—or the percentage of local demand satisfied by local production—for each of the major inputs at both the county level and the state level.

Next, we determined the production function for pork production by type and size of operation. The production function is the ratio of input purchases for supplies, labor, and services per dollar of hog sales. The input purchases include both those from other industries, and those from other firms within the pork industry. They also include purchases of primary inputs, such as wages, salary and fringe benefits paid to hired labor, proprietary income received by farmers and other self-employed individuals, property-related income such as land rent, and indirect business taxes such as sales and excise taxes. In order to determine the amount of expenditure for each input as a percentage of hog sales, we used farm financial-record data from pork producers enrolled in adult farm business-management programs conducted under the Minnesota State Colleges and Universities (MnSCU) system.

Our analysis of direct and indirect economic impacts focused on employment and value-added income as measures of the economic effects of swine operations. Value-added income includes all wages and fringe benefits paid to employees, income received by self-employed persons, rents, and profits, as well as a small amount of excise and sales taxes. These impacts were analyzed for four counties (Blue Earth, Martin, Murray, and Pipestone) and for the state as a whole, allowing us to explore whether or not differences in local economic structures matter when estimating impacts. The statistics on indirect employment and value-added income impacts were generated using an economic input-output model modified to incorporate the regional purchase coefficients from our producers survey, as well as the production functions from the MnSCU farm financial-record data.

Because of the difficulty of estimating the relationship between farm size and profitability, let alone the relationship between profitability and overall industry output, we chose to compare the economic impact of each type and size of pork operation with output held constant at $40 million. Because small-scale operations have declined in numbers in recent years, we then compared these economic impacts with the impacts that would result if small farrow-to-finish operations continue to exit the market at rates similar to those experienced recently in Minnesota. We discuss the results of our analysis in the sections that follow.

**Production Functions by Size and Type of Operation.** We used a static nonsurvey input-output model to estimate the overall economic impact of the pork industry. “Nonsurvey” refers to the fact that for industries other than the swine industry, we used existing national data rather than attempting to survey these industries directly. Input-output analysis uses mathematical coefficients that describe the amount of purchases that a given industry—in this case, the pork industry—makes from other industries. For example, if the coefficient for swine feed is 0.05, then for every dollar of swine industry sales volume, the feed industry can be assumed to sell five cents’ worth of feed. The input-output model takes into consideration the fact that the feed industry, in turn, buys electricity and
milling machinery from other industries, and all of these industries hire workers, and therefore allows us to determine how the effects that began with the purchase of feed by the swine industry ripple through the local economy. The set of purchase coefficients we used was tailored to the following specific types and sizes of swine operations evaluated in our study:

- small farrow-to-finish operations (less than 5,000 head finished per year)
- large farrow-to-finish operations (5,000 head or more finished)
- small finishers (less than 5,000 head finished) that purchase pigs from a large farrowing operation (1,400 sows)
- large finishers (5,000 head or more finished) that purchase pigs from a large farrowing operation (1,400 sows)

The production function of input purchases per dollar of sales was derived from 1998 average costs and returns from farm financial records of 359 swine operations in the MnSCU system's farm business-management program. Feed costs were similar across each size of operation, while total expenses per hundred pounds of pork increased with size. The cost difference for total expenses may be due to facility investments and contract finishing arrangements undertaken by some of the larger operations. A comparison of the over 5,000 and the 1,001 to 2,500 categories showed that the large-sized operations had higher interest, depreciation, and lease expenses, which would be expected with new facilities. Over the long run, smaller operations may also need to upgrade or replace facilities, which is likely to narrow this difference. Veterinary expenses were also greater for large-sized operations, as were custom hire expenses, an expense category that includes labor services combined with rental of equipment or buildings. A typical custom hire situation would be an arrangement with a neighbor to feed extra pigs in the neighbor's buildings on an informal contract basis.

The cost advantage of the smaller operations was overshadowed by the difference in prices they received for their product. The larger operations received a higher average price for hogs than did the smaller operations ($41.21/hundred pounds for those selling over 5,000 head, compared to $32.69/hundred pounds for those selling less than 1,000 head). Many variables might account for these differences. For example, smaller operations may have received lower prices because they operated on a seasonal basis, and sold a larger share of their product at times of the year when prices were low. Other factors might include differences in carcass quality, marketing strategy (such as marketing truckload lots directly to packing plants rather than going through local buying stations), or type of contract (larger operations might have had long-term contracts that paid more than the spot price).

