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RURAL LAND VALUES AND TENURE ARRANGEMENTS IN LOUISIANA

by

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FOREWORD

Rural land comprises 77 percent of Louisiana's total land acreage, with a wide diversity of physical characteristics and use. Therefore, reliable rural real estate market information is expected to be of value to landowners, investors, borrowers, lenders, realtors, appraisers, public taxing authorities, and policy makers. This report presents the results from the first annual Louisiana Rural Land Market Survey. The survey was designed to collect detailed information from rural real estate professionals regarding market conditions in their areas. Results of this study suggest that land values vary by area of the state and the primary commodity grown on the tract. Substantial variation in land value within areas and by parish suggests a number of factors affect rural land values and markets. Further research will be designed to measure the effects of these various factors on rural real estate markets. Given the diversity of the Louisiana rural land market and the uniqueness of submarket areas, information provided herein should be used in a general context. Because location, size of tract, capital improvements, and physical characteristics are important determinants of value, estimates presented in this report should not be used as a guide to value any specific parcel of real estate.

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RURAL LAND VALUES AND TENURE ARRANGEMENTS IN LOUISIANA

Gary A. Kennedy, Steven A. Henning, and Lonnie R. Vandever*

INTRODUCTION

Changing economic conditions within the agricultural production sector, along with an increasing demand for non-agricultural land, suggest a need for land market research. Substantial changes have occurred in Louisiana land markets over the past 25 years. Between 1970 and 1982, the average per acre value of land and buildings in Louisiana increased from \$321 to \$1,454, which represents nearly a 453 percent increase (Jones et al., 1993). These changes were largely attributed to generally favorable commodity prices, inflationary effects from the general economy, and the demand for agricultural land from farm expansion and non-agricultural uses.

Downward trends in agricultural land values occurred after the early 1980's in Louisiana. USDA estimates indicate land values for Louisiana declined from \$1,454 per acre in 1982 to \$921 per acre in 1987 or a 37 percent decline over the five year period. These trends were caused by a number of economic factors, including relatively low commodity prices, depressed agricultural exports, increased cost of production, and relatively high interest rates. From a financial perspective, this change had a significant affect on the balance sheet of the Louisiana agricultural production sector. Much of the decline in sector equity from \$12,703 million in 1981 to \$7,861 million in 1987 was attributed to declining real estate values.

Substantial changes in rural real estate market activity, along with the fact that farm real estate accounts for approximately 75 percent of all agricultural assets, suggest a need for collecting land market information in Louisiana. Landowners, investors, borrowers, lenders, realtors, and rural appraisers frequently need reliable land value information. In addition, because agricultural real estate comprises 77 percent of Louisiana's total land acreage, reliable rural real estate market information is important for public taxing authorities and policy makers.

This research report is a first in a series of reports from an on-going research project in rural land values. An initial step of this research is aimed at developing a land value database for Louisiana. This information is expected to be useful to farm credit agencies, appraisers, realtors, extension personnel, policy makers, farmers, and others conducting agricultural research programs. This information is also expected to be vital in managing Louisiana's land resource, which is at the heart of the state's agricultural production sector.

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OBJECTIVES

The general objective of this study is to present land market information for Louisiana covering the period January 1, 1993 to June 30, 1994. This information was collected by the Department of Agricultural Economics and Agribusiness, Louisiana State University Agricultural Center, in August 1994 using the Louisiana Rural Land Market Survey. Specific objectives of the study are to present:

1. a summary of reported rural land values by major commodities for the state and regional agricultural production areas;
2. a summary of reported rural land values by parish;
3. value estimates of different types of agricultural land in Louisiana based on subjective estimates from respondents; and
4. estimates of rental arrangements for selected crops based on subjective estimates from respondents.

PREVIOUS RESEARCH

Land has been and continues to be a major capital asset in the Louisiana agricultural production sector. In addition to productive capacity, other factors influencing rural land values are a place to live, pride in ownership, an opportunity to earn returns on investment, and a hedge against inflation (Suter, 1980). These factors, coupled with many other factors that affect land value, have stimulated much interest in rural land values. Previous land market research has generally included studies based on macro data (secondary data) and studies based on micro or land sales data (primary data). Macro studies using secondary data have been used to explain how economic variables impact rural land values, whereas other studies have used detailed land tract sales data (micro data) to analyze rural land values in localized markets. The current research is concerned with studies which have developed procedures for collecting detailed land tract sales data.

Two studies in Louisiana have included a cross-sectional analysis of individual tract sales. In 1974, Ramsey and Corty collected 2,372 bonafide agricultural sales from transfer records in clerk of court and tax assessor offices in every parish except Orleans. Analysis of sales data indicated an inverse relationship between price per acre and tract size in most farming areas. Similarly, results of the study indicated an inverse relationship between price per acre and proximity to a major metropolitan area. In a less intensive study, Vandever and Henning analyzed 32 tracts of land sold at public auction by the Federal Land Bank of Jackson in 1988. Results of the study indicated that size of tract, type of road adjacent to the tract, proportion of cropland, and presence of rice base acreage explained approximately 69 percent of the variation in per acre values in the sample of south-central Louisiana land sales.

Land value research conducted elsewhere has found a wide variety of factors to be operative in state and regional markets. Vollink (1978) partitioned North Carolina into four land market regions to analyze 1975-76 sales data from the Federal Land Bank of Columbia. Flue-cured tobacco allotments had an expected strong positive influence on value in selected areas of the state. In addition, land financed by the Federal Land Bank had significantly lower prices than tracts financed by other lenders. Clifton and Spurlock (1983) analyzed land markets in Florida, Georgia, South Carolina, and North Carolina using Federal Land Bank data. Their results support the hypothesis that a number of independently functioning land markets existed in these states. Other results suggest that the amount of timberland, reasons for purchase, and urban influences are statistically significant in explaining variation in land values.

Several other studies have reported the effects that different farm enterprises have on land values. Spurlock et al. (1988) analyzed the agricultural real estate market in Mississippi for the period January 1976 through May 1987 using Federal Land Bank sale and appraisal data. After dividing the state into ten production regions, they found cattle enterprises had a significantly greater impact on value than soybeans in four areas, with insignificant differences in the other areas. In addition, tracts with soybeans listed as the primary product were valued lower than tracts with cotton and rice listed as primary products. In a study of Oklahoma land values, Kletke (1993) outlined procedures for using the pastureland to cropland value ratio for analyzing sales. Conclusions were that relative prices of pastureland and cropland fluctuate and, to some extent, the ratio of feeder cattle prices to wheat prices can be used to anticipate the direction of future changes in the value of pastureland to value of cropland.

Other studies have reported on trends in agricultural land market activity and identified the primary participants in the market. Vanvig and Hewlett (1990) reported that land values in Wyoming bottomed out in 1988 and early 1989 and began to move upward in the Spring of 1990. They also reported that expansion buyers continued to be the dominant force in the Wyoming land market. A statewide survey of real estate in Minnesota (Brekke, Tao, and Raup, 1993) reported that land values increased 7 percent between July 1991 and July 1992. In addition, buyers who purchased land to increase the size of existing land holdings continued to dominate the Minnesota land market in 1992. In Nebraska, land values were reported to have increased just over four percent for the year ending February 1, 1993; however, not all areas of the state experienced land value increases (Johnson, 1993). Weather was a major contributing factor to geographic patterns of land value changes.

Previous research has also outlined the need and the potential benefits of developing detailed land value data bases. Adrain and Hardy (1989) suggest that land markets are diverse, dynamic, and complex and that efforts should be devoted to broadening data bases and making analyses at the most disaggregated level possible. The North Central Regional Committee on Land Values (1985) further indicates that, while the interest is great and the perceived benefits of ongoing land market research are substantial, the cost of the research effort is generally quite modest. They further suggest that ongoing land market studies produce much needed information with a minimal resource commitment from the research community.

Studies of rural real estate in Louisiana have been initiated at irregular intervals and have varied in scope and intensity. This study is the first in a series of reports aimed at documenting land market activity in Louisiana. Land value estimates presented here will be used with future values to establish trends in Louisiana real estate markets. This study is expected to be of interest and used by rural appraisers, agricultural lenders, real estate brokers, extension personnel, public officials and others with a need for such information.

SURVEY PROCEDURES

Data for this study were collected using mail survey techniques. Specifically, this included the development of a Louisiana Rural Land Market Survey and a statewide listing of knowledgeable individuals of rural land markets. The listing included 699 individuals who were state certified appraisers, officers in commercial banks, Farmers Home Administration personnel, Federal Land Bank personnel, Production Credit Association personnel, members of the Louisiana Chapter of the American Society of Farm Managers and Rural Appraisers and members of Louisiana Realtors Land Institute.

The Louisiana Rural Land Market Survey was structured to collect two general types of data. The first section of the survey was designed to collect detailed information on actual sales of rural real estate that occurred between January 1, 1993 and June 30, 1994. Respondents were asked to provide as much information as possible on actual sales of rural real estate during the survey period. Respondents were also asked to include only those tracts of ten acres or more in size, tracts outside the city limits of major metropolitan areas, and not to include sales involving close relatives.

Designed to obtain subjective information, the second and third sections of the survey asked for estimates based on the respondents knowledge of the local land market. The second section of the questionnaire was structured to obtain typical rental arrangements for a range of crops grown in the respondent's area. The third section of the survey was developed to obtain subjective estimates of different types of land throughout the state and respondent's expectation of land market activity over the next year.

Established procedures outlined by Dillman (1978) were used to conduct the mail survey. This included mailing the survey in early August 1994, sending a post card reminder 10 days after the initial mailing, and sending a duplicate questionnaire at the end of August. The survey questionnaire was pretested among the different survey groups prior to the first mailing. Response rates of the groups surveyed are summarized in Table 1. As indicated in Table 1, 334 of 699 responded to the survey, resulting in a response rate of 48 percent. Results in Table 1 generally indicate good responses among the different groups and that respondents generally provided multiple sales for the study.

Table 1. Response Frequency by Survey Group, Louisiana Rural Land Market Survey, January 1, 1993 to June 30, 1994.

