

THE WATER OF LIFE: SOCIAL AND ECONOMIC CHANGE IN HASKELL
COUNTY, KANSAS

by

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Abstract

Environmental, economic and social conditions have changed drastically throughout Great Plains farming communities. In Southwest Kansas, the Ogallala Aquifer supports extensive agricultural industries and family farms through hyper-extraction of groundwater resources. Capitalistic ventures in farming have led to social changes like declining community populations, out-migration of youth and family farm transformations. The relationship between environmental change, economic development and social changes is explored through a case study of Haskell County Kansas. Interviews were conducted to understand residents' perspectives of declining environmental resources available to achieve continued economic development by way of family farming. Residents also explain social changes that have resulted from evolving economic conditions and increasing use of groundwater resources.

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Dedication

This thesis is dedicated to my dearly departed mother and father, my thesis advisor, Dr. Laszlo Kulcsar, who never gave up on me and to my darling husband, who always puts me before himself and pushes me to achieve my dreams.

Chapter 1 - Overview of Study and Background Discussion

Overview of Study

Counties within Southwest Kansas have experienced several demographic, developmental and environmental transformations within the last fifty years. Several scholars have compared the massive economic, environmental and ethnic transformations that have occurred in this region to other hyper- extractive “boom-towns” (Wilkinson, K.P. 1991). Within the last fifty years, almost entirely white rural towns have been transformed by incoming populations of low-income, Hispanic migrant workers recruited to meatpacking plants in Southwestern Kansas (Stull & Broadway 2006). Meatpacking plants, feed lots and water-intensive farming have only been possible in the “American Desert,” since the dawn of extracting irrigation water from the Ogallala Aquifer (White 1994). The Ogallala Aquifer is the largest groundwater resource within the United States (Bloomquist & Williams 1993). The Ogallala (or High Plains Aquifer) lies beneath several states and varies in water table thickness and recharge rates (Williams & Bloomquist 1997). The differing water table thickness and recharge rates between states is partly attributable to the state’s rate of water consumption (Sophocleous 2012). Groundwater thickness is significantly lower under Southwest Kansas than below Texas or Nebraska (Smith et al. 2007). As Southwest Kansas counties receive little rainfall and irrigation systems are widely used there is little to no groundwater recharge of the Ogallala Aquifer in this area. This minimal recharge rate does little to combat extreme hyper-extraction of groundwater used for farming, feed lots and meatpacking plants and residential use (Working Paper 2013). The Ogallala Aquifer is the natural resource the southwest Kansas regional economy depends upon. Its extraction is what stimulated the demographic change and economic growth in this region. The massive groundwater supply encourages growing

agricultural and industrial development. The economic success of the region emboldens further water extraction. Labor shortages demand low wage worker migration, which has changed the ethnic profile and socioeconomic status of the region at large.

My research objective is to explain the historical relationship between social, economic and environmental conditions within Great Plains farming communities. The purpose of this endeavor is to understand the similar narratives that exist among these communities. Rural farming communities within Southwest Kansas have been studied because the region has been able to escape the inevitable deterioration of small Great Plains farming communities. For example, Haskell County, Kansas has been examined in three separate, but similar and subsequent case studies by Bell, Mays and Bloomquist and Williams in *From Dust Bowl to Green Circles: A Case Study of Haskell County, Kansas* (Bloomquist & Williams, 1996). These authors examined this particular community in great detail mostly because of the enormous economic transformations of this community before and after the Dust Bowl. In the case studies about Haskell County, there are several variables that all three authors used in all three ethnographies. Of these variables, there are three themes that I would argue are most relevant to understanding the relationship between environmental change, economic development and social change in Great Plains farming communities. They include, the *natural resources base*, *economic development* and *social changes (which includes place attachment and demographic trends)*. I hypothesize that these themes generate the greatest explanatory power concerning the existing and future environmental, economic, social conditions of Great Plains farming communities.

