A Geographic Study Examining the Major Elements Involved in the Rise of Cotton Production in Southeast Missouri 1922-1925

Hudson

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A GEOGRAPHIC STUDY EXAMINING THE
MAJOR ELEMENTS INVOLVED IN THE RISE OF COTTON
PRODUCTION IN SOUTHEAST MISSOURI 1922-1925

by

Charles E. Hudson

A thesis
Submitted to the
Faculty of the School of Graduate
Studies in partial fulfillment
of the
Degree of Master of Arts

Western Michigan University
Kalamazoo, Michigan
August 1967
The delta area of Missouri comprises the seven counties in the southeastern part of the state. These counties form the only area in Missouri where cotton is widely produced. Although cotton was grown in the region as early as 1850, the delta area did not become a major cotton producer until 1922. For a number of years prior to 1922 certain elements, including soil and topography, climate, forest clearance, land drainage, and the influx of farmers prior to 1920, formed a potential favorable to large-scale cotton production, yet none occurred. For an increase in production to occur some element had to appear and activate the existing potential. This activating element was the influx of cotton workers from the South from 1922 to 1924, which provided the necessary labor supply. As this in-migration occurred cotton acreage increased rapidly, rising from 93,000 acres in 1921 to 511,000 acres in 1924.
ACKNOWLEDGEMENTS

Many persons have given their time and talent to aid in the preparation of this manuscript. Some have made extraordinary efforts to be of valuable assistance and should be so recognized here. Mrs. Janice Nunnelee, Assistant Librarian at Southeast Missouri State College, was most cooperative in securing relevant data on a variety of subjects. The author also wishes to recognize Dr. C.E. Williams, Chairman of the Earth Sciences Department at Southeast Missouri State College, and Dr. Charles Heller of Western Michigan University, who patiently read the manuscript and gave numerous suggestions and encouragement. Dr. Williams and Dr. Heller used their broad background in the field of geography to offer valuable criticism.

Grateful appreciation also is given to the author's wife for her patience and understanding during the months of preparation and writing. To all the persons who were helpful in any way the author expresses his sincere thanks.

Charles E. Hudson

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HUDSON, Charles Eugene

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Western Michigan University, M.A., 1967
Geography

University Microfilms, Inc., Ann Arbor, Michigan
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INTRODUCTION

In the decade following 1920 cotton acreage and production in the United States increased over 50%. This occurred despite a decline in both acreage and production for areas in the Cotton South. Compensating for the losses in the South during the 1920's was the development of new areas of cotton production in Texas, Oklahoma, and the delta area of Southeast Missouri. This study is concerned with one of these areas of cotton production, the delta area of Southeast Missouri.

The delta area of Southeast Missouri, comprising Butler, Dunklin, Mississippi, New Madrid, Pemiscot, Stoddard, and Scott Counties (Figure 1), is the only area in Missouri where cotton is widely produced. Although cotton was grown in the southern portions of the delta area as early as 1850, acreage and production were at a low level throughout the region until 1922. Prior to 1922 corn and wheat were the major cash crops, but in the four-year period 1921-1924 cotton acreage for the delta area increased four-fold, and cotton became the leading money crop. To understand this increase one must
FIGURE I
LOCATION OF THE DELTA COUNTIES
IN SOUTHEAST MISSOURI

SCOTT
MISSISSIPPI
STODDARD
BUTLER
NEW MADRID
PEMISCOT
DUNKLIN

0  25 MILES
LOCATION MAP
recognize that certain elements favorable for cotton production had been present in the delta area a number of years prior to 1922. They formed a potential for growing cotton, but they did not cause it to be grown. In order for a substantial increase in cotton production to occur in 1922, some element had to appear to make use of or activate existing potentials.

The purpose of this paper is to: (1) define the major elements involved in the rise of delta-area cotton production, and (2) examine how the potential elements were stimulated by an activating element to cause the increase in cotton production from 1922 to 1924. Each element will be discussed individually, and a final summation will be given.

Primary sources from which pertinent material was obtained included records and chief engineer reports of the Little River Drainage District, and microfilmed copies of early issues of the Cape Girardeau newspaper, The Southeast Missourian. Other primary sources of information included numerous letters and personal interviews with county extension agents and cotton production specialists. Interviews with lifelong residents of the delta area have also proved most informative. Primary infor-
mation was also obtained from early records of the United States Weather Bureau station at Cairo, Illinois, and from the United States Bureau of the Census at Washington, D.C.

Secondary sources included information from the Missouri Division of Employment Security and the Missouri State Department of Agriculture. Material obtained from articles and periodicals published by the University of Missouri College of Agriculture and the County Extension Offices was also most helpful. In addition, secondary sources included certain books, such as Thad Snow's From Missouri, which gave information concerning the in-migration of cotton workers into the delta area.
CHAPTER I

DELTA-AREA LAND USE BEFORE 1920

Prior to the development of large-scale drainage projects in 1910, swampy conditions in Southeast Missouri seriously limited the amount of land which could be profitably cultivated. Shallow water and mixed forests of cypress, oak, ash, and other species of trees occurred together throughout much of the lowland areas. On some of the higher ridges large tracts of timber stood above the water line. Near the end of the 19th century, lumbering interests bought a sizable portion of this well-drained forested land, and developed a lumbering industry of considerable magnitude.¹ Farming was a second major industry on the ridges before the turn of the century. However, widespread farming activities did not take place on the lowland areas until many acres of land were drained and the forests cleared.

Much of the agricultural activity prior to

1920 was concentrated on three ridges which traverse the delta region in a north-south direction. These ridges are known locally as Crowley's Ridge, the Sikeston Ridge, and the Kennett Ridge (Figure 2). Crowley's Ridge, the highest and longest ridge of the delta area, extends from near Advance in northern Stoddard County southward into Arkansas, a distance of about ninety miles (Figure 3). It is roughly a wedge-shaped ridge, with a width of about twelve miles in the north. In the southern portion the ridge gradually narrows, and averages about three miles in width.\(^2\) In general, Crowley's Ridge rises abruptly above the lowland on its eastern side, while on the western side the slope is much more gentle. Heights range from 100 to 250 feet above the lowland areas at the northern end of the ridge, and decrease to about 20 feet at the southern end.

Sikeston Ridge, a long narrow ridge, extends from near Morley in central Scott County southward to the Mississippi River in New Madrid County (Figure 2).\(^3\)


FIGURE 2
RIDGES IN SOUTHEAST MISSOURI

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FIGURE 3.—Looking westward to Crowley's Ridge in northern Stoddard County
It ranges from three miles in width at the northern end to five miles in width at the southern end, and is approximately thirty-five miles in length. The top of the ridge is flat and level, standing about twenty-five feet above the surrounding lowland areas.

Kennett Ridge is a sandy ridge in central Dunklin County, rising some twenty feet above adjoining land. It extends along the St. Francis River and was the leading area in the delta region for growing cotton in 1920.

Another prominent ridge in the delta area is the Benton Ridge (Figure 4). This ridge is sometimes referred to as the Scott County Hills, and extends from the Mississippi River near the Cape Girardeau County line southwest into central Scott County. This ridge rises rather steeply, and heights range from about 100 to 250 feet above the lowland floor. It was heavily forested, and the rough topography was not suitable for profitable cultivation prior to 1920.

The farms in the delta area between 1900 and 1920 varied in size. In Scott, Stoddard, and Mississippi Counties farms averaged over 100 acres in size, with

---

FIGURE 4.—Looking northward to the Benton Ridge in northern Scott County.
some as large as 200 acres. Farms in Dunklin, New Madrid, and Pemiscot Counties were considerably smaller, as most were less than fifty acres each. Farms of this size were the result of efforts by large landowners who divided their land into smaller tracts and leased it to tenant farmers. Many of these large landowners actually resided outside the delta area. In 1902 non-residents owned 50,000 acres of land in Dunklin County.

Although agriculture was limited by swampy conditions, it was a very important industry in the delta area from 1900 to 1920. However, there were marked contrasts in the proportionate amounts of land used for the major crops. Corn was the most important crop for the delta area as a whole from 1900 to 1920. In 1902 and in 1919 total corn acreage was more than wheat and cotton acreage combined (Table 1). Wheat was the second leading crop in total acreage during


6 Walter Williams (ed.), The State of Missouri (Jefferson City: Department of Publication of the Missouri Commission to the Louisiana Purchase Exposition, 1903), p. 338.