Survey Group	Number Surveyed	Number of Respondents	Number of Sales Reported
Commercial Banks	130	58	25
Farmers Home Administration	40	35	123
Production Credit Associations	5	5	58
General Appraisers	195	92	384
Federal Land Banks	9	6	125
Residential Appraisers	279	118	99
Rural Appraisers	22	10	23
Rural Realtors	19	10	111
Total	699	334	948

STATEWIDE ANALYSIS OF REAL ESTATE MARKET ACTIVITY

Summary statistics for the Louisiana Rural Land Market Survey are presented and discussed in this section. Respondents reported 948 rural real estate sales for the state. Based on township, range, and section information collected for each sale, the department's Agricultural Economics Geographic Information System (AEGIS) laboratory was used to spatially summarize the location of each sale. Results of the spatial analysis of all sales collected in the survey are shown in Figure 1. With the exception of the New Orleans metropolitan area, the results suggest that reported rural land sales are widely dispersed throughout the state.

Mean and median rural real estate values and other selected information for the state and by primary enterprise are presented in Table 2. Of 948 reported rural real estate sales for the state, 122 sales listed cotton as the primary enterprise. Statewide results (Table 2) are presented for cotton, soybeans, sugar cane, rice, pastureland, pine timberland, and hardwood timberland. Results are not reported for enterprises such as wheat or corn because there were a limited number of sales reporting these enterprises as the primary commodity for the tract.

Estimates presented in Table 2 indicate that the median value of real estate during the survey period was \$731 per acre while the mean value was \$1,037. These estimates along with other statistics reported in Table 2 indicate substantial variability in per acre real estate values. On a statewide basis, per acre values range from \$125 to \$12,500, with a standard deviation estimated at

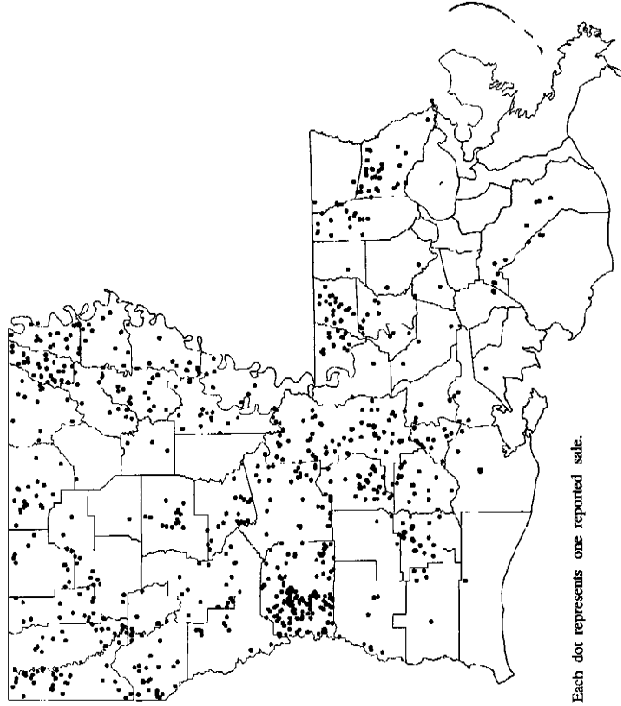


Figure 1. Location of Reported Sales, Louisiana Rural Land Market Survey, 1994.

Table 2. Mean and Median Land Values and Other Selected Characteristics, State Summary, 1994 Louisiana Rural Land Market Survey, January 1, 1993 to June 30, 1994 Sale Period.

Selected Land Tract Characteristics	Number of Sales Reported	Minimum	Maximum	Median	Mean	Standard Deviation
State Summary	948					
Price Per Acre (dollars)		125	12,500	731	1,037	1,001.18
Size (acres)		10	5,889	70	176	408.75
Percent Cropland		0	100	0	29	42.16
Percent Pasture		0	100	0	15	32.28
Percent Timber		0	100	0	22	39.10
Sales with Cotton as Primary Enterprise	122					
Price Per Acre (dollars)		313	1,603	650	723	289.37
Size (acres)		14	2,412	172	317	367.45
Percent Cropland		35	100	92	87	14.07
Government Program Base Acres		0	1,142	67	123	173.23
Sales with Soybeans as Primary Enterprise	68					
Price Per Acre (dollars)		246	2,941	550	655	461.29
Size (acres)		13	5,889	103	299	790.82
Percent Cropland		35	100	92	88	14.44
Sales with Sugar Cane as Primary Enterprise	23					
Price Per Acre (dollars)		1,000	2,935	1,210	1,467	564.97
Size (acres)		17	1,796	69	375	625.15
Percent Cropland		30	100	92	84	21.47

Table 2. Mean and Median Land Values and Other Selected Characteristics, State Summary, Continued.

Selected Land Tract Characteristics	Number of Sales Reported	Minimum	Maximum	Median	Mean	Standard Deviation
Sales with Rice as Primary Enterprise	70					
Price Per Acre (dollars)		222	1,834	700	737	232.67
Size (acres)		29	5,555	162	391	751.93
Percent Cropland		28	100	93	90	11.65
Government Program Base Acres		0	370	57	72	78.72
Sales with Pasture as Primary Enterprise	98					
Price Per Acre (dollars)		215	4,285	724	917	608.27
Size (acres)		12	620	70	95	88.67
Percent Pasture		20	100	92	83	21.32
Sales with Pine Timber as Primary Enterprise	122					
Price Per Acre (dollars)		150	12,500	600	920	1,204.11
Size (acres)		10	1,560	60	107	204.64
Percent Timber		32	100	100	97	10.96
Sales with Hardwood Timber as Primary Enterprise	27					
Price Per Acre (dollars)		125	1,350	425	514	327.99
Size (acres)		10	643	65	122	147.48
Percent Timber		38	100	100	94	15.48

1,001.18. Moreover, the sample estimates indicate that the mean size of tract was 176 acres and the mean amount of cropland on tracts was 29 percent.

Mean per acre values for primary enterprises of cropland were estimated to range from \$655 for soybeans to \$1,467 for sugar cane. Similarly, mean per acre values for other enterprises ranged from \$514 for hardwood timberland to \$920 for pine timberland. The mean government program base acreage was 123 acres for cotton as compared to 72 acres for rice.

Mean per acre values for primary enterprises also indicate substantial variability. For example, the standard deviation for cotton in Table 2 indicates that approximately 68 percent of the reported land sales where cotton is the primary commodity are expected to fall in the price interval of \$434 to \$1,012 (the mean plus and minus one standard deviation). Much of the variability is due to locational, productivity, size, and other differences that exist among reported real estate sales.

The rural land market survey also asked respondents to identify the principle reason for purchase for each sale tract. Results of this question are illustrated in Figure 2. For the 948 rural land market sales, respondents were able to list the principle reason for purchasing real estate for 607 tracts. Results indicate that expansion of land holdings (38.4 percent), investment (29 percent), establishing a rural residence (17.3 percent), and establishing a farm (11.2 percent) were the most frequent reasons for purchasing real estate in the survey sample.

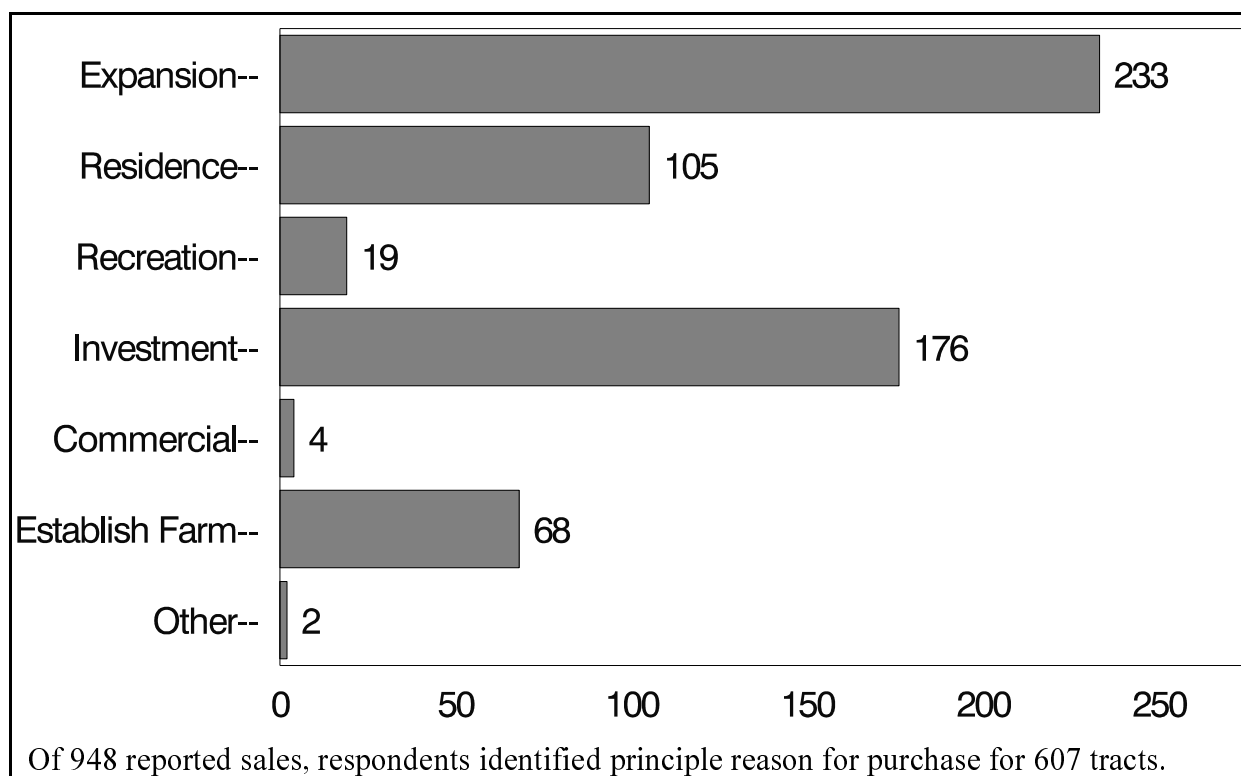


Figure 2. Reason for Real Estate Purchase, 1994 Louisiana Rural Land Market Survey, January 1, 1993 - June 30, 1994 Sale Period.

Respondents were asked to identify other significant influences on land value for each sale tract. The frequency distribution of responses to this question is illustrated in Figure 3. Respondents provided information for 611 sale tracts of rural real estate. Results in Figure 3 indicate no other significant influences on land value for the majority of sale tracts (65 percent). However, the results indicate the presence of sizeable influences from factors such as residences, flooding, recreation, urban development, and highways.

