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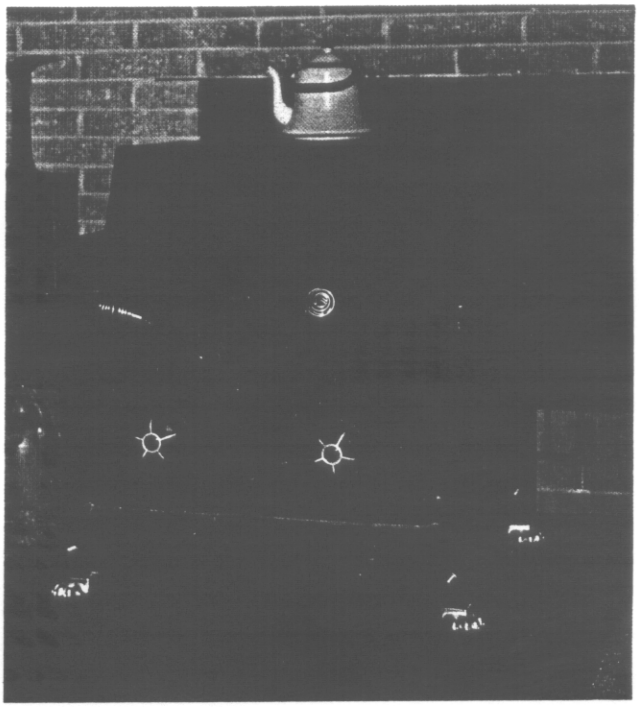

WOOD

- A GROWING HOME ENERGY SOURCE IN GEORGIA

BY

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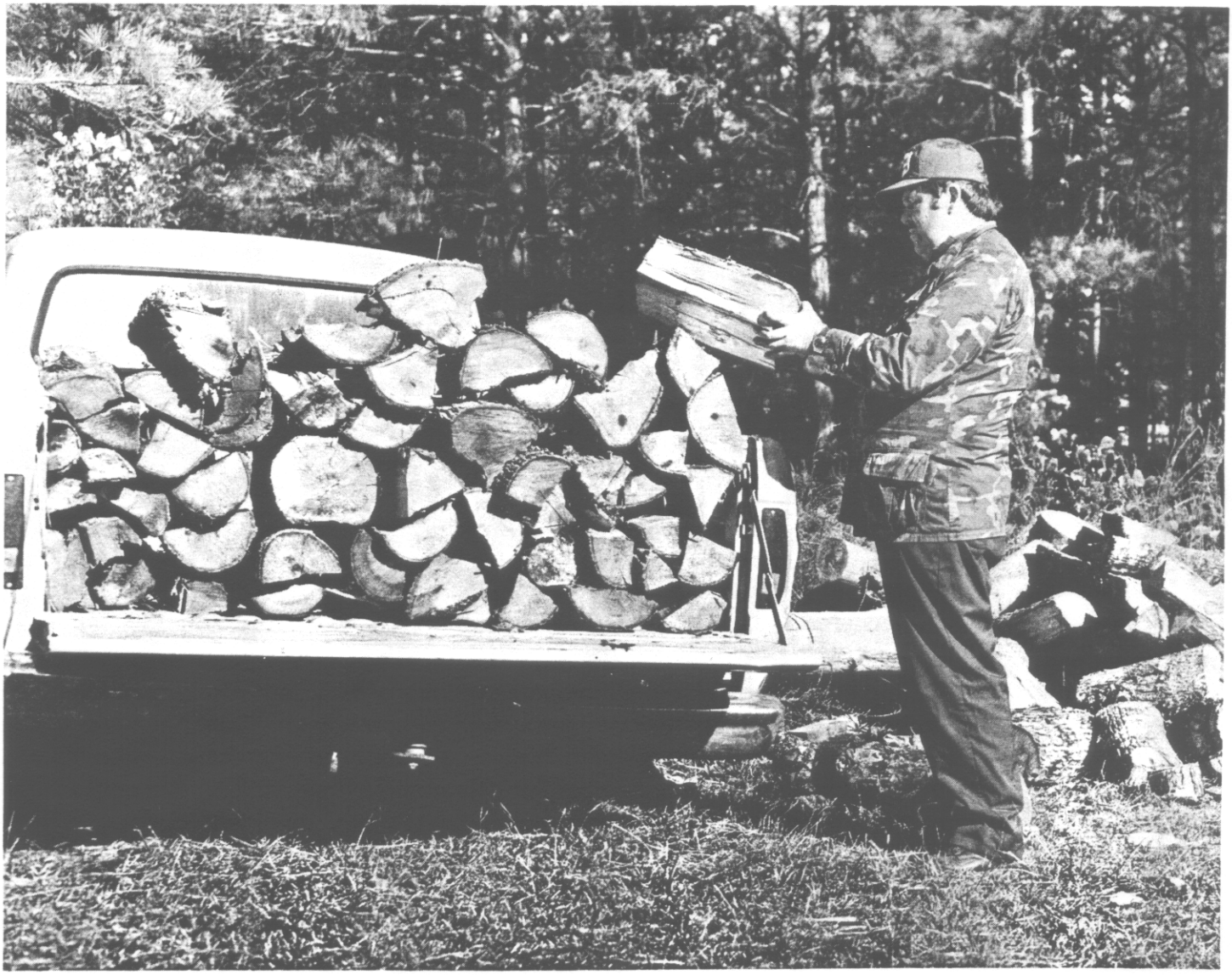
Georgia families are using more wood in heating their homes. As a follow-up to a similar study in 1979, over 2,200 Georgia households were interviewed during March and April 1981 in a cooperative survey by the Georgia Forestry Commission and the Contract Research Division of the College of Business Administration at Georgia State University. The results show that the proportion of households using wood for part or all of their home heating needs has increased 30 percent in the past two years.