In order to compute the number of jobs that would be generated under each size and type scenario, the quantity of hired labor required for each scenario was calculated from the hired labor costs in the farm financial-record data. We used average salary levels for each type of labor from a survey of swine operations conducted in early 2000 by Dr. Terry Hurley of the Department of Applied Economics at the University of Minnesota.

Finishing operations require a source of pigs, so a production function was also developed for a large sow operation (1,400 sows) producing nursery pigs. The finishers' economic impact includes both this pig production and production of the other inputs purchased.

Regional Purchases by Size and Type of Operation. Producers were surveyed in Blue Earth, Martin, Murray, and Pipestone Counties. Blue Earth County was chosen because it includes Mankato, a regional business center with a number of businesses that supply the swine industry, including two large soybean processing plants. Murray County is largely rural and has few businesses that provide services to the swine industry. Both Pipestone and Martin Counties are home to veterinary clinics that supply feed, breed animals, provide veterinary care, and offer facility management and related services to pork producers. These services have likely helped to stimulate industry growth and influenced where producers obtain their inputs. Murray County did not have sufficient numbers of large swine operations to provide an adequate sample size, and consequently the data collected on purchasing patterns cover only small-sized operations for that county.

Of 272 producers surveyed in these counties, 111 provided usable responses. This total included 36 producers from Blue Earth County, 35 from Martin County, 21 from Murray County, and 19 from Pipestone County. The questionnaire listed the major inputs and services required for a typical swine operation, and then asked producers to indicate the county and state in which they commonly purchased each input or service. The local purchase rates were tabulated by type of operation, size of operation, and county for each input or service. The results for operations of both types and sizes are shown in Table 1.

The percentage of inputs purchased in-county varied widely for operations of different size and type in each county. For example, large farrow-to-finish operations in Pipestone County purchased only 36% of inputs and services in Pipestone, while small...
These categories include veterinary services and health supplies, transportation, and replacement breeding boars and artificial insemination supplies. Large finish operations also purchased as much as small finishers in one input category: financial and swine production records. For the remaining categories in our survey ( premixed feeds, complete feeds, building components and services, and replacement breeding gilts), both small farrow-to-finish operations and small finish operations purchased more of these inputs in-county than did the respective large operations of each type.

Table 1. Inputs and Services Purchased In-County and In-State by Operation Type and Size for Selected Minnesota Counties, 1999

<table>
<thead>
<tr>
<th>Operation Type and Size</th>
<th>In-County</th>
<th>In-State</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Blue Earth</td>
<td>Martin County</td>
</tr>
<tr>
<td></td>
<td>(n = 36)</td>
<td>(n = 35)</td>
</tr>
<tr>
<td>Small farrow-to-finish</td>
<td>53%</td>
<td>69%</td>
</tr>
<tr>
<td>Small finish</td>
<td>79%</td>
<td>67%</td>
</tr>
<tr>
<td>Large farrow-to-finish</td>
<td>38%</td>
<td>44%</td>
</tr>
<tr>
<td>Large finish</td>
<td>54%</td>
<td>68%</td>
</tr>
</tbody>
</table>

*No large farrow-to-finish or finishing operations were represented in the survey sample from Murray County.

Based on this survey, it appears that transportation is the input most likely to be purchased in-county, with an average of 70% for all four counties. Only 21% of the purchases of replacement breeding boars were made in the county in which the pork operation was located. Feed represents the largest single expense in pork production. Producers were asked about two categories of feed in the survey: complete feeds and premixes. Premixes include soybean meal, which is the main protein source for swine, as well as minor ingredients such as minerals. Complete feeds contain corn and premixes. Corn is the other main feed type used by pork producers, but most producers use corn grown on their own farms (unless they purchase complete feeds). In every county except for Blue Earth, smaller operations purchased more of their complete feeds locally than did large operations. In Blue Earth County, both small and large farrow-to-finish operations purchased complete feeds locally, while in Martin County, the large operations of both types purchased more premixes in-county than did their smaller counterparts.

When one considers purchasing patterns across the three counties where data were available for both large and small operations (Blue Earth, Martin, and Pipestone), there were several categories for which the large farrow-to-finish operations purchased at least as much of certain production inputs in-county as did the small farrow-to-finish operations (Table 2). These categories include veterinary services and health supplies, transportation, and replacement breeding boars and artificial insemination supplies. Large finish operations also purchased as much as small finishers in one input category: financial and swine production records. For the remaining categories in our survey ( premixed feeds, complete feeds, building components and services, and replacement breeding gilts), both small farrow-to-finish operations and small finish operations purchased more of these inputs in-county than did the respective large operations of each type.