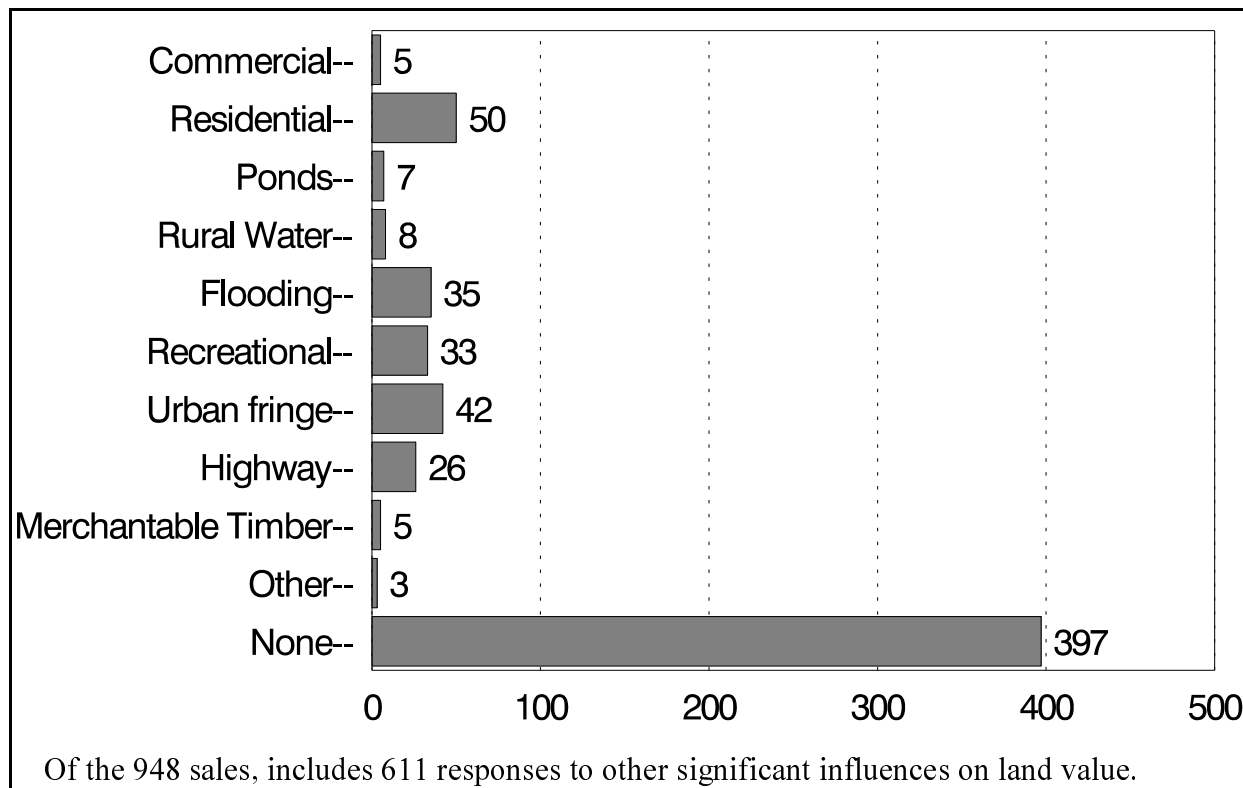
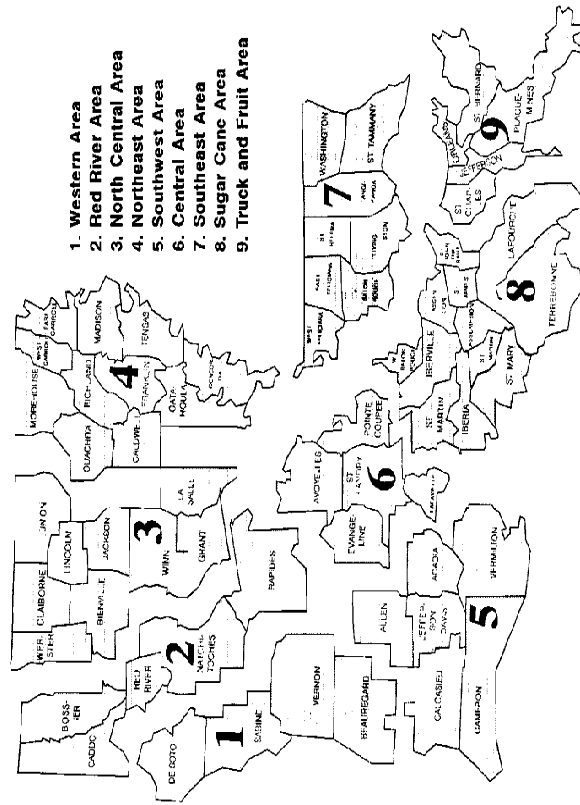


Figure 3. Real Estate Value Influences, 1994 Louisiana Rural Land Market Survey, January 1, 1993 to June 30, 1994 Sale Period.

AREA ANALYSIS

A primary objective of this report was to provide a summary of land values by agricultural production areas of the state, relying on rural real estate sales data reported in the Louisiana Rural Land Market Survey. Respondents were asked to report actual sales of rural real estate for the time period January 1, 1993 to June 30, 1994. As part of the survey, the respondent was asked to indicate the primary agricultural enterprise of each tract reported. A total of 536 of the 948 sales reported indicated one of eight primary agricultural enterprises (corn, cotton, soybeans, sugar cane, rice, pastureland, pine timberland, or hardwood timberland).

Following the format used by Ramsey and Corty, the state was subdivided into the nine agricultural production areas illustrated in Figure 4. These areas represent relatively homogeneous



1. Western Area
2. Red River Area
3. North Central Area
4. Northeast Area
5. Central Area
6. Southeast Area
7. Sugar Cane Area
8. Truck and Fruit Area

Figure 4. Louisiana Agricultural Production Areas, 1994.

soil types within the state. Tables 3-10 summarize the survey data for areas 1-8. Area 9, which had limited rural land transactions, is not reported. Each table summarizes the data for the entire production area and then reports a summary of the data by primary enterprises in the area. Land values are not reported for a primary enterprise when fewer than five sales were reported for the area.

Western Area

The Western Area includes four parishes (Beauregard, Desoto, Sabine, and Vernon) bordering the western boundary of Louisiana along the Toledo Bend Reservoir. Table 3 summarizes selected characteristics of reported sales in the Western Area. This area had the largest number of sales reported (216), representing 23 percent of the sales reported in the state. Per acre values ranged from \$140 to \$12,500, with a median of \$717 and a mean of \$975. Tract size varied from a minimum of 10 acres to a maximum of 5,052 acres. Tracts in the Western Area were typically small in size. The median tract size was 39 acres, with a mean tract size of 105 acres. The enterprise mix was varied. Unlike other areas of the study, no tracts in the Western Area reported 100 percent cropland. Cropland acreage on any single tract in the Western Area ranged from zero to 90 percent of total acres.

Compared to other production areas, a much smaller number of reported sales indicated the primary enterprise of the tract in the Western Area. Pastureland, pine timberland, and hardwood timberland were the primary enterprises reported in the area. Tracts with pine timberland as the primary enterprise had the highest median (\$849) and mean (\$1,699) per acre values. The reported standard deviation for price per acre (\$3,275.98) was extremely large, reflecting the wide range of reported values relative to the number of observations. This wide range of values resulted from the variety of pine timberland tracts reported, ranging from cutover and pre-merchantable tracts to pulpwood and sawtimber tracts. Pine timberland reported the single highest price per acre (\$12,500) in the Western Area. Pine timberland also had the largest median (56) and mean (287) acre size.

Red River Area

The Red River Area includes five parishes (Bossier, Caddo, Natchitoches, Rapides, and Red River) in northwest Louisiana that border the northern most portions of the Red River. The survey reported 132 sales in the area (Table 4), representing 14 percent of the sales reported in the state. Per acre values ranged from \$125 to \$9,351, with a median of \$550 and a mean of \$855. Tract size varied from a minimum of 10 acres to a maximum of 1,736 acres. The median tract size was 80 acres, with a mean tract size of 188 acres.

Eighty percent of the sales reported in the Red River Area indicated one of five primary enterprises (cotton, soybeans, pastureland, pine timberland, or hardwood timberland). Twenty-three tracts, with pastureland as the primary enterprise, had the highest median (\$723) and mean (\$1,052) per acre values. Tracts with pastureland as the primary enterprise ranged in value from \$405 to \$2,619 per acre. Interpreting the standard deviation under the assumptions of the central limit

Table 3. Mean and Median Land Values and Other Selected Characteristics, Western Area, 1994 Louisiana Rural Land Market Survey, January 1, 1993 to June 30, 1994 Sale Period.

Selected Land Tract Characteristics	Number of Sales Reported	Minimum	Maximum	Median	Mean	Standard Deviation
Western Area	216					
Price Per Acre (dollars)		140	12,500	717	975	1,095.47
Size (acres)		10	5,052	39	105	389.87
Percent Cropland		0	90	0	1	6.99
Percent Pasture		0	100	0	10	27.25
Percent Timber		0	100	0	19	37.28
Sales with Pasture as Primary Enterprise	15					
Price Per Acre (dollars)		313	2,303	675	814	538.48
Size (acres)		12	620	40	108	155.81
Percent Pasture		47	100	90	79	20.77
Sales with Pine Timber as Primary Enterprise	13					
Price Per Acre (dollars)		350	12,500	849	1,699	3,275.98
Size (acres)		20	1,560	56	287	565.44
Percent Timber		50	100	100	96	13.83
Sales with Hardwood Timber as Primary Enterprise	6					
Price Per Acre (dollars)		200	1,350	572	682	470.93
Size (acres)		10	90	50	50	32.25
Percent Timber		50	100	100	89	20.10

Table 4. Mean and Median Land Values and Other Selected Characteristics, Red River Area, 1994 Louisiana Rural Land Market Survey, January 1, 1993 to June 30, 1994 Sale Period.

Selected Land Tract Characteristics	Number of Sales Reported	Minimum	Maximum	Median	Mean	Standard Deviation
Red River Area	132					
Price Per Acre (dollars)		125	9,351	550	855	958.92
Size (acres)		10	1,736	80	188	281.91
Percent Cropland		0	100	0	26	40.78
Percent Pasture		0	100	0	19	36.08
Percent Timber		0	100	0	39	46.98
Sales with Cotton as Primary Enterprise	20					
Price Per Acre (dollars)		316	1,603	530	799	463.03
Size (acres)		41	1,263	417	474	381.79
Percent Cropland		73	98	94	91	6.51
Government Program Base Acres		0	580	108	172	180.34
Sales with Soybeans as Primary Enterprise	13					
Price Per Acre (dollars)		250	979	400	480	198.41
Size (acres)		72	1,736	146	353	457.11
Percent Cropland		50	100	91	85	15.69
Sales with Pasture as Primary Enterprise	23					
Price Per Acre (dollars)		405	2,619	723	1,052	708.81
Size (acres)		12	249	70	88	72.42
Percent Pasture		20	100	98	82	24.62

Table 4. Mean and Median Land Values and Other Selected Characteristics, Red River Area, Continued.