This shift toward fuelwood as a preferred heating source has been occasioned, in part, by the rapidly increasing costs of electricity, fuel oil, and natural gas. Further, gains in the heating efficiency of modern wood-burning stoves have made home heating with wood a viable alternative.

Home wood heating systems are cost and conservation effective since much of the wood that was heretofore a waste product can be utilized. Trees cut in land clearing for construction and in thinnings in timber stand management supply relatively low cost firewood. The use of biomass debris to supplement fuel production from firewood plantations is a significant part of the comprehensive program conducted by the Georgia Forestry Commission to promote the full utilization of Georgia's forest production.



The number of households in Georgia now using wood for at least part of their home heating fuel has shown a 30 percent increase in the past two years. Many homeowners, such as the one shown above, harvest and transport their own wood, while others buy from dealers who have established woodyards throughout the state in recent years.

SURVEY FINDINGS

The move to wood as a source of energy for home heating is accelerating in Georgia. As stated earlier, the proportion of households using wood for at least part of their home heating has increased 30 percent in the last two years. The remainder of this report will present the details of that finding, along with the data of other aspects developed during the study.

Regional Differences

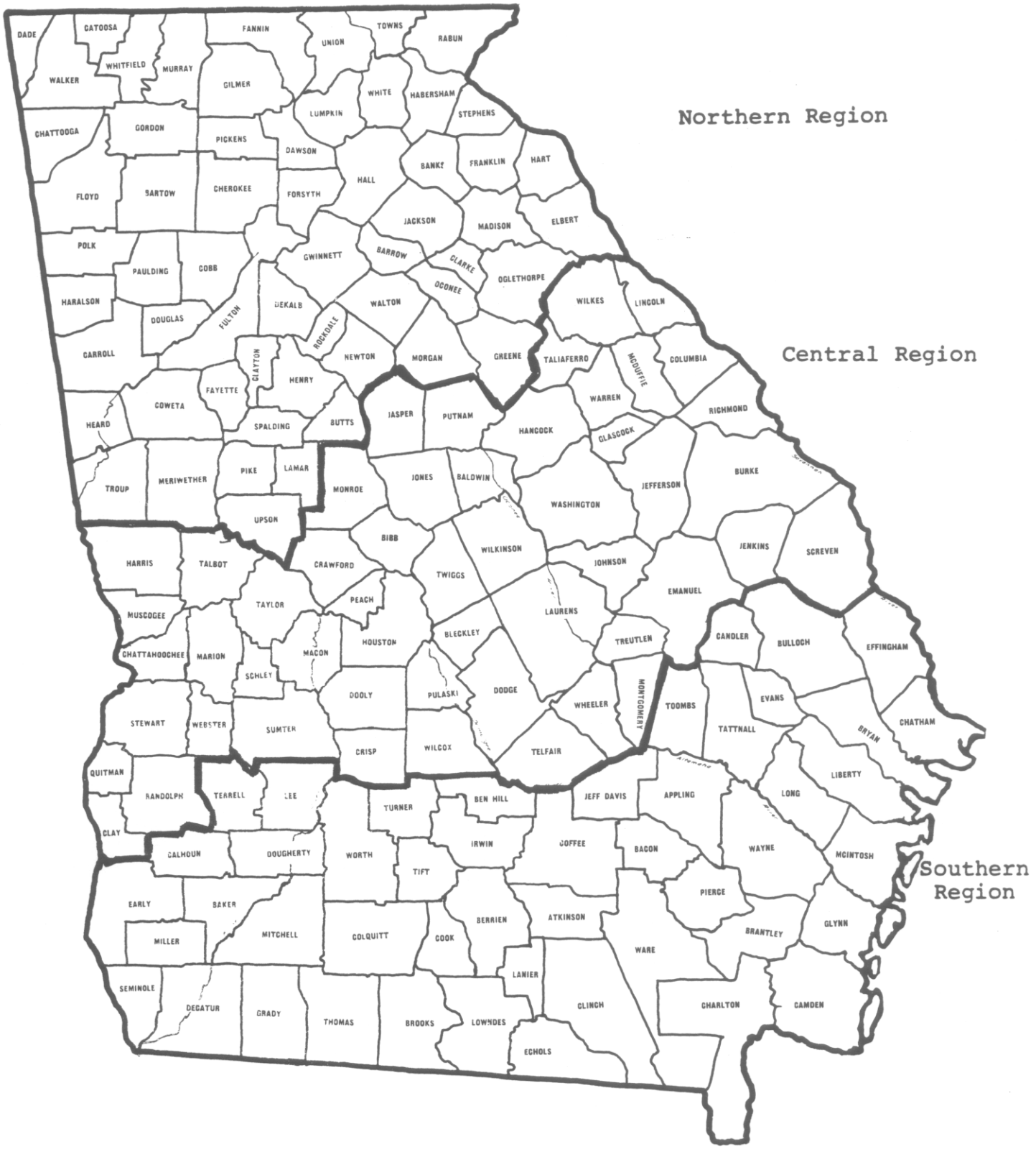
The study was designed to provide data that was statistically valid on a statewide basis. There is an interest however in whether different regions of the state exhibit differing characteristics in the use of wood for home heating. For that reason the state was divided into three regions. The Northern Region consists of 59 counties in the north, the Southern Region contains the 48 counties in the south, and the Central Region has the middle 52 counties. The boundaries of the regions are shown in Figure 1. In addition to computing the data for the state as a whole, the same factors are computed for each individual region. In the analysis any apparent differences may not be statistically valid, but will serve the purpose of earmarking areas of interest and serve as a basis of further inquiry.