Table 2. Inputs Purchased In-County by Large Operations at Least as Often as by Small Operations, Average of Blue Earth, Martin, and Pipestone Counties*

<table>
<thead>
<tr>
<th>Category</th>
<th>Purchases per $1 of Output</th>
<th>Three-County Average†</th>
</tr>
</thead>
<tbody>
<tr>
<td>Premixes (including soybean meal)</td>
<td>0.1102</td>
<td>S</td>
</tr>
<tr>
<td>Building components and services</td>
<td>0.0763</td>
<td>S</td>
</tr>
<tr>
<td>Complete feeds</td>
<td>0.0498</td>
<td>S</td>
</tr>
<tr>
<td>Veterinary services and health supplies</td>
<td>0.0243</td>
<td>L_far</td>
</tr>
<tr>
<td>Replacement breeding gilts</td>
<td>0.0186</td>
<td>S</td>
</tr>
<tr>
<td>Financial and swine production records</td>
<td>0.0057</td>
<td>L_fin</td>
</tr>
<tr>
<td>Transportation</td>
<td>0.0035</td>
<td>L_far</td>
</tr>
<tr>
<td>Replacement breeding boars and artificial insemination</td>
<td>0.0010</td>
<td>L_far</td>
</tr>
</tbody>
</table>

* Murray County is not included in the comparison because there were no large operations in the sample from that county.

† “L_far” indicates that large farrow-to-finish operations purchased at least as great a percentage of this input category in-county as did small farrow-to-finish operations.

“L_fin” indicates that large finishing operations purchased at least as great a percentage of this input category in-county as did small finishing operations.

“S” indicates that both types of small operations purchased a greater percentage of this input category in-county than did the respective large operations of the same type.
Table 3. Effect of Attrition among Small Farrow-to-Finish Operations on Value-Added Impacts of $40 Million in Pork Production, In-County and In-State, 1999

<table>
<thead>
<tr>
<th>Attrition Rate</th>
<th>Total Value-Added Impact</th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Three-County Average*</td>
<td>Minnesota</td>
<td></td>
</tr>
<tr>
<td>No attrition</td>
<td>$14</td>
<td>$16</td>
<td></td>
</tr>
<tr>
<td>20% attrition</td>
<td>$11</td>
<td>$13</td>
<td></td>
</tr>
<tr>
<td>33% attrition</td>
<td>$9</td>
<td>$11</td>
<td></td>
</tr>
<tr>
<td>50% attrition</td>
<td>$7</td>
<td>$8</td>
<td></td>
</tr>
</tbody>
</table>

* Includes Blue Earth, Martin, and Pipestone Counties. No large farrow-to-finish or finishing operations were present in the survey sample from Murray County.

Information about differences in production functions for the different-sized operations (Table 3). In Blue Earth County, for example, small farrow-to-finish operations generate a total of $62 million in output as a result of the $40 million in pork production in the county. The difference of $22 million is income generated by firms that sell inputs to the pork industry, or sell consumer items to the employees of the pork production industry or employees of other industries that support pork production. Of the $62 million generated in Blue Earth County, $10 million goes to farmers and other business owners as wages or personal income. Also included is another $5 million in property taxes and other indirect taxes. Based on the production functions (which include hours of labor per dollar of hog sales) and the regional purchase coefficients (which tell how much of the inputs are purchased locally), it can be determined that the Blue Earth County economy has a total of 429 jobs that depend directly or indirectly on the $40 million in pork production from small farrow-to-finish operations.

There are differences in economic impacts between the large and small operations at the state level, but they are generally less significant than the differences found at the county level. For example, the in-state income generated by large finisher/sow operations is 13% less than that generated by small farrow-to-finish operations, while the in-county difference is 29% less income generated by the large operations on average across the three counties (Table 4).