Characteristics	Selected Land Tract	Number of Sales Reported	Minimum	Maximum	Median	Mean	Standard Deviation
Sales with Pine Timber as Primary Enterprise		39					
Price Per Acre (dollars)			229	2,000	450	803	629.83
Size (acres)			10	320	59	82	76.08
Percent Timber			47	100	100	98	9.29
Sales with Hardwood Timber as Primary Enterprise		10					
Price Per Acre (dollars)			125	760	281	356	202.36
Size (acres)			20	445	53	132	157.78
Percent Timber			38	100	100	94	19.61

theorem, 68 percent of the reported sales are expected to fall within one standard deviation (\$708.81) of the mean. In this instance, the interval is \$343 to \$1,761 per acre.

Pine timberland was the most often reported primary enterprise (39 sales) in the Red River Area. Tracts identified as primarily pine timberland or hardwood timberland enterprises reported medians of 100 percent timberland.

Tracts with cotton as the primary enterprise reported the largest median (417 acres) and mean (474 acres) size. Government program base acreage in cotton ranged from zero to 580 acres among the 20 sales reported. Median (108 acres) and mean (172 acres) base acreage in cotton was well below the reported median and mean for all cotton tracts in the area.

North Central Area

The North Central Area includes nine parishes (Bienville, Claiborne, Grant, Jackson, Lasalle, Lincoln, Union, Webster, and Winn). Table 5 summarizes selected characteristics of 101 reported sales in the North Central Area. Per acre values ranged from \$150 to \$2,152, with a median of \$600 and a mean of \$674. Tract size ranged from 10 acres to 370 acres. Tracts in the North Central Area were typically small in size. The median tract size was 70 acres, with a mean tract size of 89 acres.

Seventy-five percent of the tracts in the North Central Area indicated one of three primary enterprises (cotton, pastureland, or pine timberland). Forty-three tracts reported pine timberland as the primary enterprise. The median per acre price of pine timberland was \$550, with a mean of \$679. The standard deviation of pine timberland was \$392.82, meaning that approximately 68 percent of reported sales are expected to fall within the range of \$286 to \$1,072 per acre. Pine timberland tracts were relatively small in size, reporting a median of 48 acres and a mean of 68 acres.

Only seven tracts reported cotton as the primary enterprise. However, these tracts reported the highest median (\$784) and mean (\$804) price per acre in the North Central Area. Median and mean acres were identical (97 acres). Government program base acreage in cotton was very small, ranging from zero to 64 acres. The median base acreage was zero, with a reported mean of 18 acres.

Northeast Area

The Northeast Area includes those parishes associated with the Macon Ridge, Mississippi Delta, and Ouachita River Delta areas. Eleven parishes (Caldwell, Catahoula, Concordia, East Carroll, Franklin, Madison, Morehouse, Ouachita, Richland, Tensas, and West Carroll) are located in the Northeast Area. The survey reported 160 sales in the area (Table 6), representing 17 percent of the survey responses. Per acre values ranged from \$186 to \$1,400, with a median of \$593 and a mean of \$634. Tract size varied from a minimum of 17 acres to a maximum of 5,889 acres. Tracts in the Northeast Area were typically larger than other areas of the study. The median tract size was 150 acres, with a mean tract size of 309 acres. Based on the median and mean of percent of tract in cropland, pastureland, and timberland, results indicate that tracts were mostly cropland.

Table 5. Mean and Median Land Values and Other Selected Characteristics, North Central Area, 1994 Louisiana Rural Land Market Survey, January 1, 1993 to June 30, 1994 Sale Period.

Selected Land Tract Characteristics	Number of Sales Reported	Minimum	Maximum	Median	Mean	Standard Deviation
North Central Area	101					
Price Per Acre (dollars)		150	2,152	600	674	363.95
Size (acres)		10	370	70	89	77.34
Percent Cropland		0	100	0	7	24.82
Percent Pasture		0	100	0	26	40.46
Percent Timber		0	100	56	54	46.64
Sales with Cotton as Primary Enterprise	7					
Price Per Acre (dollars)		313	1,488	784	804	410.87
Size (acres)		51	179	97	97	40.54
Percent Cropland		91	100	100	97	4.26
Government Program Base Acres		0	64	0	18	30.27
Sales with Pasture as Primary Enterprise	26					
Price Per Acre (dollars)		424	1,042	618	699	198.35
Size (acres)		15	370	103	121	89.65
Percent Pasture		38	100	88	83	19.04
Sales with Pine Timber as Primary Enterprise	43					
Price Per Acre (dollars)		150	1,617	550	679	392.82
Size (acres)		10	331	48	68	65.11
Percent Timber		50	100	100	99	7.81

Table 6. Mean and Median Land Values and Other Selected Characteristics, Northeast Area, 1994 Louisiana Rural Land Market Survey, January 1, 1993 to June 30, 1994 Sale Period.

Selected Land Tract Characteristics	Number of Sales Reported	Minimum	Maximum	Median	Mean	Standard Deviation
Northeast Area	160					
Price Per Acre (dollars)	186	1,400	593	634	229.11	
Size (acres)	17	5,889	150	309	579.22	
Percent Cropland	0	100	90	75	33.21	
Percent Pasture	0	100	0	6	20.18	
Percent Timber	0	100	0	9	24.34	
Sales with Cotton as Primary Enterprise	91					
Price Per Acre (dollars)	350	1,400	650	698	217.68	
Size (acres)	17	2,412	164	279	322.01	
Percent Cropland	35	100	90	86	14.90	
Government Program Base Acres	0	1,142	66	122	177.31	
Sales with Soybeans as Primary Enterprise	33					
Price Per Acre (dollars)	246	750	527	511	142.28	
Size (acres)	34	5,889	119	423	1,085.40	
Percent Cropland	49	98	93	88	12.68	

Table 6. Mean and Median Land Values and Other Selected Characteristics, Northeast Area, Continued.

Selected Land Tract Characteristics	Number of Sales Reported	Minimum	Maximum	Median	Mean	Standard Deviation
Sales with Rice as Primary Enterprise	5					
Price Per Acre (dollars)	375	780	475	536	165.39	
Size (acres)	160	2,176	408	742	815.87	
Percent Cropland	90	100	97	96	4.06	
Government Program Base Acres	0	370	166	163	139.89	
Sales with Pasture as Primary Enterprise	6					
Price Per Acre (dollars)	215	755	472	488	176.10	
Size (acres)	36	107	59	64	27.67	
Percent Pasture	27	97	87	79	26.16	
Sales with Pine Timber as Primary Enterprise	5					
Price Per Acre (dollars)	186	900	299	440	315.39	
Size (acres)	18	160	80	74	57.18	
Percent Timber	98	100	100	100	0.89	

Over half (57 percent) of the sales reported in the Northeast Area indicated cotton as the primary enterprise. Cotton tracts reported the highest median (\$650) and mean (\$698) price per acre. The standard deviation for cotton tracts was \$217.68, implying that approximately 68 percent of reported sales are expected to fall within the range of \$480 to \$916 per acre. These tracts ranged in size from 17 acres to 2,412 acres, with a median of 164 acres and mean of 279 acres. Base acres in the government program ranged from zero to 1,142 acres. The median (66 acres) and mean (122 acres) base acreage were well below total median and mean acreage of cotton in the area.

Another 21 percent of the reported sales indicated soybeans as the primary enterprise. The largest single tract in the Northeast Area (5,889 acres) indicated soybeans as the primary enterprise. However, the median size of soybean tracts was 119 acres, with a mean size of 423 acres.

Southwest Area

The Southwest Area includes six parishes (Acadia, Allen, Calcasieu, Cameron, Jefferson Davis, and Vermilion) located near the Gulf of Mexico in the southwest corner of the state. Table 7 summarizes selected characteristics of the 67 reported sales in the Southwest Area. Per acre values ranged from \$300 to \$4,285, with a median of \$780 and a mean of \$876. Tract size ranged from 10 acres to 735 acres. Results of the survey indicate that tracts in the Southwest Area were typically larger in size when compared to other areas of the study. The median tract size was 140 acres, with a mean tract size of 199 acres.

Sixty-six percent of the reported sales in the Southwest Area indicated rice as the primary enterprise. Median (\$759) and mean (\$775) price per acre were very close. The standard deviation (\$157.37) was also relatively small, implying that 68 percent of the reported rice tracts are expected to fall in the range of \$618 to \$932 per acre. Tract size ranged from 36 acres to 643 acres, with a median of 164 acres and a mean of 227 acres. The government program base acres ranged from zero to 300 acres, with a median of 65 acres and mean of 84 acres.

Central Area

The Central Area includes five parishes (Avoyelles, Evangeline, Lafayette, Pointe Coupee, and St. Landry). The survey reported 126 sales in the area (Table 8), representing 13 percent of the survey sales. Per acre values ranged from \$157 to \$3,817, with a median of \$739 and a mean of \$975. Tract size varied from a minimum of 10 acres to a maximum of 5,555 acres. The median tract size was 84 acres, with a mean tract size of 223 acres.

Only a limited number of the 126 sales clearly indicated a primary crop. Rice (21 sales) and soybeans (17 sales) were the most frequently indicated crops. Rice tracts ranged in value from \$222 per acre to \$1,834 per acre, with a median (\$679) and mean (\$704) that were very similar. The standard deviation was \$337.14, implying that 68 percent of the reported rice tracts are expected to fall in the range of \$367 to \$1,041 per acre. Tract size varied from 29 acres to 5,555 acres, with a median of 137 acres and a mean of 651 acres. The government program base acres were much smaller, ranging from zero to 200 acres, with a zero median and 24 acre mean.

Table 7. Mean and Median Land Values and Other Selected Characteristics, Southwest Area, 1994 Louisiana Rural Land Market Survey, January 1, 1993 to June 30, 1994 Sale Period.