Extent of Wood Usage

The proportion of homes that use wood for at least part of their heating needs has increased to 33.4 percent. This represents an increase of 30 percent over the two years since the last survey. The previous proportion was 25.7 percent. The impact is more pronounced when the

Figure 1

Survey Regions in Georgia



increased percentage is also coupled with the increasing number of households.

The increase in the use of wood for home heating is apparent in all regions of the state, and there is little difference in the percentage of homes using firewood in each of the three regions. Table 1 shows the percentage and number of households that are currently using wood in Georgia along with the percentage that were using wood two years ago. Throughout this report where the number of households is reported, the data will be based on the 1980 census of 2,017,710 households in Georgia. As can be seen in the table, 674,411 of those households are using wood for home heating.

Table 1
Proportion and Number of Households Using Wood for Home Heating

Region	Percent of Households Using Wood in 1979	Percent of Households Using Wood in 1981	Number of Households Using Wood in 1981
Georgia	25.7	33.4	674,411
Northern	30.3	35.3	420,599
Central	20.1	30.2	128,000
Southern	20.6	31.3	125,812

Types of Heating Equipment in Use

Each household was initially asked if the home contained any equipment for burning wood and if so, what type. They were then asked which equipment was actually used to provide home heat. A total of 925 households, or 41.7 percent of all households interviewed, reported that they had some type of wood-burning equipment in the home. However, it was reported by 185 households that none of the equipment was used. This means that 20 percent of the homes with wood-burning equipment do not use it. More information will be presented later on why households do not use wood. It can be noted here though that many of the families that did not use the equipment stated they had fireplaces and were not sure they were in safe operating condition.

The homes with equipment in use reported a range of types and quantities. Table 2 shows the equipment that was in use by the reporting households that were interviewed along with the estimate of equipment in use by all households in Georgia. The type of equipment in use was very similar in each region except the Southern Region had a slightly higher proportion of fireplaces and the Northern Region had a somewhat higher proportion of freestanding stoves.

Table 2
Types of Wood-Burning Equipment in Use

Type and Quantity of Equipment	Households in Survey: Number of Households With Equipment	Percent of Using Households	Number of Households in Georgia With Equipment
1 Open Fireplace	434	60.1	405,321
2 Open Fireplaces	36	5.0	33,720
3 or More Fireplaces	10	1.4	9,441
1 Fireplace with Stove Insert	78	10.8	72,836
2 Fireplaces with Stove Insert	3	.4	2,698
1 Free-Standing Stove	218	30.2	203,672
2 Free-Standing Stoves	9	1.2	8,093
1 Central Wood Furnace	9	1.2	8,093

NOTE: Percent does not total 100 as some households reported more than one type of equipment.