7 Bratton, p. 27.
### TABLE 1

ACREAGE OF MAJOR CROPS IN SOUTHEAST MISSOURI
FOR THE YEARS 1902 AND 1919

<table>
<thead>
<tr>
<th>County</th>
<th>Corn Acreage 1902</th>
<th>Corn Acreage 1919</th>
<th>Wheat Acreage 1902</th>
<th>Wheat Acreage 1919</th>
<th>Cotton Acreage 1902</th>
<th>Cotton Acreage 1919</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>(1)</td>
<td>(2)</td>
<td>(1)</td>
<td>(2)</td>
<td>(1)</td>
<td>(2)</td>
</tr>
<tr>
<td>Butler</td>
<td>24,806</td>
<td>37,780</td>
<td>2,109</td>
<td>12,160</td>
<td>1,175</td>
<td>5,101</td>
</tr>
<tr>
<td>Dunklin</td>
<td>46,847</td>
<td>94,450</td>
<td>4,074</td>
<td>15,330</td>
<td>38,495</td>
<td>42,820</td>
</tr>
<tr>
<td>Mississippi</td>
<td>47,414</td>
<td>66,740</td>
<td>33,415</td>
<td>61,160</td>
<td>40</td>
<td>485</td>
</tr>
<tr>
<td>New Madrid</td>
<td>47,310</td>
<td>94,450</td>
<td>20,155</td>
<td>57,450</td>
<td>5,265</td>
<td>11,954</td>
</tr>
<tr>
<td>Pemiscoot</td>
<td>25,480</td>
<td>56,680</td>
<td>6,620</td>
<td>1,140</td>
<td>8,685</td>
<td>37,316</td>
</tr>
<tr>
<td>Scott</td>
<td>35,461</td>
<td>69,260</td>
<td>11,190</td>
<td>75,600</td>
<td>0</td>
<td>74</td>
</tr>
<tr>
<td>Stoddard</td>
<td>59,042</td>
<td>88,150</td>
<td>28,384</td>
<td>56,040</td>
<td>5,850</td>
<td>6,254</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>286,360</strong></td>
<td><strong>507,510</strong></td>
<td><strong>105,947</strong></td>
<td><strong>278,880</strong></td>
<td><strong>60,050</strong></td>
<td><strong>104,004</strong></td>
</tr>
</tbody>
</table>

Source: (1) Walter Williams, The State of Missouri, 1902.
this period, while cotton was third.

In the southern part of the delta area, which includes Dunklin, New Madrid, and Pemiscot Counties, corn and cotton were the major crops from 1900 to 1920. Corn was grown in great quantities not only for human consumption, but also to provide a source of feed for farm animals. Cotton was grown primarily in Dunklin and Pemiscot Counties prior to 1920, with New Madrid County third in total acreage. Dunklin County was the unquestioned leader in cotton production from 1900 to 1920 in the delta area. The elevated ridges and sandy soil of Dunklin County enhanced runoff from periodic rains, making cultivation of the higher sandy soils much easier than cultivation of heavier lowland soils.

Farming in the northern counties of Butler, Mississippi, Scott, and Stoddard was more diversified. Corn and wheat were the major crops, with little cotton being grown. Wheat was grown primarily in the northern counties of the delta, indicated by the flour mills located in these counties. Sikeston and Oran, both in Scott County, and Charleston in Mississippi County were centers of flour milling in the delta area from 1900 to 1920. Other crops, such as cowpeas, alfalfa, and clover, were characteristic of the northern
counties. In Scott County watermelons and cantaloupes were widely cultivated. Scott County produced more watermelons in 1902 than any other county in the United States. 8

In summary, much of the delta area was low swampland prior to 1920, and most of the farmland was on the ridges which traversed the delta region. Corn was the leading crop in total acreage from 1900 to 1920, but wheat and cotton were also important crops. The southern counties of Dunklin and Pemiscot produced most of the delta-area cotton from 1900 to 1920, while wheat was primarily grown in the northern counties.

8 Williams, p. 384.

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8 Williams, p. 384.

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CHAPTER II

CHANGES IN COTTON ACREAGE AND
PRODUCTION 1920-1925

The purpose of this chapter is to illustrate statistically the changes in cotton acreage and production in the delta counties of Southeast Missouri between 1920 and 1925. This time period has been selected because of the four-fold rise in delta-area cotton production which occurred during these years. The cotton production of Missouri between 1920 and 1925 was almost wholly limited to the delta area. During this period 95% of the total Missouri production of cotton was grown in the delta region.

The rapid rise in cotton acreage from 1920 to 1925 (150,000 acres in 1920 to 530,000 acres in 1925) stands in marked contrast to the very slight increase from 1900 to 1920. Figure 5 is designed to show yearly trends in Missouri cotton acreage from 1910 to 1925. From this graph it can be seen that up to 1921 Missouri cotton acreage fluctuated somewhat, but remained fairly stationary at about 120,000 acres annually. In 1922 Missouri cotton acreage began to increase rapidly. By 1923 cotton acreage was over
FIGURE 5
TRENDS IN MISSOURI COTTON ACREAGE
1910-1925


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300,000 acres, which was nearly three times what it averaged during the ten previous years. From 1923 to 1924 Missouri cotton acreage increased 67%, reaching 511,000 acres in 1924. From 1924 to 1925 acreage tended to level off, with only a moderate increase of about 19,000 acres.

Trends in cotton acreage for the seven delta counties during the period 1900 to 1925 are shown on Figure 6. The most striking point to be observed on this graph is the lack of any major increase in delta-area cotton acreage between 1900 and 1920, and a very rapid rise in acreage from 1920 to 1925.\(^9\) Pemiscot County was the only delta county which had a steady increase from 1900 to 1920, while acreage in other counties remained stationary or declined. However, this trend changed between 1920 and 1925 as acreage increased rapidly for every delta county. In Scott and Mississippi Counties cotton acreage in 1925 was over one hundred times greater than acreage in 1920. Even in Dunklin and Pemiscot Counties where cotton had been grown for many years, acreage more than

\(^9\)The information used in this graph was taken from the U.S. Bureau of the Census, Census of Agriculture, for the years 1900, 1910, 1920, and 1925. Therefore, unlike Figure 5, this graph shows trends from one time period to the next, and does not give an indication of yearly changes within each time period. Thus, the 1921 drop in cotton acreage will not be seen on Figure 6.
FIGURE 6
DELTA AREA TRENDS
IN COTTON ACREAGE 1900-1925

ACRES
(IN 1000)

doubled between 1920 and 1925.

An additional observation from Figure 6 is the emergence of three distinct groupings of counties based on total acreage in 1925. Comprising the first group are Dunklin, New Madrid, and Pemiscot Counties where total acreage was greatest in 1925. Each of these counties was near the 90,000 acre mark, placing them well above the other delta counties. These southern delta counties were the leaders in total acreage in 1920, and enhanced their position in 1925. Dunklin County led all delta counties in total cotton production during the entire 25-year period from 1900 to 1925. Pemiscot County, the second leading cotton-producing county in 1920, dropped to third place behind New Madrid County in 1925.

The second grouping included Scott, Mississippi, and Stoddard Counties, which were located near the 50,000 acre mark in 1925. Of these three counties only Stoddard County produced as much as 1000 acres of cotton in 1920. Although experiencing very large increases in cotton acreage, these northern delta counties were well below the southern counties in total acreage in 1925.

The third grouping of delta-area counties according to total acreage in 1925 was composed of
Butler County by itself. This westernmost delta county experienced the lowest rise in cotton acreage between 1920 and 1925, and produced less cotton than any other delta county in 1925. Total acreage was at the 20,000 acre mark, but this was a four-fold rise over total acreage in 1920.

Production trends between 1920 and 1925 for the delta area are very similar to acreage trends. Cotton acreage, production, and yields per-acre for 1919 and 1924 are shown on Table 2, showing actual figures rather than indicating trends. It can be seen from Table 2 that all delta counties increased in total acreage and production between 1919 and 1924. However, the proportional increase between acreage and production varied with certain counties. In some counties the increased production was in equal proportion to the increased acreage. Examples of this are Pemiscot and Dunklin Counties where there were two-fold increases in both acreage and production from 1919 to 1924. In other counties production increases were not as great in proportion as acreage increases. In Mississippi County, for example, the acreage increase

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10 The information used in Table 2 was obtained from the U.S. Bureau of the Census, Census of Agriculture, for the years 1920 and 1925. Therefore, acreage and production figures are for the 1919 and 1924 cotton crops.
TABLE 2
COTTON ACREAGE, PRODUCTION, AND YIELDS
FOR SOUTHEAST MISSOURI 1919-1924
BY COUNTY

<table>
<thead>
<tr>
<th>County</th>
<th>Acreage Of Cotton Planted</th>
<th>Production (In Bales)</th>
<th>Yields Per Acre Planted</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>1919</td>
<td>1924</td>
<td>1919</td>
</tr>
<tr>
<td>Butler</td>
<td>5,101</td>
<td>19,216</td>
<td>2,783</td>
</tr>
<tr>
<td>Dunklin</td>
<td>42,820</td>
<td>93,448</td>
<td>24,835</td>
</tr>
<tr>
<td>Mississippi</td>
<td>485</td>
<td>54,428</td>
<td>298</td>
</tr>
<tr>
<td>New Madrid</td>
<td>11,954</td>
<td>90,114</td>
<td>7,192</td>
</tr>
<tr>
<td>Pemiscot</td>
<td>37,316</td>
<td>83,412</td>
<td>22,390</td>
</tr>
<tr>
<td>Scott</td>
<td>74</td>
<td>53,987</td>
<td>47</td>
</tr>
<tr>
<td>Stoddard</td>
<td>6,254</td>
<td>51,328</td>
<td>3,565</td>
</tr>
<tr>
<td>Total</td>
<td>104,004</td>
<td>445,933</td>
<td>61,110</td>
</tr>
</tbody>
</table>

between 1919 and 1924 was more than one hundred-fold, but there was only a fifty-fold increase in total production.