Selected Land Tract Characteristics	Number of Sales Reported	Minimum	Maximum	Median	Mean	Standard Deviation
Southwest Area	67					
Price Per Acre (dollars)		300	4,285	780	876	526.46
Size (acres)		10	735	140	199	189.24
Percent Cropland		0	100	90	66	41.81
Percent Pasture		0	100	0	12	29.79
Percent Timber		0	10	0	9	28.05
Sales with Rice as Primary Enterprise	44					
Price Per Acre (dollars)		456	1,155	759	775	157.37
Size (acres)		36	643	164	227	177.23
Percent Cropland		28	100	94	90	12.12
Government Program Base Acres		0	300	65	84	69.89
Percent Pasture		95	100	100	99	2.50

Table 8. Mean and Median Land Values and Other Selected Characteristics, Central Area, 1994 Louisiana Rural Land Market Survey, January 1, 1993 to June 30, 1994 Sale Period.

Selected Land Tract Characteristics	Number of Sales Reported	Minimum	Maximum	Median	Mean	Standard Deviation
Central Area	126					
Price Per Acre (dollars)		157	3,817	739	975	710.18
Size (acres)		10	5,555	84	223	574.92
Percent Cropland		0	100	0	37	44.99
Percent Pasture		0	100	0	11	29.08
Percent Timber		0	100	0	4	18.69
Sales with Corn as Primary Enterprise	6					
Price Per Acre (dollars)		750	1,093	900	907	141.03
Size (acres)		17	158	65	70	49.65
Percent Cropland		84	100	99	96	6.24
Government Program Base Acres		0	30	0	8	12.68
Sales with Soybeans as Primary Enterprise	17					
Price Per Acre (dollars)		350	2,941	600	877	679.12
Size (acres)		13	304	70	91	81.78
Percent Cropland		35	100	90	88	18.14

Table 8. Mean and Median Land Values and Other Selected Characteristics, Central Area, Continued.

Selected Land Tract Characteristics	Number of Sales Reported	Minimum	Maximum	Median	Mean	Standard Deviation
Sales with Rice as Primary Enterprise	21					
Price Per Acre (dollars)		222	1,834	679	704	337.14
Size (acres)		29	5,555	137	651	1,260.68
Percent Cropland		65	100	90	88	11.61
Government Program Base Acres		0	200	0	24	46.57
Sales with Pasture as Primary Enterprise	7					
Price Per Acre (dollars)		310	2,099	1,000	992	577.54
Size (acres)		20	110	55	60	31.44
Percent Pasture		90	100	96	96	4.48

Soybean tracts ranged in value from \$350 to \$2,941 per acre, with a median of \$600 and a mean of \$877. The standard deviation (\$679.12) was extremely large. Tract size ranged from 13 acres to 304 acres, with a median of 70 acres and a mean of 91 acres.

A limited number of sales reported corn or pastureland as the primary enterprise. The tracts, however, had the highest median and mean price per acre. The median value per acre of corn tracts was \$900, with a mean of \$907. The standard deviation of corn was \$141.03, implying that 68 percent of the reported corn tracts were expected to fall in the range of \$766 to \$1,048 per acre. Acreage size was relatively small, ranging from 17 acres to 158 acres, with a median of 65 acres and a mean of 70 acres. Government program base acres were also small, ranging from zero to 30 acres, with a median of zero and mean of eight acres. Pastureland tracts had a median of \$1,000 per acre and a mean of \$992 per acre. Acreage on pastureland tracts ranged from 20 acres to 110 acres, with a median of 55 acres and a mean of 60 acres.

Southeast Area

The Southeast Area includes eight parishes (East Baton Rouge, East Feliciana, Livingston, St. Helena, St. Tammany, Tangipahoa, Washington, and West Feliciana). Table 9 summarizes selected characteristics of reported sales in the Southeast Area. Per acre values ranged from \$475 to \$7,564, with a median of \$1,966 and a mean of \$2,298. Tract size varied from 10 acres to 975 acres. The Southeast Area had the smallest median and mean tract sizes of any area in the study. The median tract size was 54 acres, with a mean tract size of 87 acres. Based on the median and mean values of the percent of cropland, tracts in the area could be characterized as having few cropland acres.

A much smaller number of reported sales indicated the primary enterprise of the tract in the Southeast Area. Pastureland, dairy, and pine timberland were the primary enterprises reported. Per acre values reported for all three enterprises were considerably higher than for similar tracts in other areas of the study, possibly indicating the influence of nonagricultural factors on market value. Tracts with pine timberland as the primary enterprise had the highest median (\$1,457) and mean (\$1,550) per acre values. The standard deviation (\$561.21) implies that 68 percent of the reported pine timberland tracts are expected to fall in the range of \$989 to \$2,111 per acre. Median and mean tract sizes for pastureland, dairy, and pine timberland tended to be above that of the total area, while median and mean price per acre were below the area summary.

Sugar Cane Area

The Sugar Cane Area includes 11 parishes (Ascension, Assumption, Iberia, Iberville, Lafourche, St. James, St. John the Baptist, St. Martin, St. Mary, Terrebonne, and West Baton Rouge) in or adjacent to the Atchafalaya River basin. The survey reported only 41 sales in the area (Table 10). Per acre values ranged from \$384 to \$6,500, with a median of \$1,210 and a mean of \$1,647. Tract size varied from a minimum of 15 acres to a maximum of 1,796 acres. The median tract size was 63 acres, with a mean tract size of 257 acres.

Table 9. Mean and Median Land Values and Other Selected Characteristics, Southeast Area, 1994 Louisiana Rural Land Market Survey, January 1, 1993 to June 30, 1994 Sale Period.

Selected Land Tract Characteristics	Number of Sales Reported	Minimum	Maximum	Median	Mean	Standard Deviation
Southeast Area	105					
Price Per Acre (dollars)		475	7,564	1,966	2,298	1,364.17
Size (acres)		10	975	54	87	127.53
Percent Cropland		0	90	0	4	17.85
Percent Pasture		0	100	0	26	39.03
Percent Timber		0	100	10	36	42.20
Sales with Pasture as Primary Enterprise	11					
Price Per Acre (dollars)		600	1,966	1,200	1,164	424.36
Size (acres)		15	182	80	83	43.50
Percent Pasture		33	98	89	79	22.40
Sales with Dairy as Primary Enterprise	7					
Price Per Acre (dollars)		749	1,398	1,099	1,102	224.02
Size (acres)		70	208	179	153	51.73
Percent Pasture		74	98	85	85	12.04
Sales with Pine Timber as Primary Enterprise	16					
Price Per Acre (dollars)		700	2,514	1,457	1,550	561.21
Size (acres)		15	445	80	131	129.43
Percent Timber		32	100	100	91	18.95

Table 10. Mean and Median Land Values and Other Selected Characteristics, Sugar Cane Area, 1994 Louisiana Rural Land Market Survey, January 1, 1993 to June 30, 1994 Sale Period.

Selected Land Tract Characteristics	Number of Sales Reported	Minimum	Maximum	Median	Mean	Standard Deviation
Sugar Cane Area	41					
Price Per Acre (dollars)		384	6,500	1,210	1,647	1,065.54
Size (acres)		15	1,796	63	257	492.57
Percent Cropland		0	100	44	47	44.75
Percent Pasture		0	100	0	20	37.48
Percent Timber		0	85	0	5	16.30
Sales with Sugar Cane as Primary Enterprise	20					
Price Per Acre (dollars)		1,000	2,935	1,205	1,501	595.32
Size (acres)		17	1,796	69	414	663.21
Percent Cropland		30	100	90	82	22.06
Sales with Pasture as Primary Enterprise	6					
Price Per Acre (dollars)		384	1,429	844	887	381.86
Size (acres)		25	218	90	109	72.05
Percent Pasture		38	100	89	76	29.43

Twenty of the reported sales in the Sugar Cane Area indicated sugar cane as the primary enterprise. Sugar cane tracts were similar to statistics reported for the area, with a median of \$1,205 per acre and a mean of \$1,501 per acre. The standard deviation was \$595.32, implying that 68 percent of the reported sugar cane tracts are expected to fall in the range of \$906 to \$2,096 per acre. Tract size ranged from 17 acres to 1,796 acres. While the median (69 acres) was close to that of the area as a whole, the mean of 414 acres was greater than that of the area.

A small number of tracts with pastureland as the primary enterprise were also reported. The median of these tracts was \$844 per acre, with a mean of \$887 per acre. Both values were below that of the area as a whole.

Area Summary

Median prices per acre of rural land sales reported are summarized in Figure 5 for eight of the nine agricultural production areas in the state. Area 9 was not included in the current study due to limited data on rural land values. Median values range from \$550 per acre in the Red River Area to \$1,966 in the Southeast Area. Figure 5 illustrates the variation in rural land values across the state and the influence of a variety of factors on local markets. Examples of factors influencing market value include soil productivity, climatic conditions, proximity to urban areas, and supply and demand of suitable properties in respective areas.

RURAL REAL ESTATE VALUES BY PARISH

Rural land values by parish are reported in Table 11. Not all parishes are reported because of limited observations from the Louisiana Rural Land Market Survey. Mean per acre prices presented in Table 11 range from \$411 for Red River parish to \$3,713 for Livingston Parish. This wide range in prices, along with relatively large respective standard deviations, indicates substantial variability in land values across the state. This suggests a number of other factors including location, productivity of soils, size, investment, and economic development influence land values.

Readers are encouraged to interpret and use estimates presented in Table 11 with caution because of a limited number of observations in some areas, and variation in values for other areas. The number of reported sales range from 3 for several parishes to 170 for Vernon Parish. For example, in Livingston Parish the range of per acre real estate values is estimated vary from \$1,529 to \$5,000. Similarly, the standard deviation for Avoyelles Parish indicates that approximately 68 percent of reported land sales are expected to fall in the price range of \$371 to \$959 per acre (the mean plus and minus one standard deviation).