The purpose of this thesis is to understand the relationship between environmental change, economic development and social change in Great Plains farming communities. My

findings are noteworthy because they demonstrate changing environmental, economic and social experiences within hyper-extractive communities. I will demonstrate the ways in which environmental changes impact economic development and social changes and how variations in economic and social conditions impact environmental use. Trends in Southwest Kansas counties are and will continue to be interdependent and intertwined with developments in the Greater Plains region. To better understand the relationships between environmental, economic and social changes in the region, examining one county is useful-especially given the limited scope of this study. I will analyze circumstances within Haskell County, Kansas and compare and contrast the county to the larger Great Plains farming region.

Haskell County is similar to surrounding counties in the Southwest Kansas region in terms of its recent environmental, demographic and economic development. Trends in Haskell County impact the region just as changes in the region affect Haskell County. Environmental, demographic and economic developments interdependently affect social change.

My study uses qualitative research techniques, so I conducted interviews with residents of Southwest Kansas, particularly Haskell County. Haskell County has many economic, social and environmental similarities to other counties in the Southwest Kansas region. I will discuss recent historical transformations in the Great Plains region. When the Southwest Kansas region is explored in this study, I will often include the following counties- Finney, Ford, Grant, Gray, Haskell, Meade, Seward and Stevens- as they are closest in proximity and have common or interconnected industries.

The scope of my study is small and intended to provide particular attention to the illustrations that interviews can produce. The experiences and stories of Great Plains farming families will be deliberated. The interviews were mostly executed in Haskell County, Kansas

and some in Finney County, Kansas. I will discuss some findings from Bell, Mays and Bloomquist and Williams to provide historical perspective of the Haskell County community. A rural community is understood by the Census Bureau as a community with less than 2,500 people- which excludes Haskell County. Haskell County is a nonmetropolitan county with minimal commercial activity and services outside of the realm of agriculture.

I will discuss the extent to which Haskell County, Kansas, represents a typical farming community in the Great Plains. Haskell County will be examined with respect to the typical historic, economic and demographic changes that have developed across the Great Plains and the dependency the region has on the Ogallala Aquifer. My study will examine three themes that are similar to variables found in three previous studies: the *natural resource base* of the community, *economic development*, elements of *social changes*-including indicators of *place attachment*- and changes in demographic trends, or *demography*. These themes were selected because they influence relationships between environmental, economic and social factors in Great Plains communities, like Haskell County. The natural resource theme refers to natural resources which are utilized in the community, in this case the Ogallala Aquifer or even the Houghton natural gas field. Social changes can be understood through resources like *cultural capital*. One type of cultural capital is commonly held beliefs or values which often guide the social trajectory of the community. Place attachment will be discussed as an important component to cultural capital in Haskell County, Kansas. Place attachment is a term with a wide-range of definitions and interpretations. For this study, place attachment will be discussed with respect to the creation of *place*. Understanding the significance of *place* to a community can be considered through elements such as community belonging, place and identity and the physical location.

The final social theme discussed is demographic trends in Great Plains region, compared to Haskell County's experiences.

Agricultural Change in the United States

Farming in the United States changed drastically from 1940 to the present. Economic and agricultural restructuring downsized the number of farms by two-thirds and the farming population decreased from 25 percent of the American population to 2 percent (Lobao & Lasley 1995). Despite declining farm populations within the Midwest, withstanding farmers sought increasing productivity and capital intensity throughout the 1970s (Lobao & Lasley 1995). The post WWII farming industry was stable and seemed resilient to both farmers and the American public (Lobao & Lasley 1995). The agricultural systems changed so drastically after WWII. Like many industries, the "Fordist" model was applied to growing crops in the same way it was applied to making cars. Farmers took out loans for expensive technology, agrochemicals and farming equipment to compete with other capital intensive farmers. This 'Fordist' strategy mid-level farmers overly vulnerable to input costs, market prices and interest rates (Barlett 1993).