Note, however, that these results assume that all of the existing operations survive. If the historical rate of attrition holds into the future—that is, if one-third of the small farrow-to-finish operations leave the industry, as they have over the past few years—the decline in overall industry volume would produce a greater decline in economic impact than would a change in industry structure dominated by larger operations. A loss of one-third of the small farrow-to-finishers would decrease the in-county income to $9 million and the in-state income to $11 million (Table 5). Compared to those reduced impacts, a large finisher/sow unit structure would generate 10% more income in the county, and 28% more in the state. Put another way, if one could wave a magic wand and ensure that small operations would survive into the future and would be able to maintain the same overall industry volume as large operations, the small operations would generate a greater economic impact. Without that magic wand, however, the number of small operations is likely to continue to decline, in which case the impact of the larger operations could be greater.

It is important to note that most of the inputs and services purchased outside the county in which a swine operation is located are still purchased within the state. Except for construction supplies (e.g., framing structures, roofing, walls, and other building components) and depreciation, an average of 85% of the inputs used by pork operations are produced and purchased within the state. Another aspect of the economic impact of swine operations is the average annual salary of hired workers. Although industry sales volume and employment might be high, if the average wage for a hired worker is low, this suggests that the swine operation provides low-quality jobs. The wage for farrow-to-finish workers averaged 35% percent more than that for finishing operations in 1999. Among all farrow-to-finish operations, workers in large operations earned nearly 32% more than those in small operations. Likewise, among finishing operations, workers in large operations earned slightly over 7% more than workers in small-to-medium-sized operations.

Net fiscal impacts on local governments varied by type and size of operation. For example, assuming a volume of $40 million in pork production, Murray County generated $64,000 in net fiscal impacts (tax revenue minus government expenditures) under a structure of small finishers. Assuming the same volume of pork production, a structure of large farrow-to-finish operations in Blue Earth County would have generated $136,000 in net fiscal impacts.

Summary and Conclusions
Although policy makers have to make value judgments about the tradeoffs between economic outcomes and the other consequences of pork production, our study provides more accurate estimates of regional economic and fiscal impacts as a basis for their decisions. Our results indicate that although there is substantial variation in the percentage of inputs and services purchased within a county by pork production operations, nearly all inputs were purchased in-state except for construction materials.

The evidence on competitiveness by size of operation is mixed. Yet, the historical trends clearly indicate that the number of small operations is declining

Table 4. Relative Economic Impact Projected under Other Industry Structures Compared with Small Farrow-to-Finish Operations with No Attrition

<table>
<thead>
<tr>
<th>Type of Operation</th>
<th>Three-County Average*</th>
<th>Minnesota</th>
</tr>
</thead>
<tbody>
<tr>
<td>Small finish and large sow</td>
<td>0%</td>
<td>0%</td>
</tr>
<tr>
<td>Large farrow-to-finish</td>
<td>-10%</td>
<td>0%</td>
</tr>
<tr>
<td>Large finish and large sow</td>
<td>-29%</td>
<td>-12%</td>
</tr>
</tbody>
</table>

* Includes Blue Earth, Martin, and Pipestone Counties. No large farrow-to-finish or finishing operations were present in the survey sample from Murray County.
while the number of large operations is increasing. Consequently, we used the historical trends to adjust the results for long-term estimates. The empirical results show that the impacts of similar types and sizes of operations do vary depending on the county in which they are located. However, the variation is relatively limited. If it were possible to maintain the same industry volume in a local area with a structure of either small or large operations, the total local economic impact appears greater with the small operations. However, the quality of jobs (as measured by wage rate for hired workers) is better in the larger operations. Attrition among the small operations has been around one-third in just the past few years, however. If the small operations’ economic impact were to decline by one-third, the decline in economic impact would be about the same as the decline in economic impact that would result from a change to a large-farm industry structure.

In general, small pork producers tend to have a greater economic impact at the county level than do large pork producers. However, historical trends show that the number of small swine operations in Minnesota is declining rapidly, a trend that is likely to continue into the future.

Based on the results of our study, a policy maker sitting on a local government body might logically favor small producers because their economic impact tends to be more local, while state policy makers might not worry as much about the recent shift to larger sized operations because the state-level economic impact does not vary much with size. Economists would view this as an instance of a positive externality because economic benefits from pork production that accrue to the state are external to the local economic impact of a particular pork operation on its home county. In theory, the state could enact some sort of rebate system to “return” these added economic benefits to the county, but such a system would be complicated to put into practice.