SUBJECTIVE ESTIMATES OF CROP SHARE/LAND RENTAL MARKETS

The second section of the Louisiana Rural Land Market Survey asked participants to provide estimates of crop cash rent and share rent arrangements in their respective areas. Eighty-nine of the 334 participating respondents provided typical rental arrangement information. The rental agreement may also include sharing of cost of production expenses. The current survey did not

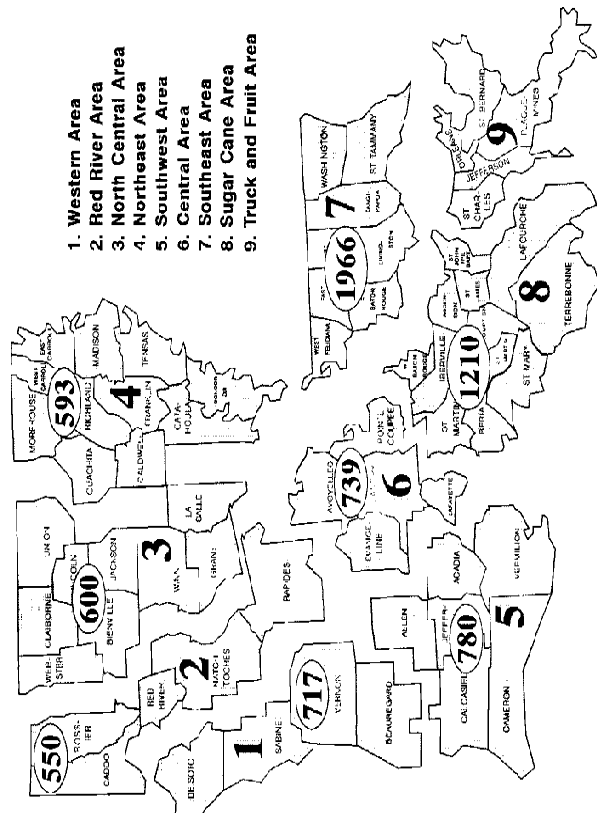


Figure 5. Median Per Acre Rural Real Estate Values by Area, Louisiana, 1994.

Table 11. Selected Tract Sale Statistics by Parish, 1994 Louisiana Rural Land Market Survey, January 1, 1993 to June 30, 1994 Sale Period.

Parish	Number of Sales Reported	Tract Size (acres)		Price Per Acre (dollars)					Standard Deviation
		Median	Mean	Minimum	Maximum	Median	Mean		
Acadia	21	88	127	350	1,746	842	883	252.48	
Allen	4	199	204	300	686	452	472	159.40	
Avoyelles	32	101	252	157	1,300	585	665	294.28	
Beauregard	11	40	527	140	1,350	950	777	395.89	
Bienville	10	93	117	424	650	588	551	75.94	
Bossier	22	41	139	200	2,619	625	866	606.37	
Caddo	41	80	174	125	2,750	510	763	659.57	
Calcasieu	3	55	54	1,000	1,250	1,050	1,100	132.29	
Catahoula	18	155	244	299	866	589	578	171.75	
Claiborne	13	80	119	276	1,042	550	630	255.10	
Concordia	11	836	1,159	360	1,208	680	651	222.93	
Desoto	25	77	278	313	2,303	497	726	526.59	
East Baton Rouge	9	54	61	700	5,227	2,593	2,797	1,421.73	
East Carroll	20	74	179	275	1,200	646	700	265.38	
East Feliciana	24	61	82	653	5,399	1,531	1,860	1,010.09	
Evangeline	37	79	138	331	1,978	714	784	373.10	

Table 11. Selected Tract Sale Statistics by Parish, Continued.

Parish	Number of Sales Reported	Tract Size (acres)		Price Per Acre (dollars)					Standard Deviation
		Median	Mean	Minimum	Maximum	Median	Mean		
Franklin	24	115	207	215	800	595	575	132.16	
Grant	19	80	79	230	1,617	730	788	435.29	
Iberia	7	90	142	1,000	2,000	1,200	1,290	342.37	
Iberville	3	22	86	991	2,493	2,490	1,991	866.32	
Jefferson Davis	33	198	286	450	1,155	700	721	144.83	
Lafayette	15	14	26	588	3,817	2,250	2,392	890.27	
Lafourche	11	45	41	1,429	3,840	2,215	2,198	689.15	
Livingston	3	30	37	1,529	5,000	4,609	3,713	1,900.95	
Madison	11	142	195	246	1,286	625	697	294.80	
Morehouse	12	447	637	338	1,059	550	663	286.42	
Natchitoches	23	107	285	190	1,859	505	669	469.57	
Rapides	35	46	88	250	9,351	750	1,219	1,556.71	
Red River	11	357	457	229	646	392	411	123.11	
Richland	10	90	108	425	1,400	836	857	334.25	
Sabine	10	60	61	254	5,000	689	1,366	1,522.14	
Saint Landry	40	117	360	222	2,206	718	870	487.28	

Table 11. Selected Tract Sale Statistics by Parish, Continued.

Parish	Number of Sales Reported	Tract Size (acres)		Price Per Acre (dollars)				
		Median	Mean	Minimum	Maximum	Median	Mean	Standard Deviation
Saint Martin	7	50	62	800	2,066	1,210	1,254	447.85
Saint Tammany	33	21	65	1,006	7,564	3,000	3,138	1,401.74
Tangipahoa	18	70	80	475	2,531	1,022	1,161	555.47
Tensas	12	405	410	325	876	655	664	152.25
Terrebonne	3	166	151	384	687	656	576	166.71
Union	22	43	73	325	1,500	610	696	301.67
Vermilion	5	36	42	950	4,285	1,000	1,731	1,444.32
Vernon	170	32	55	151	12,500	760	1,001	1,154.63
Washington	3	15	55	978	1,550	1,500	1,343	316.80
Webster	16	50	81	353	2,152	800	820	436.24
West Baton Rouge	5	1,795	1,149	961	2,935	1,039	1,403	857.20
West Carroll	38	103	198	324	1,000	543	570	166.42
West Feliciana	14	146	184	843	4,062	2,045	2,223	1027.90
Winn	18	76	84	150	1,574	312	495	401.41

collect information on these arrangements. While the survey respondents are professionals familiar with local land market conditions, the data presented in this section is subjective in nature. Care should be used in relying solely on the information presented here in making market transaction decisions.

Cash Rental Arrangements

Respondents provided estimates of typical per acre cash rental arrangements in their area for ten different income-generating activities (cotton, soybeans, corn, wheat, rice, grain sorghum, sugar cane, sweet potato, pastureland, and hunting/recreation). Results of the survey are reported in Table 12, indicating the number of survey respondents, mean, minimum, and maximum cash rent per acre, and the standard deviation by crop and production area. For any specific crop/activity, no information was reported for areas with fewer than three respondents.

Estimates of cash rental arrangements for cotton were concentrated in three production areas (Red River, Northeast, and Central). The Northeast Area had the largest number of respondents (16), with cash rent ranging from \$40 to \$100 per acre. The Central Area had a much smaller range of cotton cash rents, from \$75 to \$85 per acre. The smaller standard deviation (\$4.47) indicates less variability around the mean than for other production areas. Mean cash rent values in the three areas were very similar, ranging from \$71 per acre in the Red River Area to \$79 per acre in the Northeast Area.

Thirty-eight respondents provided estimates of soybean cash rents, concentrated primarily in the Red River, Northeast, Southwest, and Central Areas. Soybean cash rent was as low as \$15 per acre to as high as \$60 per acre across the state. The Northeast Area had the largest number of respondents (15), ranging from \$20 to \$50 per acre, and the largest mean (\$35) among the areas. No other area averaged above \$30 per acre.

Corn cash rent was estimated by 28 respondents in the state, primarily in the Red River, Northeast, and Central Areas. Cash rents across the state ranged from \$30 to \$85 per acre, with a mean of \$45 per acre. The Red River Area had an identical mean value, but a greater standard deviation (\$20.98). The Northeast Area had the largest number of respondents (10) and the largest mean cash rent (\$49). Overall, the reported mean cash rents in the three areas were extremely close, ranging from \$45 to \$49 per acre.

Wheat cash rent was estimated by 20 respondents in the state, the majority representing the Red River, Northeast, and Central Areas. Cash rents ranged from \$10 to \$60 per acre, with a mean of \$31 per acre. The Red River Area had the smallest range (\$10 to \$35 per acre) and a mean of only \$22 per acre. The Northeast and Central Areas had similar ranges and means of \$34 and \$33 per acre, respectively.

Eleven respondents reported estimates of cash rent on rice. Cash rent in the state ranged from \$50 to \$125 per acre, with a mean of \$88 per acre. The two major rice regions of the state, the Northeast and Southwest Areas, accounted for most responses. The Northeast Area reported a higher minimum cash rent (\$85 per acre) while the Southwest reported the highest maximum cash

Table 12. Estimates of Cash Rental Arrangements, by Activity and Area, 1994 Louisiana Rural Land Market Survey, January 1, 1993 to June 30, 1994 Sale Period.

Area	Number of Survey Respondents	Cash Rent Per Acre (dollars)			Standard Deviation
		Minimum	Maximum	Mean	
Cotton					
State	33	\$ 40	\$ 100	\$ 75	\$ 18.35
Red River Area	7	45	100	71	23.22
Northeast Area	16	40	100	79	16.85
Central Area	5	75	85	78	4.47
Soybean					
State	38	15	60	32	9.95
Red River Area	6	15	35	26	7.36
Northeast Area	15	20	50	35	8.55
Southwest Area	3	25	30	27	2.89
Central Area	8	20	60	30	13.36
Corn					
State	28	\$ 30	\$ 85	\$ 45	\$ 13.30
Red River Area	6	30	85	45	20.98
Northeast Area	10	30	75	49	12.70
Central Area	6	40	60	47	7.53
Wheat					
State	20	10	60	31	12.24
Red River Area	5	10	35	22	9.08
Northeast Area	8	25	50	34	10.84
Central Area	4	20	60	33	18.93

Table 12. Estimates of Cash Rental Arrangements, Continued.

Area	Number of Survey Respondents	<u>Cash Rent Per Acre (dollars)</u>			Standard Deviation
		Minimum	Maximum	Mean	
Rice					
State	11	\$ 50	\$ 125	\$ 88	\$ 20.90
Northeast Area	4	85	100	93	6.45
Southwest Area	5	50	125	88	30.12
Grain Sorghum					
State	3	30	40	37	5.77
Sugar Cane					
State	4	\$ 50	\$ 125	\$ 88	\$ 32.27
Sugar Cane Area	3	50	100	75	25.00
Sweet Potato					
State	5	40	100	74	31.30
Northeast Area	3	90	100	97	5.77
Pasture					
State	41	\$ 1	\$ 38	\$ 14	\$ 6.57
Red River Area	6	10	15	11	2.04
North Central Area	3	8	15	11	3.61
Northeast Area	10	6	25	15	6.51
Southwest Area	3	10	20	13	5.77
Central Area	6	10	15	14	2.16
Southeast Area	7	1	38	19	11.94
Sugar Cane Area	4	10	20	15	4.08

Table 12. Estimates of Cash Rental Arrangements, Continued.