Main Reason for Using Wood

Four principal reasons were cited by homeowners as the main reason for using wood for home heating. Table 3 outlines the sample data for the responses received. Each homeowner was asked to designate one, and only one, factor as the main reason wood was used as a fuel. It is apparent that the greatest proportion viewed burning wood as less expensive, followed by the desire simply to just enjoy a fire, and to supplement the primary heating system. It should be noted that although only a small number cited wood-burning equipment as the only heating system, the greater proportion of those so reporting were in the Central Region and Southern Region.

Improvement of Fireplace Efficiency

It is generally accepted that an open fireplace is an inefficient method of heating with wood. It is possible, however, to improve this efficiency considerably by just the addition of a glass screen over the front of the fireplace. This screen will permit viewing of the fire and allow some heat to radiate into the room. Its primary benefit, however, is that it will greatly reduce the escape of warm air from the room up the chimney. Furthermore, fireplace screens are inexpensive. Despite these factors, the survey revealed that only 36.6 percent of fireplaces in use had screens. Thus, two out of three fireplaces were being utilized under inefficient conditions, serving as sources of viewing enjoyment but not as positive sources of home heating.

Satisfaction with Wood-Burning Equipment

It was evident that homeowners were satisfied with the performance of the wood-burning equipment in use. Of the owners of free-standing stoves, 98.6 percent were satisfied while 96.2 percent

This modern-day wood burning heater has features that provide much greater efficiency than those used by past generations. Wood burns slower in the airtight firebox and considerably more heat is generated than by the earlier models. The study showed that most homeowners are well pleased with the performance of free-standing stoves.

Table 3
Main Reason for Using Firewood

Reason For Use	GEORGIA		NORTHERN REGION		CENTRAL REGION		SOUTHERN REGION	
	Number	Percent	Number	Percent	Number	Percent	Number	Percent
Firewood Heating is Less Expensive	313	42.9	193	43.9	56	37.1	64	46.4
Enjoy Looking at Fire	232	31.8	148	33.6	44	29.1	40	29.0
Supplement the Main Heating System	154	21.1	92	20.9	40	26.5	22	15.9
The Only Heating System is Firewood	30	4.1	7	1.6	11	7.3	12	8.7
TOTAL	729	100.0	440	100.0	151	100.0	138	100.0

of those with fireplace inserts were satisfied. Even 92.2 percent of those using fireplaces expressed satisfaction.

Number of Years Household Has Used Wood

Although over 13 percent of the respondents have used wood for 15 years or longer, most households are relative newcomers in the use of wood for home heating. Over 57 percent of current wood-burning households have used wood for 4 years or less. This, of course, coincides with the time period over which fuel prices have escalated greatly. And also, either as a cause or a result, it is the time period when wood-burning equipment has undergone considerable technological improvement. Table 4 shows the range of years that respondents have used wood as a means of home heating.

Table 4
Number of Years of Using Wood for Fuel

Number of Years	Georgia Number	Georgia Percent
1	83	12.6
2	126	19.2
3	92	14.0
4	75	11.4
5	48	7.3
6	20	3.0
7	20	3.0
8	21	3.2
9	6	.9
10	35	5.3
11	3	.5
12	10	1.5
13	6	.9
14	6	.9
15	18	2.7
More Than 15	88	13.4
Total	657	100.0

Quantity of Wood Used Per Year

The average number of cords of wood burned by wood-burning households has increased over the past two years from 2.2 cords to 2.5 cords. This increase is consistent with data that will be presented later showing that households are dependent on wood for a greater proportion of their heating needs. Table 5 presents the usage factors obtained in the study. It can be seen that the regions differ in their averages, with the Southern Region having the highest average of 3.2 cords per household. It should be recognized

In some areas of the state, wood processing plants have become highly automated to keep pace with demand. At this plant near Blairsville, a conveyor carries wood from hydraulic splitters to a loading pad. The wood is also conveyed directly into delivery vans.

Table 5
Amount of Firewood Used Per Year

Number of Cords Used Per Year	GEORGIA Number	GEORGIA Percent	NORTHERN REGION Number	NORTHERN REGION Percent	CENTRAL REGION Number	CENTRAL REGION Percent	SOUTHERN REGION Number	SOUTHERN REGION Percent
.5 Cord or Less	62	9.3	51	12.7	5	3.7	6	4.7
.6 to 1	139	20.9	95	23.6	21	15.7	23	17.8
1.1 to 2	173	26.0	93	23.1	42	31.3	38	29.5
2.1 to 3	113	17.0	67	16.7	28	20.9	18	14.0
3.1 to 4	62	9.3	33	8.2	17	12.7	12	9.3
4.1 to 5	46	6.9	30	7.5	7	5.2	9	7.0
5.1 to 6	35	5.3	17	4.2	9	6.7	9	7.0
6.1 to 7	5	0.8	3	0.7	0	0.0	2	1.6
7.1 to 8	12	1.8	4	1.0	1	0.7	7	5.4
8.1 to 9	1	0.2	1	0.2	0	0.0	0	0.0
9.1 to 10	10	1.5	3	0.7	3	2.2	4	3.1
10.1 to 11	0	0.0	0	0.0	0	0.0	0	0.0
11.1 to 12	5	0.8	4	1.0	1	0.7	0	0.0
12.1 to 13	0	0.0	0	0.0	0	0.0	0	0.0
13.1 to 14	0	0.0	0	0.0	0	0.0	0	0.0
14.1 to 15	1	0.2	1	0.2	0	0.0	0	0.0
More Than 15	1	0.2	0	0.0	0	0.0	1	0.8
TOTAL	665	100.0	402	100.0	134	100.0	129	100.0
AVERAGE	2.5 Cords		2.5 Cords		2.9 Cords		3.2 Cords	