External economic benefits are not unique to agriculture, of course. Any industry populated by large firms is likely to go outside its home county to transact business. The swine industry has become consolidated into fewer and larger firms more recently than most other industries. This recent consolidation, along with the dearth of other employers in rural areas, explains why local purchasing patterns have become more of an issue within the pork industry. In evaluating the relative benefits of large vs. small pork production operations on the county and state levels, policy makers would do well to recall the old adage, “Where you stand on an issue depends on where you sit.”

This study was supported by an interactive research grant from CURA and the Office of the Vice President for Research, University of Minnesota. Interactive research grants have been created to encourage University faculty to carry out research projects that involve significant issues of public policy for the state and that include interaction with community groups, agencies, or organizations in Minnesota. These grants are available to regular faculty members at the University of Minnesota, and are awarded annually on a competitive basis.

William F. Lazarus is an associate professor in the Department of Applied Economics at the University of Minnesota, as well as a farm management economist with the University of Minnesota Extension Service. He has devoted much of the last ten years to helping livestock producers and policy makers understand and adapt to changes taking place in the industry. He also provides research support for local community business retention and enhancement programs focused on the swine, dairy, and sheep industries in Minnesota.

Diego E. Platas was a graduate student in the Department of Applied Economics at the University of Minnesota at the time this research was undertaken. He has since earned his Ph.D., and is currently working as a consultant with the Minnesota Department of Agriculture, assessing the economic impact of agricultural development projects in Minnesota counties.

George Morse is a professor in the Department of Applied Economics at the University of Minnesota, as well as an economist with the Minnesota Extension Service. His teaching and research specialties include community and regional economic development, and his work with the Extension Service focuses on business retention and expansion strategies.
Forthcoming Policy Recommendations for Swine Production

More comprehensive policy recommendations for pork production operations will be forthcoming upon completion of the Minnesota Environmental Quality Board’s generic environmental impact statement (GEIS) of the state’s livestock industry. Funded by the Minnesota legislature in 1998, the GEIS is an attempt to reach consensus on the positive and negative aspects of animal agriculture in the state. In addition to external economic benefits and costs such as those discussed in the previous article, the GEIS project will also consider environmental, health, and social aspects of animal agriculture in Minnesota. The GEIS task force is expected to forward policy recommendations to the state legislature by the end of 2001. Details of the project are available on the Minnesota Planning Agency’s Web site at http://www.mnplan.state.mn.us/eqb/geis/index.html.

Project Awards

To keep our readers up-to-date about CURA projects, each issue of the CURA Reporter features capsule descriptions of new projects under way. The projects highlighted in this issue are made possible through the Community Assistantship Program (CAP), which connects communities in Greater Minnesota with University of Minnesota students. These projects help rural communities take advantage of University resources and expertise, allow students to apply their knowledge and skills in the field, and encourage faculty to become more aware of and involved in rural issues in the state. The projects described here represent only a portion of those that will receive support from CURA and its partners during the coming year.

- **Upper Minnesota Valley Needs Assessment.** The Upper Minnesota Valley Regional Development Commission is implementing a community-based planning project in the three-county region of Big Stone, Chippewa, and Lac qui Parle in western Minnesota. An undergraduate student from the University of Minnesota at Morris will assist with the planning process by conducting a needs assessment of transportation, housing, land use, infrastructure, business opportunities, and educational facilities in these counties.

- **Night Time Down-Lighting Project.** The Night Time Down-Lighting Project is conducting research to determine the costs of converting conventional light fixtures to down-lighting fixtures to conserve energy and decrease nighttime light pollution. An undergraduate student in the College of Natural Resources is assisting with the research by collecting data on conversion costs, identifying changeover and conversion issues, and designing a comparative cost model using rural communities in southeastern Minnesota as examples. This information will be presented to city council members and public administrators to facilitate conversion to down-lighting.

- **Ethanol By-Products Study.** The Central Minnesota Ethanol Co-op is a new generation farm cooperative located in Little Falls, Minnesota. The co-op uses large amounts of water during its daily operations, which it currently discharges into a pretreatment plant. The cooperative also produces carbon dioxide as a by-product, which it vents directly into the atmosphere. A graduate student researcher will explore potential uses for the discharge water and carbon dioxide that could save the co-op money, reduce demand on pretreatment plant facilities, and make the system as a whole more sustainable.

- **Networking for the Future.** The Blandin Community Investment Partnership (BCIP), an initiative of the Blandin Foundation, has assisted communities throughout the state in carrying out self-assessments, creating a vision for the future, and identifying priorities for action. Currently, thirteen rural communities are involved in the BCIP assessment process. BCIP will work with a graduate student to research, develop, and implement a communications technology plan that provides better links between BCIP communities.