Memories of farming tragedies like the "dirty-thirties," motivated policy makers to protect farmers throughout the Farm Crisis of the 1980s. Legislators developed profit protection programs and programs for acreage and commodities, like Farm Credit Acts to reduce farming risks. If the 1970s signified a decade of growth, the early 1980s marked a time of financial hardship. Farming is often considered an authentic, all-American livelihood and the Farm Crisis of the 1980s devastated this American socioeconomic occupation.

Decreasing global demand for U.S. food products, a national recession, low prices for commodities and the Russian embargo on grain put strain on farmers. In addition, increasing interest rates and production costs and declining land values strained farmers' equity (Murdock

et al. 1988). Farm values declined particularly in states that grow predominately export crops like wheat, soybeans and corn (Gilles & Galetta 1993). Often farmers' liabilities exceeded their farm value or equity, threatening farmers' viability. The Farm Credit Acts provided around 150 billion dollars to programs that helped farmers manage their debt. The 1980s farm crisis crippled farmers as the Great Depression did-2 to 3 hundred thousand farmers went bankrupt, restructured their debt or went through foreclosure (Stam et al. 1991). Unfortunately, many who were affected were those with medium sized farms run by young, educated and motivated farmers (Stam et al. 1991). Medium-sized farms continued to fail because they could not handle debts as large commercial farms could, which explains why 50 percent of failed farms from 1985 to 1995 were medium size farm operators (Murdock et al. 1988).

The farm crisis of the 1980s threatened the economic foundation of many rural communities and exposed non-farm industries across the Midwest (Lobao & Lasley 1995). Farming families had to reconsider their children's future livelihoods (Lobao & Lasley 1995). This major agricultural development changes the economic, social and cultural fabric of communities in Southwest Kansas, like Haskell County. Understanding farming families' perceptions and collective reactions to agrarian change is important to understand. The 1980s farming crisis contributed to the overall decline in number of farms not only because many farms were failing, but also because it discouraged new farmers from choosing the occupation.

Some scholars argue that the farm crisis of the 1980s continued to impact farmers throughout the decade and even preempted the waning number of farms in the 1990s (Davidson 1990). The Midwest was particularly vulnerable to the farm crises because of the average farm size and the typical crop types grown. Farming communities are affected when their agricultural sector suffers. The balance between farms, households and community life throughout the

1980's was disturbed (Lobao & Lasley 1995). Farming enterprises are inextricably connected to farming households and this interdependence can lead to vulnerabilities in both when either unit is disturbed (Lobao & Lasley 1995). Studies of collective crises have demonstrated that communities can experience more personal stressors, shifts in worldview or sentimentality towards one's community and changing political actions (Lobao & Lasley 1995).

Agriculture in Southwest Kansas: Regional Perspective

The Southwest Kansas economy has been dominated by agricultural development since the region was settled in the mid-1800s. Settlers were recruited to move to the region and develop the area, claiming it was the promise land of farming. Climate risks were not known to settlers, who were formally farmers in areas with greater levels of precipitation and less prone to periods of drought (Popper 2013). The drought of the 1890s caused serious population loss in Southwest Kansas (Warrick & Bowden 1981). The climate in Southwest Kansas is contingent on four seasons of very different weather. The climate is semi-arid, which requires great use of natural resources to sustain large scale agriculture and livestock industries (Hart 199). The groundwater pumped in Southwest Kansas comes specifically from the unconfined Ogallala Aquifer and the confined Dakota Aquifer (Kromm & White 1992). In a typical year, Southwest Kansas has between 15 and 25 inches of precipitation and average temperatures vary from 30 degrees to 90 degrees (Peterson 2006). Strong thunderstorms are common in the spring and summer months.