that the Southern Region has a less frequent requirement for home heating. This may have influenced homeowners to not install more expensive central gas or electric systems and to depend on wood as the only source of heat and thus make more frequent use of it despite the milder weather. Also the Southern Region reported the highest proprotion of softwood to obtain the needed amount of heat.

Based on the estimate of 674,411 households using wood for home heating in Georgia, the state's annual consumption of firewood is 1,695,184 cords. The increased average per using household combined with a higher proportion of households using wood results in an average firewood consumption of .84 cords for all households in Georgia. This average for all households was .55 cords in 1979.

Source of Firewood

By far, the greater proportion of wood used by the household is cut by members of the household. There were 1,816 cords of wood used by families who responded in the survey. Of these, 1,496 cords, or 82.4 percent, were cut by the users while 319 cords or 17.6 percent were purchased from firewood dealers.

The survey also determined that of the 524 respondents who cut their own wood, only 33 of them had to purchase the trees or logs they cut. Thus, 94 percent of the families who cut their own wood obtained wood at no cost other than for cutting expenses such as gasoline for chain saws, transportation, and the cost of the saws. Even those who purchased trees for cutting reported an average cost of only 25 dollars per cord. Households who cut their own wood burned an average of 2.9 cords per year, compared to an average of 1.6 cords per year for households who purchased their firewood. Table 6 contains the response data for the source of wood for all regions.

Based on the estimate of total consumption in Georgia of 1,695,184 cords, 1,396,832 cords were cut by the user and 298,352 cords were purchased from firewood dealers.

Cost of Firewood

The cost of firewood continues to vary

Table 6
Source of All Firewood Used by Households

	GEORGIA Number Users	GEORGIA Total Cords	GEORGIA Average Cords	NORTHERN REGION Number Users	NORTHERN REGION Total Cords	NORTHERN REGION Average Cords	CENTRAL REGION Number Users	CENTRAL REGION Total Cords	CENTRAL REGION Average Cords	SOUTHERN REGION Number Users	SOUTHERN REGION Total Cords	SOUTHERN REGION Average Cords
Cut by User	524	1496.2	2.9	306	838.5	2.7	106	297.5	2.8	112	360.1	3.2
Bought from Dealer	195	319.5	1.6	129	168.9	1.3	34	87.6	2.6	32	63.0	2.0
TOTAL	649	1815.7	2.5	388	1007.5	2.5	132	384.7	2.9	129	423.1	3.2

Table 7
Average Amount Paid Per Cord of Wood

Dollars Paid Per Cord	GEORGIA Number	GEORGIA Percent	NORTHERN REGION Number	NORTHERN REGION Percent	CENTRAL REGION Number	CENTRAL REGION Percent	SOUTHERN REGION Number	SOUTHERN REGION Percent
Less than 25	2	1.1	1	0.9	1	3.2	0	0.0
25 to 34.99	14	8.0	5	4.3	6	19.4	3	10.3
35 to 44.99	14	8.0	9	7.8	2	6.5	3	10.3
45 to 54.99	11	6.3	6	5.2	4	12.9	1	3.4
55 to 64.99	11	6.3	6	5.2	3	9.7	2	6.9
65 to 74.99	22	12.5	15	12.9	4	12.9	3	10.3
75 to 84.99	29	16.5	21	18.1	4	12.9	4	13.8
85 to 89.99	0	0.0	0	0.0	0	0.0	0	0.0
90 to 94.99	27	15.3	16	13.8	2	6.5	9	31.0
95 to 99.99	1	0.6	1	0.9	0	0.0	0	0.0
100 to 104.99	16	9.1	12	10.3	2	6.5	2	6.9
105 to 109.99	6	3.4	1	0.9	3	9.7	2	6.9
110 to 114.99	4	2.3	4	3.4	0	0.0	0	0.0
115 to 119.99	0	0.0	0	0.0	0	0.0	0	0.0
120 to 124.99	10	5.7	10	8.6	0	0.0	0	0.0
125 to 129.99	0	0.0	0	0.0	0	0.0	0	0.0
130 to 134.99	0	0.0	0	0.0	0	0.0	0	0.0
135 to 139.99	1	0.6	1	0.9	0	0.0	0	0.0
140 to 144.99	0	0.0	0	0.0	0	0.0	0	0.0
145 to 149.99	1	0.6	1	0.9	0	0.0	0	0.0
150 or more	7	4.0	7	6.0	0	0.0	0	0.0
TOTAL	176	100.0	116	100.0	31	100.0	29	100.0
AVERAGE	$79.99		$85.78		$61.80		$73.95	