- **Sustainable Farming Association Member Assessment.** The Sustainable Farming Association (SFA) of Minnesota is a nonprofit, farmer-to-farmer information-sharing network. A graduate student will work with SFA to conduct a membership assessment. The association will use this information to develop a members database, identify beneficial relationships that can be developed between members (e.g., between farmers who produce organic grain and farmers who need organic grain to feed livestock), and gain insight into where to focus its energies and resources.

- **Adult Involvement in Community Education.** The Cambridge-Isanti Community Education program is dedicated to providing opportunities for lifelong learning to enhance and enrich the lives of community members. As part of a program improvement plan, Community Education will work with a student to identify factors that encourage adult involvement in community education and the school district.

- **Delano Business Needs Assessment.** The Delano Area Chamber of Commerce provides support for local retail, service, commercial, and industrial businesses. A graduate student in conservation biology will help the organization plan their economic development efforts by conducting two surveys designed to ascertain the current state of business conditions in the area, and determine what sorts of economic development are needed and would be supported.
Sustainable Development at the Urban/Rural Interface. The Green Sprawl Working Group (GSWG) works to promote and enhance sustainable growth initiatives in areas that have succumbed to sprawl. GSWG believes that owners of small parcels of land on the urban/rural interface often have an interest in managing their land sustainably, but lack the basic biological and technical knowledge to do so. A graduate student from the College of Agriculture, Food, and Environmental Sciences will assist GSWG in identifying, compiling, and summarizing examples of sustainable commercial and residential initiatives in periurban areas that preserve, mitigate the impact to, or restore ecosystem health.

Tracking Certified Sustainable Forest Products. The Headwaters Forestry Cooperative (HFC), located in central Minnesota, is a landowner controlled forestry co-op whose mission is to improve the conditions of local forests, communities, and watersheds through sustainable forest management. The co-op wants to develop a system that will allow it to track trees harvested from well-managed forests through the processing stage to the final product. A graduate student will research available tracking systems so HFC can choose one that is accurate, easy to use and understand, and builds confidence with co-op members and customers.

Historical Analysis of Oronoco School House and Park Development. Two years ago, the City of Oronoco relocated the Coon Grove Schoolhouse—which many of the city’s older residents attended as children—to an unused park. A student will help the city document the history of the schoolhouse, explore funding options for restoring it, and find ways to make the park more attractive and usable for residents.

Northeast Food Systems Assessment. The Northeast Region Sustainable Development Partnership (NRSDP) facilitates sustainable development in northeastern Minnesota through partnerships between citizens and the University of Minnesota. The NRSDP has initiated a project to study the current food system in northeastern Minnesota to develop a foundation for a strong regional food system. An undergraduate student in the Environmental Sciences Program at the University of Minnesota at Duluth will work with an NRSDP task force to collect information on the current food system by reviewing the literature on the topic, and conducting focus groups and surveys with area farmers, consumers, grocery store owners, and chefs.

Project Support Available from CURA

The Communitiversity Program funds quarter-time graduate student assistantships for one semester to help community-based nonprofit organizations or government agencies with a specific project. The application deadline for fall semester 2001 assistantships is June 28, 2001. For information, contact Communitiversity program manager Ed Drury by phone at (612) 625-6045, or by e-mail at drury001@umn.edu.

The Graduate Interns for State Agencies Program fosters opportunities for graduate students to work outside the University of Minnesota on research, program development, program evaluation, or other short-term projects for a state agency in Minnesota. The agency supervises the graduate assistant, and shares costs equally with CURA. Grants for 2001–2002 are for up to one academic year, and the application deadline is May 31, 2001. Interested state agencies can contact program manager Ed Drury by phone at (612) 625-6045, or by e-mail at drury001@umn.edu.

The Community Assistancehip Program (CAP) matches community-based nonprofit organizations, citizen groups, and government agencies in Greater Minnesota with students who can provide research assistance. Eligible organizations define a research project, submit an application, and if accepted, are matched with a qualified student to carry out the research. The deadline for applications for fall 2001 (September through December) is July 1, 2001. For more information, to discuss potential projects, or for assistance with applications, contact CAP coordinator Jan Joannides by phone at (612) 251-7304, or by e-mail at joann001@umn.edu.