A second observation made from Table 2 is the general tendency for yields per-acre to decrease as total acreage increases. In 1919 the highest yields per-acre were for the two counties, Mississippi and Scott, which produced very little cotton. However, with an increase in total acreage and production by 1924, there was a considerable reduction in yields per-acre. While acreage increased four-fold in the delta area from 1919 to 1924, there was a corresponding three-fold increase in bales of cotton produced. This reduction in yields is the probable result of expanding cotton production into certain areas where the soil was less fertile. This would be especially true for Scott and Stoddard Counties.

The acreage and production totals which are listed in Table 2, and the information plotted on Figures 5 and 6 clearly illustrate the remarkable increase of cotton production between 1920 and 1925 in the delta counties of Southeast Missouri.
CHAPTER III

POTENTIAL ELEMENTS WHICH FAVORED COTTON PRODUCTION IN THE DELTA AREA

Although widespread cotton cultivation did not occur in the delta area until 1922, conditions favoring large-scale production had been present many years prior to that date. These conditions created a potential for growing cotton, but they did not cause it to be grown. As early as 1900 elements such as soil and topography, climate, and forest clearance were conducive to extensive cotton production. After 1910 land drainage and the influx of settlers further enhanced the potential for cotton growing. However, the rise in cotton production did not occur until 1922 when an element appeared that activated the existing potentials. In this chapter the potential elements are divided under two major headings; those which were present in the delta area prior to 1900, and those which appeared after 1900. The activating element, that element which stimulated cotton production, is the topic of discussion in the following chapter.
Potential Elements Present Prior to 1900

Soil and Topography

The soils of the delta region, except for upland areas, are alluvial sediments deposited by the Mississippi River and other streams that enter the lowland. In general, these fertile alluvial soils are very productive. They are characterized by a wide range in texture, as sands predominate on the terraces and clays on the low bottoms. Topographically, the delta area is relatively flat land with a gentle slope to the south. Although certain ridges rise abruptly in this region, most of the delta area is a flat alluvial flood plain. The fertile soil and flat topography formed important potential elements which were very favorable for extensive cotton production. In most areas the soil was fertile enough to obtain substantial yields per-acre, while the flat land practically eliminated the problem of soil erosion. Neither soil nor topography was the activating element, as each had been present in such a state to allow widespread cotton production many years before the rise actually occurred.

The southeast lowlands of Missouri are a broad, flat plain, gently sloping toward the south about one foot per mile. The gentle slope is sufficient to...
permit drainage, although in times of heavy rainfall the rate of runoff is very slow. With the exception of the ridges the surface variations generally do not exceed ten feet.¹¹ Less than 15% of the delta area is ridge land with heights greater than twenty feet above the adjacent lowland.

In the delta region of Southeast Missouri the soils are mainly alluvial in origin, but have notable variations in color, texture, depth, drainage, and fertility. The most infertile soil in the delta area is the Waverly-Calhoun soil series, found primarily in Butler County (Figure 7). The other soils found within the delta region are generally fertile and very productive. Soil fertility is an important consideration in growing cotton, as repeated plantings of cotton on the same ground takes a heavy toll on soil nutrients. The soil in the delta counties between 1920 and 1925 was sufficiently fertile in its natural state to grow cotton for some time without need of commercial fertilization. For example, only one county, Dunklin, used any commercial fertilizer prior to 1925, and

FIGURE 7
MAJOR SOIL AREAS
OF SOUTHEAST MISSOURI


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this was used primarily for experimental purposes.\textsuperscript{12}

Soils utilized for large-scale cotton production should be well-drained and properly handled.\textsuperscript{13} Medium loam soils are generally less productive than the more fertile and heavier clays, but their yields are more certain as they bring the plant to maturity earlier. During the wet seasons cotton grown on heavy, rich lands may fail to mature a large proportion of its bolls before frost.\textsuperscript{14} In Southeast Missouri the growing season for cotton is about 215 days, making medium loam soils more desirable for growing cotton. These soils bring a well-matured crop in late September or early October.

Medium loam soils are found throughout most of the delta region, but are concentrated primarily in southern Stoddard County, northern Pemiscot and New Madrid Counties, and western Dunklin County. Soils of this texture are also found in a narrow band along the Mississippi River in the delta area. In the following paragraphs a discussion of the soil series

\textsuperscript{12}Letter from Mr. C.R. Talbert, former University of Missouri County Extension Agent (1922 to 1940), Dunklin County, August 29, 1966.


\textsuperscript{14}Etheridge, p. 133.
found within the delta area will be given, illustrating the relative productivity of each series.

On the basis of color, texture, and drainage conditions, Krusekopf places the soils of the delta area into five general categories. They are:

(1) Sarpy - Mississippi River Bottom, (2) Sharkey - Dark Clay, (3) Waverly-Calhoun - St. Francis Bottom, (4) Sandy Terraces - Ridge or Bench Land, and (5) Menfro - River Hills Soil. The Sarpy, Sharkey, and Waverly-Calhoun series are lowland soils, while the Sandy Terraces and Menfro series are ridge soils. A brief description of each soil follows, with emphasis placed on its fertility, structure, and texture. Two soils shown on Figure 7, Clarksville and Union, are not described separately in the following discussion as they occur only in small measure in Butler County. These two soils are found in hilly areas generally unsuitable for growing cotton.

Sarpy — Mississippi River Bottom. — The alluvial soils of this series consist primarily of dark-brown or gray-brown sandy loams and clay loams, found chiefly in Scott, Mississippi, New Madrid, and Pemiscot Counties.

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along the Mississippi River. Drainage is generally good, and they are very productive soils. Prior to the building of levees about 1910 the land was subject to overflow, but after this project was completed many acres were open to cultivation and cotton became a very important crop. The subsoil consists of brown sand, and is very fine in texture.

**Sharkey -- Dark Clay.**—The Sharkey soils are found in all delta counties except Butler, and occur most frequently in Pemiscot, Stoddard, and New Madrid Counties (Figure 7). Much of the soil in this series was reclaimed through the efforts of the Little River Drainage District. The soil is dark in color and is a very heavy clay loam, with a plastic clay subsoil. Drainage is provided by a number of large ditches.

The Sharkey clays are not particularly suited to cotton growing, although cotton is grown extensively on this soil series in the southern delta counties. These clay soils are adversely affected by wet and dry weather conditions. In wet seasons planting may be delayed, limiting the use of the land for cotton.

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16 Krusekopf, p. 16.

During dry seasons large cracks develop due to shrinking, and the soil becomes hard. The soils of this series are inherently fertile, but are difficult to cultivate because of the heaviness of the soil and the naturally poor surface drainage.

Waverly-Calhoun -- St. Francis Bottom. -- The Waverly soils are most extensively found in Butler County, and occur only infrequently in other delta counties. They are gray silt loams, which have formed from loess washed down from the surrounding uplands.\(^\text{18}\) Of all the soils in the delta counties, the Waverly soils are the most infertile. The soils in this series are characterized by a gray clay subsoil, and tend to become hard and brittle when dry.\(^\text{19}\)

Sandy Terraces -- Ridge or Bench Land. -- The fine sandy loam soils of the delta region are quite distinct due to their texture and physiographic location. These soils have developed on terraces or ridges which are usually 10 to 20 feet higher than adjoining bottom land. Of all the sandy ridges the Kennett and Sikeston Ridges are most prominent.\(^\text{20}\) The Kennett Ridge is located primarily in Dunklin County, and it was this county

\(^{18}\text{Krusekopf, Major Soil Areas ..., p. 16.}\)

\(^{19}\text{Krusekopf, Major Soil Areas ..., p. 16.}\)

\(^{20}\text{Krusekopf, Major Soil Areas ..., p. 15.}\)
which led all other delta counties in cotton production from 1900 to 1925. The location of Dunklin County on the elevated ridges enabled profitable farming while lower areas of other delta counties were underwater. The soil, however, is low in fertility and the loose sand has a low capacity for holding moisture. It is characterized by a brown color throughout the profile. Due to their better drainage, these soils were the first in the state to be settled and farmed.\textsuperscript{21}

Menfro -- River Hills Soil.--The Menfro soils are located in northern Scott County on the Benton Ridge, and in Stoddard and Dunklin Counties on Crowley's Ridge. These ridges are covered by a thick mantle of loess that varies from 10 to 40 feet in thickness.\textsuperscript{22} The soils are brown in color and silty in texture. The subsoil is similar to the surface soil, except it has a higher clay content. The inherent fertility of the soil is good, but productivity is hampered by the hilly topography.