Area	Number of Survey Respondents	<u>Cash Rent Per Acre (dollars)</u>			Standard Deviation
		Minimum	Maximum	Mean	
Hunting/Recreation					
State	35	1	25	7	4.61
Red River Area	7	3	10	6	3.10
Northeast Area	10	5	25	10	5.66
Southwest Area	3	2	10	7	4.62
Central Area	5	1	10	5	3.24
Southeast Area	5	5	15	10	4.16

rent (\$125 per acre). The Northeast Area had the highest mean (\$93) and the lowest standard deviation (\$6.45).

Only three respondents provided estimates of cash rent for grain sorghum. These results indicate that per acre cash rents throughout the state range from \$30 to \$40, with a mean of \$37.

Sugar cane respondents were primarily limited to the Sugar Cane Area. The reported estimates of cash rent ranged from \$50 to \$125 per acre across the state, with a mean of \$88. The standard deviations for the state and the Sugar Area were relatively high, representing about one-third of the mean cash rent in each case.

Five respondents offered estimates of per acre cash rent of sweet potatoes in the state. The state estimate ranged from \$40 to \$100 per acre, with a mean of \$74 per acre. Three of the respondents were located in the Northeast Area and estimated cash rent of \$90 to \$100 per acre. Mean cash rent was \$97 per acre in the Northeast Area, with an extremely low standard deviation of \$5.77.

Forty-one respondents provided estimates of cash rent on pastureland across the state, with the range from as low as \$1 per acre up to \$38 per acre. All but one of the production areas (Western Area) had at least three respondents participating. The mean for the state was \$14 per acre. The means of the production areas ranged from \$11 per acre in the Red River and North Central Areas to \$19 in the Southeast Area. The Southeast Area also reported the lowest minimum (\$1 per acre) and highest maximum (\$38 per acre) cash rents in the state.

Hunting and other recreation activities have become an alternative use of rural land placed in conservation programs, in commercial timberland, or land otherwise unsuitable for traditional cropping activities. Thirty-five respondents representing five production areas (Red River, Northeast, Southwest, Central, and Southeast) provided estimates of per acre cash rent for hunting/recreation use. The per acre rental rate in the state ranged from \$1 to \$25, with a mean of \$7. The highest maximum cash rent (\$25 per acre) was reported in the Northeast Area. The highest per acre mean cash rents (\$10) were reported for the Northeast and Southeast Areas of the state. The Central Area reported the lowest mean cash rent (\$5 per acre). Standard deviations for the state and agricultural production areas reported in Table 12 indicate substantial variability in rental rates for hunting/recreation land.

Share Rental Arrangements

Respondents also provided estimates of typical share rental arrangements in their area for seven different crops (cotton, soybeans, corn, wheat, rice, grain sorghum, and sugar cane). Results of the survey are reported in Table 13, indicating the number of survey respondents, and type of share arrangement. No information was reported for any crop or production area with fewer than three respondents. Three share arrangements were reported by the survey respondents. Most arrangements were on the basis of the landlord receiving either one-quarter (25 percent) or one-fifth (20 percent) of the crop as the rental payment. A limited number of respondents reported a share arrangement of one-sixth (16.67 percent) of the crop. None of the respondents reported sharing of production expenses as a part of rental arrangements.

Table 13. Estimates of Share Rental Arrangements, by Activity and Area, 1994 Louisiana Rural Land Market Survey, January 1, 1993 to June 30, 1994 Sale Period.

Area	Number of Survey Respondents	One-Quarter Share	One-Fifth Share	One-Sixth Share
Cotton				
State	34	11	23	
Red River Area	8	2	6	
Northeast Area	17	6	11	
Central Area	6	2	4	
Soybean				
State	52	25	24	3
Red River Area	8	3	4	1
Northeast Area	17	13	4	
Southwest Area	9	1	6	2
Central Area	9	4	5	
Southeast Area	3	1	2	
Sugar Cane Area	5	2	3	
Corn				
State	30	10	19	1
Red River Area	7	2	4	1
Northeast Area	11	6	5	
Central Area	6	1	5	
Sugar Cane Area	3	1	2	
Wheat				
State	24	10	10	4
Red River Area	5	1	2	2
Northeast Area	10	6	4	
Central Area	4	1	2	1

Table 13. Estimates of Share Rental Arrangements, Continued.

Area	Number of Survey Respondents	One-Quarter Share	One-Fifth Share	One-Sixth Share
Rice Land				
State	18	2	16	
Northeast Area	4	1	3	
Southwest Area	9	1	8	
Central Area	4		4	
Rice Water				
State	14		14	
Southwest Area	7		7	
Central Area	4		4	
Grain Sorghum				
State	5	4	1	
Northeast Area	3	3		
Sugar Cane				
State	16		5	11
Sugar Cane Area	14		5	9

Thirty-four respondents indicated share arrangements for cotton across the state, primarily in the Red River, Northeast, and Central Areas. These are the principal cotton producing areas of the state. Twenty-three of the 34 respondents indicated that the one-fifth share arrangement was the most common. This ratio was consistent in all three production areas. No one-sixth share arrangements were reported for cotton.

Soybean share arrangements were reported by 52 respondents in the state. The state response was almost evenly divided between the one-quarter and one-fifth share arrangement (25 and 24 responses, respectively). However, a closer study of the production areas indicates that 13 of the 25 responses to the one-quarter share arrangement were in the Northeast Area. In the Southwest Area six of the nine respondents indicated that a one-fifth share arrangement was more typical of that area. Across the state, only three respondents reported a one-sixth share arrangement for soybeans, with two of those responses in the Southwest Area.

Corn share rental arrangements were reported by 30 respondents in the state. Four production areas (Red River, Northeast, Central, and Sugar Cane Areas) are reported in Table 13. Across the state 19 of the 30 respondents indicated a one-fifth share arrangement as typical. Only the Northeast Area indicated greater preference (six of 11 responses) for a one-quarter share arrangement.

Twenty-four respondents provided information on share arrangements for wheat in the state. Respondents were evenly divided between the one-quarter share and one-fifth share arrangement, with 10 respondents each. The four remaining respondents indicated that the one-sixth share was typical, with two of those responses in the Red River Area.

Rice rental arrangements are often divided into a land share and a water share. Land share arrangements were reported in three production areas (Northeast, Southwest, and Central Areas). Sixteen of the 18 respondents in this category reported a one-fifth land share (i.e., the landlord receives 20 percent of the crop as rent). Water share arrangements were reported in only the Southwest and Central Areas. All fourteen responses indicated a one-fifth share arrangement (the waterlord receives 20 percent of the crop as rent). In both cases the landlord/waterlord may also share in paying part of the cost of production. The current survey did not include information on cost sharing arrangements.

Only five respondents in the state provided estimates of typical share arrangements for grain sorghum, with three of those responses in the Northeast Area. A one-quarter share arrangement was the typical method in this limited sample.

Sixteen respondents provided information on sugar cane share arrangements. Fourteen of the sixteen responses were in the Sugar Cane Area. The predominant arrangement was a one-sixth share.

SUBJECTIVE ESTIMATES OF LAND MARKETS

Survey participants were also asked to provide subjective estimates of land values in their respective agricultural production areas as of June 30, 1994. Respondents were asked to provide

information on four types of rural land (dry cropland, irrigated cropland, pastureland, and timberland) in their area. A summary of the mean responses is provided in Table 14. Production areas with fewer than three respondents were not reported.

Fifty-nine respondents provided information on dry cropland in the state. The mean low value was \$506 per acre, while the mean high was \$1,067. Reported estimates ranged from \$250 to \$2,200 per acre. Average land value estimates provided by respondents resulted in a mean average dry cropland value of \$761 per acre, with a standard deviation of \$262.66. The Sugar Cane Area reported the largest estimated mean values for low, high, and average dry cropland in the state. Estimates are not provided for the Western Area because of limited responses in the area.

Estimates of low, high, and average irrigated land value were reported by 32 respondents in the state. The mean low value was \$623 per acre, while the mean high was \$1,054. Reported estimates ranged from \$350 to \$1,500 per acre. Respondents indicated a mean average irrigated cropland value of \$822 per acre. The standard deviation (\$166.64 per acre) was the smallest among the four land types. Only four production areas (Red River, Northeast, Southwest, and Central Areas) are reported in Table 14. The Northeast Area reported the largest estimated mean average (\$870 per acre), while the Central Area reported the lowest mean average (\$750 per acre) for irrigated cropland.

Estimates of pastureland values in the state were provided by 59 respondents. The mean low value was \$480 per acre, while the mean high was \$1,003. Reported estimates ranged from \$250 to \$4,285 per acre. Respondents indicated a mean average pastureland value of \$706 per acre, with a standard deviation of \$315.29. Responses for all eight production areas included in the study are reported in Table 14. The Southeast Area reported the largest estimated mean values for low, high, and average pastureland in the state.

Forty-five respondents reported estimates of timberland value across the state. The mean low value was \$321 per acre, while the mean high was \$999. Reported estimates ranged from \$100 to \$4,500 per acre. The mean of respondent average estimates for timberland was \$540 per acre. The standard deviation (\$346.28 per acre) was the largest of the four land types. Respondents from the Red River Area reported the smallest estimated mean average price per acre (\$281) for timberland in the state. The Southeast Area had the highest estimated mean average price per acre (\$919). Estimates are not provided for the Western Area because of limited responses in the area.

The survey also asked respondents to indicate any anticipated changes in the average market value of rural land in the next year. Eighty-two of the 334 surveys returned responded to the question. Forty-four of these respondents (54 percent) expected no change in average market value in their area. Thirty-eight respondents (46 percent) expected average market values to increase, with a mean response of 6 percent. None of the 82 respondents expected values to decrease in the next year.

Respondents were asked to list what specific factors were likely to influence average rural land values over the next 12 months. Only 40 respondents indicated specific factors (Figure 6). As indicated in Figure 6, the most frequent response was commodity prices (41 percent). Other factors mentioned were government programs (22 percent), urban expansion (20 percent), and interest rates (15 percent).

Table 14 . Respondent Estimates of Low, High and Average Land Value, by Land Type and Area, 1994 Louisiana Rural Land Market Survey, January 1, 1993 to June 30, 1994 Sale Period.