Neighborhood Planning for Community Revitalization (NPCR) provides student research assistance to Minneapolis and St. Paul community organizations involved in neighborhood-based revitalization. Projects may include any issue relevant to a neighborhood’s needs and interests, including planning, program development, or program evaluation. Priority is given to projects that support and involve residents of color. Applications from organizations collaborating on a project are encouraged. Applications are due March 7, 2001 (for summer 2001 assistance), and July 10, 2001 (for fall 2001 assistance). For more information, visit NPCR’s website at http://www.npcr.org, or contact NPCR project director Kris Nelson by phone at (612) 625-1020, or by e-mail at nelso193@umn.edu.

The University Neighborhood Network (UNN) links community organizations to course-based neighborhood projects that students carry out as part of course requirements. For more information about support for course-based projects, visit UNN’s website at http://www.unn.umn.edu, or contact UNN coordinator Karin Bolwahnn by phone at (612) 625-0744, or by e-mail at unn@umn.edu.

The Faculty Research Competition is designed to encourage University of Minnesota faculty to carry out research projects that involve a significant issue of public policy for the state or its communities, and that include interaction with groups, agencies, or organizations in Minnesota involved with the issue. Ideal projects will have an applied orientation, as well as serve the research interests of the faculty member. Awards cover the faculty member’s salary for the summer, and support a research assistant for one year. Applications for the 2001–2002 academic year competition must be received by 4:30 P.M., Tuesday, April 3, 2001. For more information, contact CURA director Tom Scott by phone at (612) 625-7340, or by e-mail at scott001@umn.edu.
Fillmore Mississippi Heritage Conference, May 10–12, 2001

The 2001 Fillmore Mississippi Heritage Conference will be held May 10–12 at RiverCentre in downtown St. Paul, Minnesota. The conference is a regional forum dedicated to the revitalization of the Upper Mississippi River and its communities, and is expected to attract representatives from among community groups, special interest organizations, government agencies, developers, businesses, and conservation organizations. This year's program will feature a keynote address by Patrick Woodie, executive director of the New River Community Partners and a national leader in community development and resource preservation in river cities; updates and highlights on a variety of regional programs, including the Mississippi River Trail, the National Audubon Society's Upper Mississippi Campaign, Grand Excursion 2004, and Headwaters to Backwaters; workshops on the interplay between regional initiatives and local projects related to community development, natural resource protection, education and interpretation, and recreation; and a resource center where participants can exchange ideas and information with people engaged in similar work throughout the region. Cosponsors of the conference include CURA’s Mississippi Bridger Project and the St. Paul Riverfront Corporation. For registration materials or additional information, contact Pat Nunnally by phone at (612) 625-0347, or by e-mail at pdn@umn.edu.
Working with Migrant and Seasonal Farmworkers
Tammy Austin-Ketch, RN, MS, CS-FNPNegligible 

An outreach model of care is employed to enhance and facilitate participation in health care activities. A mobile clinic is utilized at the place of employment of the farm workers. The mobile unit is staffed with an attending physician, family medicine residents, etc. Obesity has become a major concern in this group.

Future Interdisciplinary Research
Clinical Dietetic Student Interns: Summer Internship working collaboratively with FNP students and faculty. Area of clinical research: dietary patterns and habits of Hispanic Indigenous Agricultural Workers. Highlights a report on indigenous agricultural workers from Central and South America. Details demographic, historical, and health information, among other factors. Date: 2018 Type: Document

Perceptions of Housing Conditions Among Migrant Farmworkers and Their Families: Implications for Health, Safety and Social Policy Provides insight into the housing conditions of migrant farmworkers in North Carolina and its effect on their health and safety. Author(s): Jessica Keim-Malpass, Chaya R. Spears Johnson, Sara A. Quandt, Thomas A. Arcury Citation: Rural and Remote Health, 15(1), 3076 Date: 02/2015 Type: Document

Most trauma affecting Hispanic farm workers in Eastern North Carolina is not directly occupational and happens in conjunction with recreational activity, where alcohol is an important risk factor. The human and financial cost resulting from such injuries is of such magnitude that it deserves consideration by everybody who is involved in shaping policies in agriculture, immigration and rural public health. The purpose of this study was to propose and test an ecological model to structure research and practice concerning farmworker health in the United States. The research question was, "What is the relationship of selected social, cultural, and economic indicators to the health of adult Hispanic migrant farmworkers?"