In summary, the topography of the delta area favored widespread cotton production, as the flat land practically eliminated the problem of soil erosion. In addition, soil fertility in the delta area was

\textsuperscript{21}Krusekopf, \textit{Major Soil Areas} . . . , p. 15.
\textsuperscript{22}Krusekopf, \textit{Major Soil Areas} . . . , p. 14.
sufficiently high to permit cotton production on a large scale. However, both elements had been present in such a state to allow cotton to be extensively produced long before the rise in production occurred. Some element other than soil or topography was responsible for actually causing the increase in cotton production, as soil and topography were only potential elements which would allow large-scale cotton production.

Climate

Without conducive climatic conditions the rise of delta-area cotton production could not have taken place. Climate, however, was not the activating element, as it would have allowed extensive cotton production long before it actually occurred. The climate of the delta area at the time when cotton production expanded rapidly (1922) was essentially the same as the climate in 1875. As a potential element climate would permit cotton to be produced, but it would also allow other crops to be grown. A closer look at the climate of Southeast Missouri will show why it was a significant potential element in allowing the rise of delta-area cotton production.

The general climatic type in Southeast Missouri is humid subtropical, which is a very favorable type
of climate for growing cotton. Climatic requirements for cotton production include a frost-free season of about 200 days, an average monthly temperature of about 70°F. for the summer growing months, and at least twenty inches of rainfall during the growing season. The longer the frost-free season, the more advantageous to the farmer, as more bolls will ripen before frost occurs.

The ideal conditions for cotton production include a mild spring with light, frequent showers; a moist summer, hot both day and night, followed by a dry, cool, late autumn. Autummal rainfall should be relatively light, no more than ten inches. If too much rainfall occurs during the autumn months the cotton may be beaten down, with picking seriously hindered. The delta area receives about eight inches of rainfall during the autumn months, while areas southward receive about ten inches of rainfall during this same period. The autummal rainfall in the delta area is fairly well-distributed, with a tendency for more

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23 Etheridge, p. 133.


to occur in November.

The climate of Southeast Missouri closely resembles the climate of the major cotton-growing states of Southeastern United States, with a few notable exceptions. The delta area lies on the northern fringe of humid subtropical climate in the United States, and receives less rainfall than most areas of the Cotton South. In some sections of Mississippi, Alabama, and Georgia fifty or more inches of rainfall occurs annually.\(^{26}\) Rainfall decreases northward from the Gulf of Mexico, but the average rainfall of forty inches per year for the delta area is sufficient for cotton production. There are also differences in the length of the growing season and average annual temperatures between the cotton-growing areas of the South and the delta area of Missouri. Cotton-producing areas of Louisiana, Mississippi, Alabama, and Georgia have an average frost-free season of about 240 days, while the delta area has a frost-free season of about 215 days.\(^{27}\) The average annual temperature for cotton-growing areas of the South is about 65°F., while delta-area annual temperatures average about 58°F.

\(^{26}\) Smith and Phillips, p. 290.

\(^{27}\) Letter from Mr. Haydn A. Fox, Meteorologist in Charge, U.S. Weather Bureau, Cairo, Illinois, September 26, 1966.
There is a notable difference in winter temperatures between areas of the Cotton South and the delta area of Missouri. Winter temperatures of the Southwestern States generally average above 40°F. for the coldest month, while delta-area temperatures average about 35°F. for the coldest month. Freezing temperatures are not uncommon in the delta area, and on rare occasions the temperature has dropped to as low as 20°F below zero. These freezing temperatures were responsible for checking the advance of the boll weevil into the delta region. The problem of the boll weevil is discussed in the following chapter.

To summarize, climate was not the activating element in causing the increase in cotton production, but rather a potential element. If it had been the activating element the rise in cotton production would have occurred much earlier, as climatic conditions would have permitted cotton production many years before the rise actually occurred.

Forest Clearance

The removal of large stands of timber in Southeast Missouri from 1890 to 1920 opened new lands

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for cultivation, and permitted an increase in cotton production. However, most of the forest had been removed long before the increase in cotton acreage occurred, making forest clearance a potential element rather than the activating element. The opening of new areas for cultivation by forest removal allowed more extensive cotton production, but did not cause it to be grown. In 1890 forest clearance was primarily centered on the natural levee along the Mississippi River, as swamps covered much of the lowland areas. However, with the development of better transportation facilities by 1900, lumbering began to take place on well-drained forested land inland from the Mississippi River. The railroads provided a means of transportation when removing timber from the interior areas to the Mississippi River.

The first large-scale removal of timber tracts in the delta area occurred along the banks of the Mississippi. The cost of the timbered land was small, as many acres could be purchased at a price of $2.00 per acre in 1890. An additional factor which favored the lumber industry was the Mississippi River,

which provided an avenue of easy transportation to market areas in St. Louis and Memphis. Lumbering in the interior areas was hampered by the swampy conditions prior to 1910, and the existing mill sites were located on well-drained ridges.

When early railroads, such as the Cairo to Poplar Bluff Railroad, were put into operation large lumber companies took advantage of cheap prices and bought many acres of timber throughout the delta area. In 1895 the Himmelberger-Harrison Lumber Company built a sawmill along the Cairo to Poplar Bluff Railroad, and established a business producing white oak staves for wine casks. Some landowners who had property situated on the ridges were primarily interested in clearing their land for agricultural purposes. After the larger timber tracts were cleared many timber workers helped clear "cut-over" so the land could be used for farming.

Most of the forest clearing was accomplished by timber workers who came from Kentucky and Tennessee from about 1890 to 1910. Social Security records of Scott County indicate that 90% of the old age pensioners of the southern half of the county in 1939 gave Western Kentucky or Tennessee as their birthplace.30 These

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30St. Louis Post-Dispatch, January 22, 1939, p. 1.
workers emigrated from poor and overpopulated hill areas to work for the big lumber companies, who began exploiting the gum, oak, and cypress forests found in the region. The large lumber companies, including the Chicago Mill and Lumber Company, Himmelberger-Harrison Lumber Company, and the Gideon-Anderson Lumber Company, had sawmills in New Madrid County near Gideon, in northern Pemiscot and Dunklin Counties, and in southern Stoddard County.\textsuperscript{31} Smaller lumbering interests were found throughout the delta area.

The lumber workers were a rough lot, and it seemed that lumber camps were a refuge for the maladjusted from every quarter, as sheriffs from adjoining states seldom sought out a fugitive working in a timber camp.\textsuperscript{32} They were poor people who came from hill country where the going was hard, and were used to the hard work demanded by their employers. A few of the large landowners imported Negroes from cotton-growing areas of the South to help in clearing the land, but most of this work was done by people from the hill country.\textsuperscript{33}

When the large lumber tracts were depleted many

\textsuperscript{31}Bratton, p. 3.
\textsuperscript{32}St. Louis Post-Dispatch, January 22, 1939, p. 1.
\textsuperscript{33}St. Louis Post-Dispatch, January 22, 1939, p. 1.
of the lumber workers stayed on to clear "cut-over" for the plow.\textsuperscript{34} This was in the early 1900's when drainage operations were just getting underway. After 1910 forest clearance and land drainage became associated activities. As the lowlands were drained, timber which once stood in shallow water was removed. The lumber workers involved in clearing "cut-over" land were employed mainly by large landowners who wished to clear more of their land for cultivation, and by local lumbering interests. By 1915 these workers had cleared thousands of acres of timber, making new lands available for cultivation.

In summary, most of the forest clearance was accomplished by timber workers who emigrated from Kentucky and Tennessee from about 1890 to 1910. The removal of the larger stands of timber occurred long before the rise in cotton production, making forest clearance a potential element rather than the activating element. With new areas made available for cultivation as a result of the forest removal, the potential for growing cotton was greatly enhanced.