Area	Number of Survey Respondents	Low		High		Average		Range	
		Mean	Standard Deviation	Mean	Standard Deviation	Mean	Standard Deviation	Low	High
Dry Cropland									
State	59	\$ 506	\$ 234.40	\$ 1,067	\$ 411.09	\$ 761	\$ 262.66	\$ 250	\$ 2,200
Red River Area	11	336	97.70	1,048	478.60	659	168.55	250	2,000
North Central	3	417	76.38	750	50.00	663	125.00	350	800
Northeast Area	16	408	113.18	898	184.50	642	121.25	250	1,200
Southwest Area	5	565	252.24	1,005	491.30	680	268.33	300	1,800
Central Area	8	444	67.81	975	335.94	691	136.24	350	1,500
Southeast Area	3	550	278.39	1,133	416.33	850	350.00	250	1,600
Sugar Cane Area	12	838	220.67	1,500	377.19	1,119	253.41	500	2,200
Irrigated Cropland									
State	32	623	160.26	1,054	236.07	822	166.64	350	1,500
Red River Area	7	529	177.62	1,050	189.30	779	149.60	350	1,250
Northeast Area	13	638	172.18	1,144	292.64	870	212.69	450	1,500
Southwest Area	6	713	133.93	975	140.53	850	130.38	500	1,200
Central Area	6	613	97.15	942	182.80	750	89.44	500	1,250

Table 14. Respondent Estimates of Low, High and Average Land Value, Continued.

Area	Number of Survey Respondents	<u>Low</u>		<u>High</u>		<u>Average</u>		<u>Range</u>	
		Mean	Standard Deviation	Mean	Standard Deviation	Mean	Standard Deviation	Low	High
Pastureland									
State	59	480	211.98	1,003	630.91	706	315.29	250	4,285
Western Area	4	325	50.00	1,175	590.90	738	314.58	300	2,000
Red River Area	11	384	86.80	743	156.56	559	96.35	250	1,000
North Central	5	430	44.72	870	263.63	633	87.56	400	1,200
Northeast Area	10	365	100.14	645	132.18	490	121.45	250	900
Southwest Area	6	483	246.31	1,327	1,478.11	792	540.76	300	4,285
Central Area	6	392	86.12	925	530.80	625	144.05	300	2,000
Southeast Area	11	761	213.68	1,427	586.67	1,046	369.90	500	2,500
Sugar Cane Area	6	558	257.71	1,050	372.83	758	226.75	300	1,500

Table 14. Respondent Estimates of Low, High and Average Land Value, Continued.

Area	Number of Survey Respondents	<u>Low</u>		<u>High</u>		<u>Average</u>		<u>Range</u>	
		Mean	Standard Deviation	Mean	Standard Deviation	Mean	Standard Deviation	Low	High
Timberland									
State	45	321	218.51	999	914.36	540	346.28	100	4,500
Red River Area	10	185	39.44	353	47.80	281	53.22	150	400
North Central	5	460	248.50	1,800	920.33	750	234.52	200	3,000
Northeast Area	9	211	60.09	556	199.13	365	84.33	150	1,000
Southwest Area	4	381	232.18	1,675	1,075.10	800	346.41	175	3,000
Central Area	5	260	114.02	810	685.93	450	203.10	100	2,000
Southeast Area	8	555	290.17	1,650	1,260.39	919	487.66	150	4,500
Sugar Cane Area	3	300	264.58	700	360.56	450	304.14	100	1,000

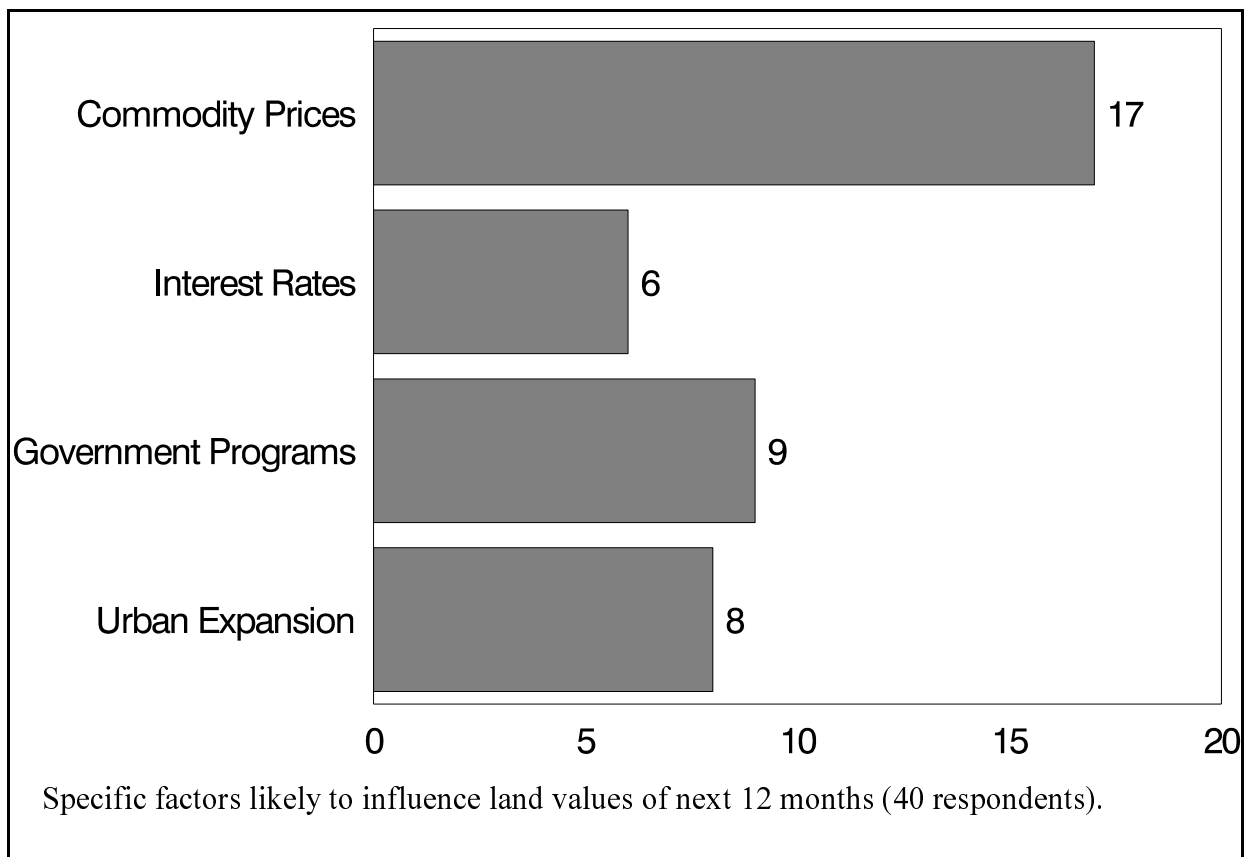


Figure 6. Respondent Expectation of Factors Likely to Influence Rural Land Values, 1994 Louisiana Rural Land Market Survey, January 1, 1993 to June 30, 1994 Sale Period.

SUMMARY AND CONCLUSIONS

The general objective of this research was to develop and report rural land market information in Louisiana. A review of literature suggested the need for development of such information and the potential of developing this information through the use of mail survey techniques. Results from this study generally indicate that rural land market information can be successfully developed from mail survey techniques. The response rate for the survey was 48 percent, which resulted in the collection of 948 rural land market sales that occurred between January 1, 1993 to June 30, 1994.

Data collection procedures also provided the basis for collecting rural land market information throughout the state. A Geographical Information System (GIS) analysis of the 948 rural land market sales (Figure 1) indicates that, with the exception of the parishes in the New Orleans metropolitan area, sales were dispersed throughout the state. With regard to future research, this analysis suggests areas where more emphasis may be directed in collecting rural land market sales.

A relatively large amount of variability in per acre rural real estate prices was indicated by a statewide analysis of the data. The mean per acre price of rural real estate was estimated at \$1,037

with a standard deviation of 1,001.18. Similarly, rural land values were found to vary when classified by type of primary commodity. Mean per acre prices for cropland were found to vary from \$655 per acre for sales where soybeans were the primary commodity to \$1,467 per acre when sugar cane was the primary commodity.

Other information indicated that the most frequent reason for purchasing rural real estate was for expansion of land holdings. The majority of respondents (65 percent) did not indicate any other significant influences on prices; however, some respondents did report influences from factors such as residential development, flooding, recreation, urban development, and highways.

Following a format used by Ramsey and Corty, the state was subdivided into nine agricultural production regions (Figure 4), and statistical measures were computed for each of these areas. In general, the results indicated a substantial amount of variability in reported rural real estate values within areas and across areas. For example, 160 sales were reported in the Northeast Area, with a mean of \$634 per acre and a standard deviation of 229.11. This standard deviation indicates that approximately 68 percent of the sales are expected to fall in the price interval of \$405 to \$863 (the mean plus and minus one standard deviation). Median per acre real estate sale prices (Figure 5) were found to range from \$550 in the Red River Area to \$1,966 in the Southeast Area.

Mean per acre values by parish were found to vary from \$411 in Red River Parish to \$3,713 in Livingston Parish. It is expected that much of this variability in tract price results from several factors such as location, productivity of soils, size, investment, economic development, and urban influences.

The study requested survey respondents to provide estimates of cash and share rental arrangements in their respective areas. Results indicated cash rental arrangements vary by commodity. On a statewide basis, the mean cash rent was estimated at \$75 per acre; however, cash rent for field crops was estimated to range from \$32 per acre for soybeans to \$88 per acre for rice. Similar variability was exhibited for share rental arrangements. In this case, the most frequent share rental arrangement across most field crops was either a one-quarter or one-fifth share.

Respondents were also requested to provide subjective estimates of different types of land in their respective areas. In this analysis, the mean per acre value for dry cropland from 59 respondents was estimated at \$761 per acre. These mean estimates for dry cropland ranged from \$659 per acre in the Red River Area to \$1,119 per acre in the Sugar Cane Area. For irrigated cropland, the mean of 32 respondents statewide was estimated at \$822 per acre. In general, subjective estimates of value were found to be consistent with the results from the reported rural real estate sales.

This study provides an initial data base for future land value studies. Trends in rural real estate values may be estimated when estimates from this research are combined with estimates developed over time. Substantial variation in rural real estate values across the state, areas, and commodities suggests the need for additional research aimed at measuring the effect of various factors in rural real estate markets.

The authors caution readers to use care in applying estimates from this study. Estimates from the study are intended to contribute to additional sources of information in the appraisal

process and should not be used as the sole source of valuation. Current local market conditions may not be accurately reflected in the results reported here because of limited data in some cases and the complexity of factors influencing values in the local market. Readers are encouraged to thoroughly investigate and analyze current local market conditions as a part of any decision process.

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