Table 8
Size of Orders for Firewood Purchases from Firewood Dealers

Size of Order In Cords	Georgia Number	Georgia Percent
.01 to .30	6	3.2
.31 to .60	87	46.5
.61 to .75	4	2.1
.76 to 1.00	66	35.3
1.01 to 1.25	0	0.0
1.26 to 1.50	2	1.1
1.51 to 2.00	12	6.4
2.01 to 2.50	2	1.1
2.51 to 3.00	3	1.6
3.01 to 3.50	0	0.0
3.51 to 4.00	3	1.6
Over 4	2	1.1
TOTAL	187	100.0

over a wide range of prices. A cord of wood ranged in price from less than 25 dollars to 150 dollars or more. It can be noted in Table 7, however, that the largest concentration of purchases was in the 65 dollar to 95 dollar range. The prices shown in Table 6 are based on what a person would pay for a cord of wood at the rate he is paying for what is, in most cases, a smaller amount. As will be seen in a later table, most purchases are for less than a cord and the pricing structure for firewood is such that buyers of small quantities are paying a substantially higher per cord equivalent price. For example, a person may pay 35 dollars for one-quarter of a cord whereas he would have to pay only 90 dollars for a full cord. This individual cost appears in Table 7 as $140.

The average price per cord varies widely between the three regions. The state average is $79.99 per cord but ranges from $85.57 in the Northern Region to $61.80 in the Central Region.

The sale of firewood is significant in the economy of Georgia. Based on the sale of 298,352 cords of wood, the annual return from firewood sales is $23.8

million. Likewise, the implied value of the 1,396,832 cords cut by the user would be $111.7 million.

Size of Wood Purchases

Most firewood is bought in relatively small quantities with nearly 50 percent of all purchases being one-half cord or less. Purchases of one cord or less accounts for 87 percent of the total. All regions reported this same tendency to buy in small, and more expensive, quantities. The range of purchase orders for Georgia is shown in Table 8.

Hardwood vs Softwood Consumption

Hardwood is the dominant type of wood burned by homeowners throughout Georgia, but a significant amount of softwood is also consumed. Table 9 shows the percentage of hardwood and softwood that was used by responding households. About 50 percent of all households burn only hardwood, but other homeowners reported using varying amounts of softwood. One out of 8 homes burned half softwood and half hardwood while 2.6 percent burned primarily softwood. The Southern Region reported a somewhat higher consumption of softwood with 26 percent of all wood burned being softwood.

Table 9
Proportional Consumption of Hardwood and Softwood

Hardwood Proportion of Consumption	Georgia Number	Georgia Percent	Softwood Proportion of Consumption
0 to 10 Percent	19	2.6	91 to 100 Percent
11 to 20	10	1.4	81 to 90
21 to 30	11	1.5	71 to 80
31 to 40	6	.8	61 to 70
41 to 50	90	12.5	51 to 60
51 to 60	17	2.4	41 to 50
61 to 70	11	1.5	31 to 40
71 to 80	97	13.5	21 to 30
81 to 90	87	12.1	11 to 20
91 to 100	373	51.7	0 to 10
TOTAL	721	100.0	

Table 10
Portion of Home Heating Supplies by Wood

Proportion of Heat Supplied by Wood	1981 Georgia Number	1981 Georgia Percent	1979 Georgia Percent	Number of ALL Households Receiving Heat in 1981
25 Percent or Less	342	46.9	62.3	322,170
26 to 50 Percent	130	17.8	19.0	118,897
51 to 75 Percent	83	11.4	6.7	74,684
76 to 100 Percent	174	23.9	12.0	158,660
TOTAL	729	100.0	100.0	674,411

Home Heating Obtained From Wood

Georgia households exhibit a growing dependence on wood for a greater proportion of their home heating requirements. Since 1979 the proportion of homes that obtain 76 to 100 percent of their heat from wood has increased from 12 to 24 percent. In the same vein, the homes that receive from 51 to 75 percent of their heat from wood have also nearly doubled, growing from 6.7 to 11.4 percent. The increase in these areas has of course resulted in a decrease in the proportion of homes that formerly received from 0 to 25 percent of their heat from wood.

Table 10 contains the data on the number of households that reported their dependence on wood for heat and the estimates of dependence of all households in Georgia. This move to a greater dependence on wood was generally uniform throughout all regions.