Potential Elements Appearing After 1900

\textbf{Land Drainage}

Land drainage is considered a potential element,\textsuperscript{34} \textit{St. Louis Post-Dispatch}, January 22, 1939, p. 1.
as many acres of swampland had been drained a number of years before the 1922 rise in cotton production occurred. This draining procedure would allow cotton to be extensively grown, but it did not cause it to be grown. Land drainage was undertaken in Southeast Missouri because much of the lowland was in swamps and unsuitable for profitable cultivation. As farming communities grew during the early 1900's they encompassed practically all of the high land, and it was impossible for them to expand further without draining the adjacent swamplands. The movement toward land drainage culminated in the formation of the Little River Drainage District in 1907. In the material which follows the efforts of the Little River Drainage District will be discussed, explaining how this project was most instrumental in draining the swampland of Southeast Missouri.

Although small-scale drainage procedures had been started prior to 1900, the most important project of this kind was the Little River Drainage District which was formed in 1907. In order to gain a better understanding of the work accomplished by this drainage district the following discussions will include: (1) the location of the Little River Drainage District, (2) the organization of the district, (3) the objectives of the district, (4)
the cost of drainage procedures, (5) results of the drainage efforts, and (6) a summary of the information presented above.

Location of the Little River Drainage District.---
The Little River Drainage District is located in the valley of the Little River in Southeast Missouri. The Little River Valley extends from the foothills of the Ozarks near Cape Girardeau, Missouri, south to the Missouri-Arkansas border, a distance of about ninety miles.\(^{35}\) The valley varies in width from about 10 to 20 miles (Figure 8). It is bounded on the east side by a ridge of high sand bottom land extending from the hills in Scott County southward into New Madrid County, and on the west by Crowley's Ridge and a high sand bottom extending from Dexter, Missouri, south to the Arkansas state line.\(^{36}\)

Organization of the District.---The Little River Drainage District is a political subdivision of the State of Missouri and was organized in the circuit court of Butler County in December, 1907.\(^{37}\)

\(^{35}\) Paper Written by the Office of the Little River Drainage District (Cape Girardeau, Missouri, 1964), p. 1. (Typewritten.)

\(^{36}\) Paper Written by the Office of the Little River Drainage District, p. 1.

\(^{37}\) Paper Written by the Office of the Little River Drainage District, p. 2.
FIGURE 8
SOUTHEAST LOWLANDS OF MISSOURI 1903

original plan for drainage was adopted in 1909. The drainage district was not organized for profit as a private corporation, but as a governmental agency with limited statutory powers operating solely for the public good. Petitions for the development of the drainage district were made as early as 1905, when most of the landowners in the proposed district appeared in the New Madrid County circuit court asking for the incorporation of the district. Objections were made by railroads operating in the district as well as by two landowners who felt that the tax burden would be too great. These objectors asked for a change of venue, and the case was taken to the circuit court of Butler County which heard the objections to the proposed drainage district. After making certain changes in the boundaries of the district the Butler County court declared the Little River Drainage District a public corporation on November 30, 1907. Much of the opposition to the development of the district was made by Mr. Louis Houck, a well-known railroad builder in Southeast Missouri who also had considerable land interests in Stoddard County. Houck

39 Magill, p. 7.
had been in favor of land drainage, but was opposed to this particular enterprise as he felt the tax assessment on his property would be more than he wished to pay.\footnote{Kochtitzky, p. 149.}

The district is governed by a board of supervisors consisting of five landowners. Those serving on the original board of supervisors were J.H. Himmelberger, C.W. Henderson, A.L. Henry, A.J. Matthews, and S.P. Reynolds. The first meeting of the landowners in the district was held at Morehouse, located in New Madrid County, on December 30, 1907.\footnote{Hunter Miller (ed.) \textit{Historical New Madrid County} (Portageville, Missouri: New Madrid County Teachers Association, 1948), p. 6.} At this first meeting J.H. Himmelberger was made president of the board, and Otto Kochtitzky was appointed chief engineer. Among topics discussed were the objectives of the drainage district, pointing out the plan for drainage, and how this venture was to be financed.

**Objectives of the District.**—According to the chief engineer's report in 1913 the object of the work of the district was as follows:

The object of the work undertaken by the Little River Drainage District is the reclamation of what is generally known as Little River Overflow in Southeast
Missouri from the servitude of flood waters debouched at the north end of the valley from Castor River, Crooked Creek, White-water River, Hubble Creek, and other minor streams. This territory, embracing land in Cape Girardeau, Scott, Stoddard, New Madrid, Pemiscot, and Dunklin Counties, has as a northern and western boundary the Ozark Hills, extending southwest from the Mississippi River at Cape Girardeau, Missouri to the state line in Dunklin County, with the Mississippi River as an eastern boundary.  

The basin of Little River slopes southwest and south about one foot per mile to the Arkansas line. On this relatively flat alluvial plain there were two main causes for the swampy conditions. First, there were no drainage outlets to carry off the rainfall which occurred in the area, and second, there was nothing to stop the flow of Ozark foothill streams into the lowlands of Southeast Missouri (Figure 8).  

In order to solve the problem of carrying off the rainfall which occurred within the area, the primary plan was to construct major drainage canals extending the entire length of the Little River Basin (Figure 9). These major drainage canals were to have secondary ditches which entered laterally the main channel (Figure 10). In order for this drainage to be most

Report of the Board of Supervisors of the Little River Drainage District, 1913 (Cape Girardeau: Daily Republican Print, 1913), p. 16.

Report of the Board of Supervisors . . . , p. 17.
FIGURE 9.—Major drainage canal in western Scott County
FIGURE 10
LOCATION OF DRAINAGE DITCHES
LITTLE RIVER DRAINAGE DISTRICT

effective, the volume of water to be provided for by these ditches had to be considered. Ditches had to be dug in a place where they would be most beneficial for drainage, while the main channel had to be capable of carrying off the maximum runoff of the 1500 square mile basin. Thus, the main channel had to be capable of carrying off the maximum amount of rainfall over the region within a twenty-four hour period. An examination of weather records showed that this maximum was about three inches. Other problems arose when determining the size of the main channel. Factors such as topography, texture of the surface soil, and porosity of the subsoil had to be considered. If the slope of the land becomes steeper, the runoff becomes faster. If the surface soil has a high absorptive power, then much of the runoff becomes ground water with less surface runoff. The more porous the subsoil, the more rapid the underground movement toward the drainage stream. Each of these problems had to be solved before the main channel was dug.

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44 Magill, p. 8. (Maximum runoff refers to the total amount of water flowing into the main channel during any twenty-four hour period.)
45 Magill, p. 9.
46 Paper Written by the Office of the Little River Drainage District, p. 3.
The second major problem facing the engineers of the Little River Drainage District, that of diverting headwater streams flowing into the lowland, was to be solved by the construction of a headwater diversion system. This system was to divert the runoff of 1130 square miles of hill land into the Mississippi River a short distance below Cape Girardeau, Missouri (Figure 10). The diversion system was to consist of fifty miles of channels, forty-four miles of levees, and three detention basins. It was to be dug in Bollinger and Cape Girardeau Counties, which adjoin the northern counties of the delta area.

In the digging operations the ditches were dug by floating dredges. The stumps were not removed ahead of the dredge, as the rooting of the trees was quite shallow. This was due to the high water table, and the loose alluvial soil which did not firmly hold the root system. The trees and stumps which were removed, together with the earth, were piled along the sides of the ditches and decayed rapidly because of the prevalent heat and abundant precipitation.

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\(47\) Paper Written by the Office of the Little River Drainage District, p. 3.
\(48\) Bratton, p. 6.
\(49\) Bratton, p. 6.
Cost of the drainage effort.--The task of
developing a system of drainage in Southeast Missouri
was an immense undertaking, and it can be expected
that the cost of the venture would be quite high.
The cost of draining this particular area was
considerable indeed, since it was necessary to provide
relief from the Ozark hills runoff as well as the
accumulated runoff already present in the Little River
Valley. The board of supervisors made estimates of
probable construction costs prior to starting the
project, but the work was so extensive that early
estimates were incorrect.\textsuperscript{50} The costs of reclamation
were assessed against the lands benefited, but in no
case did the total assessed benefits exceed fifteen
dollars per acre, and in some cases the assessed
benefits were less than five dollars per acre.\textsuperscript{51} The
highest assessment was in Pemiscot County, where total
costs per acre of lands benefited reached $13.42. In
Dunklin County, where the high amount of sandy soil
enhanced drainage, the total assessment was only $4.58
per acre.\textsuperscript{52}

In addition to assessments levied, the board

\textsuperscript{50}Kochtitzky, p. 163.
\textsuperscript{51}Bratton, p. 7.
\textsuperscript{52}Bratton, p. 7.
decided to sell bonds to defray expenses. These bonds totaled $4,750,000 of which $3,980,000 was to be used for the digging of ditches and the construction of levees.\textsuperscript{53} It was estimated that sixteen railroad bridges would be built at a cost of $237,000 and forty-two wagon bridges costing $43,000.\textsuperscript{54} There was difficulty in finding purchasers for the issue, as bonds sold for irrigational purposes had recently failed in some of the Western states.\textsuperscript{55} However, the project was extensively advertised and the value of the land increased rapidly, which enhanced the sale of the bonds. Prior to drainage, cut-over lands within the wet area could be bought for a few dollars per acre, but by 1925 drained lands within the district were selling from $50.00 to $150.00 per acre.\textsuperscript{56}

Results of the drainage effort.—Prior to the organization of the drainage district, streams pushed their waters into the delta area which had no real outlet channels, and little of the land could be cultivated. Drainage on a small scale was, in some areas, a futile undertaking, as overflow from other

\begin{flushright}
\textsuperscript{53}Kochtitzky, p. 163. \\
\textsuperscript{54}Magill, p. 10. \\
\textsuperscript{55}Kochtitzky, p. 164. \\
\textsuperscript{56}Bratton, p. 8.
\end{flushright}
areas of the delta region would often inundate a small drainage effort. In 1910 less than 10% of the delta area was suitable for agricultural purposes, but by 1925 nearly 30% of the delta area had been drained, thereby opening new areas for cultivation.

According to Magill, the Little River Drainage District embraced the greatest single drainage project ever undertaken in the history of the United States. The development of farm lands resulted in a notable increase in the population of the district. One landholding company sold nearly 84,000 acres of the newly-drained land from 1915 to 1924. This rapid settlement is further discussed in a following chapter on the influx of cotton growers.

Summary.—The delta area of Southeast Missouri is an example of economic change, illustrating man's successful attempt to overcome certain features of the physical environment. The draining of the delta area was an important potential element when considering the rise of delta-area cotton production in 1922. As draining procedures expanded new lands were opened which

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57 Paper Written by the Office of the Little River Drainage District, p. 4.
58 Paper Written by the Office of the Little River Drainage District, p. 4.
59 Bratton, p. 8.
would allow large-scale cotton production.

Prior to about 1910 the delta area was covered with swamps in many places, but by 1920 much of the swampland had been drained and was in cultivation. This transformation was primarily a result of the draining procedures of the Little River Drainage District. Organized in 1907 and beginning actual dredging operations in 1911, the district drained the region for the overall good of the people who lived in the delta area.

Land drainage opened new lands on which cotton could be produced if farmers in the delta area wished to do so. The draining of the land did not cause cotton to be produced on a large scale, it merely allowed cotton to be produced. Land drainage was as favorable to certain other crops as it was to cotton. If drainage would have caused the rapid rise in cotton production, then the rise would have occurred before the early 1920's, since draining started in 1911. While one cannot say that draining the land caused a rise in cotton production, it was an important potential element, as it would allow large-scale cotton production.

Influx of Farmers Prior to 1920

The influx of farmers prior to 1920 presented another potential element favorable for large-scale
cotton production. Farmers who arrived before 1920 brought many areas into cultivation which could be used for cotton growing if they so wished. These farmers came from varied backgrounds. Some came from Virginia, Kentucky, and Tennessee, while others emigrated from Illinois and Indiana. These immigrants tended to come in waves, rather than a general increase over a period of years, and these waves brought in many persons who formed a considerable working force. A discussion concerning the influx of farmers will help to explain how these settlers formed an important potential element prior to 1920.

Much of the immigration prior to 1920 came from areas in the East. From about 1850 to 1900 the forebears of present-day aristocratic and wealthy families moved into Southeast Missouri, coming from Virginia, North Carolina, Pennsylvania, and Maryland. Many of these families had been tobacco growers in the East, and continued with that occupation when they moved westward, stopping in Kentucky and Tennessee before moving into Missouri. In Missouri these families grew corn and wheat, with some tobacco being cultivated. Mentioning

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early settlement in Southeast Missouri Snider and Collins said:

Most of the early settlers came from the slaveholding sections in North Carolina, Virginia, or Tennessee; very few from the north Atlantic region.61

Other families migrated from areas of Mississippi and Alabama where cotton had been grown, and grew cotton on a small scale in Dunklin County. These settlers had been well-established in the delta area for a number of years when a new wave of immigrants from Kentucky and Tennessee arrived to work as farm hands, or to trap the fur-bearing animals which still abounded in this area.62

From 1905 to 1915 settlers from the northern sections of the United States began to arrive in the delta area. This influx of farmers is termed "Yankee Settlement" because the people involved came from Indiana, Illinois, and Ohio.63 These farmers were interested in speculating in the lands which were being drained through the efforts of the Little River Drainage District, and many had come into Southeast

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62St. Louis Post-Dispatch, January 22, 1939, p. 1.

63St. Louis Post-Dispatch, January 22, 1939, p. 1.
Missouri as a result of glorified reports from land agents.

Once settled in the delta area these farmers had practically turned the delta area into a small-scale Northern corn belt by 1920. These "Yankee" settlers were not cotton growers when they first arrived; they neither had the labor supply to produce cotton, nor were they well-versed in growing cotton. However, they did settle on new lands which could be used to grow cotton if they ever wished to do so. In this respect they were an important potential element. Their crops of corn and wheat were the most important farm products of the delta region prior to 1922.

In summary, settlement prior to 1920 was an important potential element, as the settlers cultivated new lands on which cotton could be grown if they wished to do so. Most of the settlers who arrived prior to 1900 came from Virginia, Kentucky, and Tennessee, although some families migrated from cotton-growing areas of the South. From 1905 to 1915 "Yankee" settlers arrived from the Northern corn belt area, and by 1920 the delta area resembled a small-scale Northern corn belt. The farmers who arrived in the delta region prior to 1920 did not cause the rise in cotton production, as they were well-settled years before the rise occurred.
CHAPTER 4

INFLUX OF FORMER COTTON GROWERS 1922 TO 1924:
THE ACTIVATING ELEMENT

Thus far it has been pointed out that soil and topography, climate, forest clearance, land drainage, and the influx of farmers prior to 1920 together presented a situation which was very favorable for large-scale cotton production. They were potential elements, as they did not actually cause the rise in cotton production. Indeed, these potentials were as favorable to certain other crops as they were to cotton. For cotton to be widely produced in the delta area it took another element to activate these potentials, and this activating element was the influx of cotton workers from the South from 1922 to 1924. This influx was the result of efforts by delta-area landowners to encourage settlement on recently-drained lands, and of the problems caused by the boll weevil in the South. When these cotton workers arrived, they provided sufficient labor and skill to produce cotton and large-scale cultivation of this crop began.

Cotton had been produced in Southeast Missouri
prior to 1922, as some of the early settlers from Alabama and Mississippi had grown cotton on a small scale. Many of these settlers stopped in Dunklin County because the sandy soil afforded better drainage. However, between 1922 and 1924 when cotton workers moved up from areas in the Cotton South, delta-area cotton production expanded rapidly. Cotton acreage in 1921 was about 95,000 acres but in 1922 the total had risen to nearly 200,000 acres. By 1924 total acreage had increased to 446,000 acres for the delta area.

Some cotton workers had moved up out of the South as early as 1920 and 1921, but the largest immigration occurred between 1922 and 1924. According to Meigs, an influx of settlers arrived in the delta area between 1922 and 1924 in a fashion not unlike a gold rush.\(^{64}\) Snow supports this as he describes an influx of cotton workers coming primarily from delta lands of Southern Arkansas and Mississippi in the early months of 1924.\(^{65}\) In Snow's account 10,000 Negroes settled in the delta region mainly in counties along the Mississippi River. This was


especially true for Mississippi County, as population increased notably from 1920 to 1930 (Figure 11). Writing in 1925, Bratton mentions that:

Most of the people living in the southern section of the Basin . . . came from areas in the South in which cotton is the dominant crop.66

Numerous articles appeared in the Cape Girardeau newspaper, The Southeast Missourian, during 1922, 1923, and 1924 which further substantiates the in-migration of cotton workers into the delta area. In an article which appeared in this newspaper on December 30, 1922 the influx of workers into Scott County was discussed as follows:

Since the move began last fall to increase acreage there has been 600 people move into the county. Ninety-five per cent of this number are experienced cotton workers, 40%
are Negroes who have little knowledge of anything except cotton, the majority of them having come from the South.

On January 3, 1923 another article appeared in The Southeast Missourian concerning the in-migration of cotton workers, which read as follows:

"Cotton Negroes" from the South began to arrive in Cape Girardeau, having been driven north by the boll weevil. . . Negroes by the hundreds are coming to Southeast Missouri from the southern states, and the indications are that there will be no trouble for farmers to get cotton labor for next spring.