Table 11
Major Source of Fuel for Heating

Sources of Fuel	GEORGIA Number	GEORGIA Percent	NORTHERN REGION Number	NORTHERN REGION Percent	CENTRAL REGION Number	CENTRAL REGION Percent	SOUTHERN REGION Number	SOUTHERN REGION Percent
Electric	414	19.2	218	17.6	95	19.8	101	22.9
Gas	1414	65.4	829	67.0	321	66.7	264	59.7
Oil	36	1.7	22	1.8	2	0.4	12	2.7
Wood	297	13.7	169	13.7	63	13.1	65	14.7
TOTAL	2161	100.0	1238	100.0	481	100.0	442	100.0

Table 12
Opinions on the Availability and Cost of Firewood

	GEORGIA		NORTHERN REGION		CENTRAL REGION		SOUTHERN REGION	
	Number	Percent	Number	Percent	Number	Percent	Number	Percent
The supply of firewood for people who want to cut their own wood is adequate.								
AGREE	1200	67.7	594	62.6	297	69.1	306	78.5
DISAGREE	573	32.3	355	37.4	133	30.9	84	21.5
There is no problem in finding firewood dealers where you can buy firewood that is cut and split.								
AGREE	1405	82.5	755	83.4	351	84.2	296	78.3
DISAGREE	299	17.5	150	16.6	66	15.8	82	21.7
The price that firewood dealers ask for their firewood is:								
MORE THAN IT SHOULD BE	664	43.0	399	49.8	145	36.9	118	34.0
ABOUT WHAT IT SHOULD BE	841	54.5	387	48.3	234	59.5	219	63.1
LESS THAN WHAT IT SHOULD BE	39	2.5	15	1.9	14	3.6	10	2.9

An additional aspect in the role of wood in home heating is the relationship between the number of years the family has been using wood and the proportion of heating requirements obtained from wood. The assumption was made that the more years the family had been using wood the more dependent it would be on wood for its heating requirement. The number of years was compared to the percent of heat received from wood and the assumption could not be supported. The median number of years using wood was computed for each of the four dependent groups, and the medians were almost identical. This would indicate that experience in using wood does not lead to depending on wood for a greater proportion of home heat.

Major Sources of Fuel for Heating

It was noted above that households using wood for heating have tended to place a greater dependence on wood for a larger proportion of their heating requirements. This added dependence on wood also had the effect of altering the previous status of electricity, natural gas, oil, and wood as major sources of energy for home heating. In 1979, only 5 percent of homeowners declared wood as the major source of energy for home heating. In 1981, this increased to 13.7 percent. Electricity decreased as the major energy source from 23.9 percent to 19.2 percent, while gas decreased from 68.5 percent to 65.4 percent. Oil decreased from 2.2 percent to 1.7 percent. The data are contained in Table 11. Wood is now considered the major source of energy for home heating in 92,394 homes in Georgia.

Attitudes on Cost and Availability of Wood

Households were asked their opinion about the availability and cost of firewood. The response data in Table 12 indicates that the great majority agreed that the number of firewood dealers is adequate and that the supply of wood for those who wanted to cut their own is sufficient. There was, however, a considerable difference of opinion on the cost of firewood from dealers. The majority thought the price was about right, but a significant number believed it to be too high. Respondents in the Northern Region were particularly of the opinion that the price charged by firewood dealers was too high.

Plans to Install Wood-Burning Equipment

The proportion of all households that use wood for home heating increased dramatically from 25.7 percent in 1979 to 33.4 percent in 1981, an increase of 7.7 percent of all households. In order to determine if this rate of increase in burning wood could be expected to continue, each household was asked if it planned to install wood-burning equipment. The responses were uniform in all the regions and show that 19.9 percent of all households plan to install new wood-burning equipment. Such a large increase would result in over 50 percent of all households in Georgia using wood for future home heating.

The response rate can be further evaluated, however, through experience from the 1979 study. In that study, 14.3 percent said they would install new equipment and after two years the increase

Table 13
Type of Wood-Burning Equipment to be Installed

	GEORGIA Households		NORTHERN REGION Households		CENTRAL REGION Households		SOUTHERN REGION Households	
Type of Equipment	Number	Percent	Number	Percent	Number	Percent	Number	Percent
Open Fireplace	131,203	6.6	60,763	5.1	32,228	7.6	38,212	9.5
Stove Insert in Fireplace	103,295	5.2	52,423	4.4	27,140	6.4	23,732	5.9
Free-Standing Stove	161,899	7.9	114,377	9.6	24,595	5.8	22,927	5.7
Central Wood Furnace	18,926	.9	11,914	1.0	3,392	.8	3,620	.9

has been roughly half that, 7.7 percent. If the same ratio between responses and actual installation is used, the response rate of 19.9 in 1981 might be reevaluated to about 10 percent. In any event, a 10 percent increase in wood-burning households would be a very significant factor in the plans of wood suppliers, equipment manufacturers, and the electric and gas utilities.