66 Bratton, p. 50.
NOTE: Curves for each county show population by decades expressed in thousands of persons. Curves are plotted on a logarithmic vertical scale. Therefore, the slope of the curve indicates the proportional increase for each decade according to the above scale.

In an article which appeared in the January 27, 1923 issue of The Southeast Missourian the growth of the small town of Parma in New Madrid County was discussed:

Something like 500 new people have moved into Parma's trade territory within the past three months, more are coming. . . . three new gins are being built within the next few months. Signs of progress and development are on every hand. Only a few more years and all the land in this section will be under the plow, and the days of low-priced lands in Southeast Missouri will have passed forever.

Many other articles appeared in the early months of 1923 discussing the in-migrations, and these were followed by a similar series of articles in January and February of 1924. In the January 15, 1924 issue of The Southeast Missourian an article on the in-migrations mentioned that:

Dozens of Negroes from the South are in Cape Girardeau looking for employment until the cotton season arrives.

Additional substantiation of this incoming movement is reflected in a change in the political outlook of the delta counties. In 1918 Carl 0. Sauer wrote that the delta area was about to become a Republican party stronghold because of the influx of the so-called "Yankee" settlers, who were corn and wheat farmers from the middle west. 67 However, as a result of the

influx of former cotton workers from the South, the
delta area had turned very solidly Democratic by 1924. 68

The in-migrations from 1922 to 1924 greatly
added to the existing number of cotton workers, and
with this increased labor supply the delta area changed
from the Northern corn belt type of farming to cotton
farming in a short period of time.

Thus, the situation in the delta area in 1922
saw a considerable working force moving into the region.
Why, in rather sudden fashion, did these cotton workers
migrate to Southeast Missouri? Two factors stand out
as being most important: (1) the efforts of the large
landowners to induce settlement on their recently
drained lands, and (2) problems with the boll weevil in
the South.

The movement into the delta area of cotton
workers from the South was promoted by the efforts of
private landowners and land companies in the delta area.
Glennon mentions that the Negro migration was partially
the result of:

The purchase of newly cleared lands by local
investors and the importation of Southern
Negroes to farm those lands on a sharecropper
basis. 69

68 John H. Fenton, Politics in the Border States
69 T.R. Glennon, "Some Aspects of the Population
The landowners in the delta region encouraged persons from any area to settle on their lands, as they needed more labor to farm their land (Figure 12). Some landowners felt that there was a need for a more stable population than the immigrant Negroes might provide, and they encouraged more settlement by white farmers. They offered generous terms of land ownership or rental to induce white farmers of Northern Arkansas to move into the region. However, most landowners were particularly interested in obtaining the cotton workers from the South since they expected cotton prices to rise.

During the war years from 1914 to 1919 cotton prices had risen considerably. Missouri cotton prices were only seven cents per pound in 1914, but by 1919 cotton prices had risen to nearly thirty-two cents per pound. This followed a general trend, as prices for most crops increased substantially during the First World War. In 1920 with the war effort over the demand for cotton and other products declined, and in the general post-war depression cotton prices dropped markedly (Figure 13). However, Missouri cotton prices


70 Bratton, p. 50.
COTTON CRISIS
CONFRONTS
COUNTRY

Do You Know?

That a cotton shortage exists?
That America produces 60 per cent of all the cotton grown?
That more cotton is being used than raised?
That the boll weevil covers 90 per cent of the cotton lands of the South?
That neither laws or science have been able to combat it?
That there will never be another normal cotton crop raised in the South until the boll weevil is overcome?
That the 1921 year book of the United States Department of Agriculture, just out (on page 612) shows Southeast Missouri produced more cotton per acre that year than any other state in the Union?
That the 1922 Southeast Missouri cotton crop averaged over $100.00 per acre?

What Does This Mean?—It Means

That the eyes of the world are turning this way.
That Southeast Missouri, north of the boll weevil belt, is now the best cotton section of the United States.
That our future is brighter than it has ever been before.
That the eyes of the world are turning this way.
That Southeast Missouri, north of the boll weevil belt, is now the best cotton section of the United States.
That our future is brighter than it has ever been before.
That Southern farmers are coming to Southeast Missouri in ever increasing numbers to get away from the boll weevil.
That there was never such an opportune time for renters, tenants and people of limited means to acquire homes of their own, because values of land are low and returns high. You know with crops selling for more per acre than the land can be bought for, only one thing can happen:

Land Values Must Go Up

We are offering the lands of the Himmelberger-Harrison Lumber Company, the finest body of cut-over land in Southeast Missouri in tracts of 20 acres and up, at reasonable prices, 10 per cent cash, balance 10 years after date at 6 per cent interest, WITHOUT ANY INTEREST THE FIRST TWO YEARS, if you improve the property.

We are also offering the lands of the A. J. Matthews & Company Inc., the finest body of improved lands in the state of Missouri, embracing many of the choicest farms in Cape Girardeau, Scott, Stoddard and New Madrid Counties. Most of this land is on hard-surfaced roads, and nearly all of it is located adjacent to the thriving and prosperous towns of Oran, Randles, Perkins, Sikeston, Lilbourn, Malden, Parma, Gideon, and Risco, Missouri. We are subdividing this property and selling it in farms to suit the purchaser in tracts of 20 acres and up, at reasonable prices, 20 per cent cash and the balance like rent.

Anyone who is a hustler and has a little to start with can make good on one of these tracts of land. Don't throw your hard-earned money away. Think of yours and your family's future. Buy you a home (it will do you more good than a flivver, Victrola or piano), work hard and under present conditions you will soon pay for it. You will then be your own boss, independent and happy, with no one to take orders from except your wife. For further information see:

A. J. MATTHEWS, Sikeston, Mo. J. B. STUBBLEFIELD, Malden, Mo.
JOHN PORTER, Riaco, Mo. CALEB MATTHEWS, Oran, Mo.

(Either of whom will show you the property)

OR WRITE TO

Himmelberger-Harrison Land & Investment Co.

CAPE GIRARDEAU, MO.
FIGURE 13
TRENDS IN MISSOURI COTTON PRICES
1910 - 1925

in 1920 were still higher than prices in pre-war years.

The favorable prices during the war years were encouraging to large landowners in Southeast Missouri, as they realized that cotton could be profitably grown in the delta area. In 1921 cotton prices began to rise and the landowners encouraged large-scale settlement. The landowners were enthusiastic about the prospect of former cotton workers from the South moving into the delta area, as the cash value of crop rent per-acre of cotton was more than that of any other general field crop (Table 3). In 1922 as prices

<table>
<thead>
<tr>
<th>TABLE 3</th>
</tr>
</thead>
<tbody>
<tr>
<td>COMPARATIVE NET VALUES OF THE MAJOR FIELD CROPS IN THE DELTA AREA OF MISSOURI 1922</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Crop</th>
<th>Cost of Producing One Acre</th>
<th>Gross Value Per Acre</th>
<th>Net Value Per Acre</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cotton</td>
<td>$33.57</td>
<td>$60.40</td>
<td>$26.83</td>
</tr>
<tr>
<td>Corn</td>
<td>23.60</td>
<td>30.05</td>
<td>6.45</td>
</tr>
<tr>
<td>Wheat</td>
<td>18.97</td>
<td>14.35</td>
<td>-4.59</td>
</tr>
</tbody>
</table>

Source: S.T. Bratton, The Geography of the St. Francis Basin.

71Bratton, p. 27. (Although Bratton does not mention the point, one might conclude that the values listed in Table 3 will vary from place to place in the delta area.)
continued to rise many cotton workers of the South, encouraged by delta-area landowners, moved into South-east Missouri. Thus the price which could be received by planting cotton helped to determine what crop would be grown on the drained land.