It was further determined that 22 percent of the households that now use electricity to heat would install wood stoves while 20 percent of current gas users would use wood for at least part of their home heating requirements. Of the homes that now use wood as the major source of energy for home heating, 16 percent said they would install additional wood-burning equipment.

New Equipment to be Installed

The greater dependence on wood for home heating will have its effect not only on wood suppliers and utilities. It will also have a significant impact on wood burning equipment manufacturers and retailers. The survey sought to obtain some indication of the type and quantity of stoves that households planned to install. Families who indicated they would install new equipment were asked to designate the type they would install.

Table 13 shows the percentage of all households that plan to install the types of equipment listed and the total number of units to be bought. The purchase of such quantities would have a very significant economic impact. Even when the plans for installation are reevaluated in light of the experience from the earlier study and only 50 percent of the units are actually installed, it will be a significant market opportunity for manufacturers and retailers.

Reasons for Not Burning Wood

The use of wood for home heating is increasing not only by the number of households that are using it but also by the greater dependence being placed on it for a greater proportion of home heating requirements. Even so, the majority of homes have not chosen to use wood as a source of energy. To obtain more information on why households do not use wood, each family that did not use, and did not plan to use wood was asked their reason for not doing so. The question was an open-ended question and respondents were free to give any reason that expressed their opinion. There were 1,000 responses given and they covered a variety of reasons. The responses are summarized in Table 14.

Table 14
Reasons for Not Burning Firewood

Reason	Number of Responses
No fireplace	125
Prefer gas for heating	121
Live in an apartment	115
Wood is too much trouble	96
Price of wood too high	67
Just do not want wood fire	66
Too old to handle wood	65
Rent my home, do not own	62
Lack of space for stove	60
Unable to afford stove	50
Lives in a trailer	36
Physically unable to handle wood	34
Prefer heating with electricity	23
Wood is difficult to find	16
Cannot have stove in housing project	15
Wood burning is dangerous	13
No need for wood fire	10
Wood is not practical	7
Gas is cheaper	4
Opposed to burning trees	4

SUMMARY

Home heating by means of wood has been, and apparently will continue to be, the choice of an increasing number of households in Georgia who are seeking to avoid dependence on gas and electricity and their rapidly increasing prices. The change to wood is also being encouraged by advances in the technology, design, efficiency, and ease of operation of stoves and other wood burning equipment. The increase in the proportion of homes using wood over the past two years and the equal if not greater increase in the immediate future are indicative of the significant impact that wood, as an energy source, will have on the economy of Georgia.

Programs are needed to better educate the public on the utilization of wood for home heating. Wood suppliers must also become aware of the new technology in wood cutting and handling equipment. The increasing demand can then be met by a readily available and less costly supply. The result will be a better utilization of Georgia's abundant forest products. The full utilization of Georgia's forestry products is a primary objective of the Georgia Forestry Commission.

FIREWOOD FACT SHEET
GEORGIA 1981

Percentage of homes using firewood in 1981	33.4%	
Percentage of homes using firewood in 1979	25.7%	
Increase in last two years	30.0%	
Number of homes using wood in 1981	674,411	
Number of homes using following equipment:		
1 fireplace	405,321	
2 fireplaces	33,720	
3 or more fireplaces	9,441	
1 fireplace insert	72,836	
2 fireplace inserts	2,698	
1 free-standing stove	203,672	
2 free-standing stoves	8,093	
1 central wood furnace	8,093	
Percentage of fireplaces that have glass screens	36.6%	
Average cords firewood per using home in 1981	2.5	cords
Average cords firewood per using home in 1979	2.2	cords
Average cords for all households in 1981	.84	cord
Average cords for all households in 1979	.55	cord
Total cords used in Georgia in 1981	1,695,184	cords
Total cords purchased	298,352	cords
Total cords cut by user	1,396,832	cords
Percentage of wood purchased	17.6%	
Percentage of wood cut by user	82.4%	
Average cost per cord of purchased wood	$79.99	
Total value of purchased wood	$23.8	million
Implied value of wood cut by user	$111.7	million

Proportion of home heat supplied by wood:

	Number of Homes
25 percent or less	322,170
26 to 50 percent	118,897
51 to 75 percent	74,684
76 to 100 percent	158,660

Percentage of all homes that plan to install new wood burning equipment	19.9%
Number of homes that plan to install new wood-burning equipment	401,339

Type of new wood-burning equipment to be installed:

Type of Equipment	Number of Homes
Open fireplace	131,203
Fireplace insert	103,295
Free-standing stove	161,899
Central wood furnace	18,926

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John W. Mixon, Chief of Forest Research