In addition to the inducement of the large landowners, a second factor, the boll weevil, was also important in bringing farmers to the delta area. In the states of Arkansas, Louisiana, Mississippi, and Alabama the boll weevil had attacked the cotton plant and caused considerable damage. Spreading more rapidly eastward than northward or westward, the boll weevil's advance was largely by flight and local movement of unginned cotton and cottonseed to and from public gins. It first appeared in the United States near Brownsville, Texas, in 1892, and spread into the cotton-growing areas of the South at the rate of from 40 to 160 miles annually. For the first ten years after crossing the Rio Grande the boll weevil's average annual spread was 5,640 square miles. In 1895 the boll weevil spread northward to San Antonio, and

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had reached Louisiana by 1904. Production figures for the 1904 Louisiana cotton crop showed a total of 1,107,000 bales, but by 1908 this figure dropped to 482,000 bales due to the ravages of this insect. The boll weevil had crossed the Mississippi River into Mississippi by 1907, and moved into Alabama by 1910. In 1916 it had spread into Georgia, and had infested the entire Cotton South by 1922. By 1916 the boll weevil's annual spread had increased to 71,800 square miles. Damage caused by this insect reached its greatest extent in 1921, when one-third of the nation's cotton crop was destroyed. In some areas as much as 50% of the cotton crop was damaged, and this naturally created panic among Southern cotton producers. In the lower delta lands of Arkansas and Mississippi the 1921 cotton crop was practically a wash-out, as the boll weevil had hit this area quite hard. An article written by J.V. Vernon, boll weevil expert, which appeared in a January, 1923 issue of the Memphis Commercial Appeal expressed the sentiment of the time:

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74Ballagh, p. 102.
75Loftin, p. 274.
76Smith and Phillips, p. 306.
77Snow, p. 156.
78Snow, p. 155.
The present outlook is that we will have another year of heavy boll weevil damage. Thus far practically no cold weather has been experienced, and unless we do have a temperature around 16 to 18 degrees for a week or more, it is highly probable that boll weevil infestation will be equally as bad as last year.

According to the prevailing opinion of the time it seemed that nothing could be done to stop or eradicate the boll weevil from the warm and humid southern states. This presented a very gloomy picture for cotton producers of the South, who were faced with two possible alternatives. They either had to stop growing cotton and produce something else, or move into an area where the boll weevil did not thrive and grow cotton, which was all they knew how to do. Plagued by the yearly onslaughts of the boll weevil and convinced that nothing could be done to stop its destructiveness, many cotton farmers of the South looked toward other areas where they might move to produce cotton. Many of these farmers felt that cotton production had to shift to the high plains of Texas and Oklahoma where the climate was less humid and unsuitable to the boll weevil. There was a large-scale movement into this area.\(^79\) For other farmers of the South, especially those who lived in

the delta lands of Arkansas and Mississippi, there was another way out. Landowners in Southeast Missouri were encouraging settlement on the recently-drained lands, and this area was supposedly above the "boll weevil line." The climate of the delta area of Southeast Missouri, while warm enough to allow cotton growing during the summer months, was such that during the winter temperatures dropped to below freezing, which would destroy the boll weevil or hold him in check. Therefore, the problem of the boll weevil in Southeast Missouri would be practically non-existent. Cotton had been grown in the lower counties prior to 1920, so the cotton workers moving up from the South knew that cotton plants could thrive in the delta area.

The immigrants who arrived in the delta area from 1922 to 1924 were either tenant farmers or sharecroppers. Tenant farming is a system whereby an owner rents his land for cultivation in return for a certain specified payment. Sharecropping is the form of tenancy under which an individual engages himself to provide the labor to produce and harvest a crop for a percentage of the returns from the sale of the crop. The sharecropper neither owns the land which he oper-

80 Snow, p. 156. (This feeling has generally held true, as boll weevil damage in Southeast Missouri has been relatively light.)
ates nor the equipment which he uses. The farms on which the sharecropper lived varied in size. As the immigrants arrived from 1922 to 1924 the landowners who controlled many acres of farmland divided their land into small tracts and leased it to the cotton workers. Most of the farms in the southern part of the region averaged less than fifty acres each, while in the northern section of the region farms averaged over 100 acres in size.

When cotton workers began to arrive in 1922 resident farmers hurriedly built shacks for the immigrants. In general, these shacks consisted of two rooms and were built out of rough lumber. In order to finance the cost of building the numerous shacks, and providing a means of support for the immigrants until the cotton season arrived, the resident farmers borrowed money from local banks and later from credit corporations formed by the Farm Loan Act in 1924.

In most cases it was necessary to provide the new tenants and sharecroppers with food and clothing during the growing season until the cotton was sold. After

82 Bratton, p. 27.
83 Snow, p. 158.
the picking season the tenants and sharecroppers would pay the landowner for the advanced items. Some farmers who moved into this region from 1922 to 1924 preferred to finance their own undertakings, and depended on local banks and merchants for financial aid. They would give mortgages to the banks on their prospective cotton crop, or depend upon credit at the local store where necessities were obtained.

In summary, a potential for large-scale cotton production in the delta area existed some years before 1922. However, for a rapid rise in cotton production to occur some element had to activate and use these potentials. This activating element came in the form of the influx of former cotton workers from the South. These cotton workers came into the delta area at the urging of local landowners, and also because of the problem of the boll weevil in the South. Landowners encouraged settlement by cotton workers, since sizable profits could be made by planting this crop. The increased labor supply after 1920, primarily the result of the 1922 to 1924 immigrations of cotton workers, stimulated the growth of cotton production in Southeast Missouri. It used the potential which existed to grow cotton, and transformed the delta area into an extensive cotton-producing region.
CONCLUSION: A GENERAL SUMMARY

The delta area of Missouri comprises seven counties in the southeastern part of the state. These counties, including Butler, Dunklin, Mississippi, New Madrid, Pemiscot, Scott, and Stoddard, form the only area in Missouri where cotton is widely produced. However, this area has become a major cotton-producing region only within the 20th century, as prior to 1910 much of the region was covered with swamps intermingled with forests. Before 1910 most of the land under cultivation was located on certain ridges which afforded better drainage than lowland areas. After 1910 the development of drainage systems allowed agricultural activities to expand throughout much of the delta region. Major crops grown before 1922 included corn, wheat, oats, cotton, watermelon, and cantaloupe. After 1922, however, cotton production increased very rapidly, and between 1922 and 1924 the delta area became an extensive cotton-producing region. The total acreage of Missouri cotton in 1921 was less than 100,000 acres, but in 1922 cotton increased to over 200,000 acres. In 1924 this figure had risen to over 500,000 acres. It

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is difficult to understand how this rise in cotton production could occur within such a short period of time, until one becomes familiar with the potential which existed for growing cotton.

The rise in cotton production was the result of interaction among a number of elements. Certain elements presented a potential for large-scale cotton production in the delta area prior to 1922. As early as 1900 elements such as soil and topography, climate, and forest clearance would have allowed extensive cotton production. Between 1900 and 1920 land drainage and the influx of farmers further enhanced the potential for cotton growing, but little increase occurred.

The soil of the delta region was sufficiently fertile in its natural state, to allow cotton to be grown. It is of alluvial origin and in most areas is of high fertility. The flat topography and fertile soil of the delta area would permit large-scale crop cultivation, once the removal of large tracts of forest was accomplished.

Climate was an additional element favoring cotton cultivation. The humid subtropical climate of the delta area was quite suitable for growing cotton; the growing season was of sufficient length, summer
rainfall was adequate, and summer temperatures were conducive to cotton cultivation.

Forest removal was a significant potential element, as it provided additional land which could be used for growing cotton. Most of the forest clearing was done by persons who emigrated from hill areas of Kentucky and Tennessee. These workers were employed by large lumber companies, but after the large timber tracts were depleted many stayed in the delta area to clear "cut-over" for the plow.

Land drainage was another important potential, as it opened new lands on which cotton could be grown. Drainage procedures were conducted by the Little River Drainage District which was formed in 1907. The plan for draining the lowlands was twofold: (1) to develop a headwater diversion system to keep Ozark streams from flowing into the delta area, and (2) to drain the region itself, using drainage ditches to carry off accumulated water. As a result the Little River Drainage District became the greatest single land reclamation project ever privately undertaken in the United States.

The draining of the land encouraged settlement, and many persons arrived from the Northern corn-belt area. These "Yankee" settlers began to arrive in 1905,
and their settlement continued to 1915. They did not grow cotton, but cultivated new lands on which cotton could be grown. The only cotton raised in the delta area in the early 1900's was grown primarily by persons who had migrated from cotton-growing areas in Alabama and Mississippi. These persons settled mainly in Dunklin, Pemiscot, and New Madrid Counties.

Thus, the situation in Southeast Missouri just prior to 1922 was one which would permit large-scale cotton production. In order for an increase in cotton production to occur, some element had to appear and activate this potential. This activating element was the influx of cotton workers from the South between 1922 and 1924. A series of bad cotton years caused by the boll weevil made Southern cotton farmers look to new areas to produce cotton. This factor, coupled with the urging of landowners in the delta area who wished to take advantage of high cotton prices, led to heavy settlement by workers from the Cotton South on the recently-drained lands. Their presence provided a supply of labor to produce cotton, a crop with which they were very familiar. After the cotton workers arrived in 1922 cotton production expanded rapidly, as the workers used the potential elements which existed for growing cotton.
Each potential element was necessary, as one element by itself could not bring about the rise in cotton production. One element was dependent on the others if there was to be a substantial increase in production. When the cotton workers began to arrive in 1922 they activated the existing potential, and the rise in cotton production began. Without this element to activate the existing potential the rise in cotton production could not have taken place at this time.
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