Droughts

Region wide droughts have changed the economic and agricultural landscape throughout Great Plains history. The 1880s brought about a major drought- just a few years after this region was extensively settled-and population losses were endured throughout many counties (Warrick

& Bowden 1981). Decades later, in the 1930s, droughts precipitated major population loss again. Exposed topsoil and high winds branded the decade the “dirty thirties,” and erosion and drought were a major problem. Economic depression was severe and population losses were some 30 to 50 percent of total county populations. Federal programs from Roosevelt’s New Deal promoted better land management, like not growing crops on sandy soils (Worcester 1979).

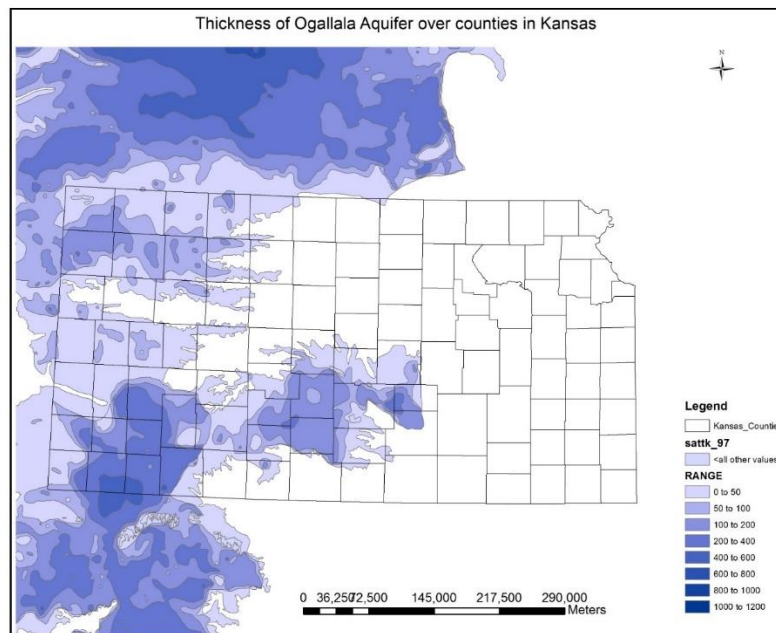
After the Dust Bowl, the farmers leaned towards pump dependence and precipitation was considered a bonus (Hornbeck 2012). Without irrigation, the fields of southwest Kansas struggle to support traditional commercial crops, yet many governmental agriculture support programs were developed for the region (Sherow 1990). In Southwest Kansas, farmers historically relied on irrigation through methods like ditch irrigation to support their crops (Sherow 1990). Major drought struck the region again in the 1950’s, but available groundwater and new irrigation techniques saved the region from economic crisis. Center pivot irrigation was created in 1949 and pumping groundwater was cheap and accessible (Hornbeck 2012). The number of wells used for irrigation in Southwest Kansas increased from 520 to 8,250 separate pumping sites in 40 years (KGS 1979). The worst period of drought in the region’s history-according to the Drought Severity Index- was September 1956. Irrigation was extensive throughout the region and reached a peak of water withdrawal in 1978 (Kromm & White 1992). Eventually, water saving technology- like center pivot irrigation, paired with strong post war crop prices helped to create an agricultural hotspot in southwest Kansas (Rhodes and Wheeler 1996; Splinter 1976). From 1940 to 1978, the yearly withdrawals of groundwater across Southwest Kansas farmland rose from 90,000 to three and a half million acre feet of farmland (KGS 1979).

Drought hit the region again in 2001 and 2002 and undermined productivity; it was estimated that the High Plains economy lost \$6 billion dollars (Hansen 2002). The federal

government responded with millions of dollars of aid for farmers and low interest loans (Hansen 2002). Pumping more water was expensive for irrigators, but dryland farmers suffered the most.

The Ogallala Aquifer lays beneath South Dakota, Nebraska, Wyoming, Colorado, Oklahoma, Kansas, Texas and New Mexico. The High Plains Aquifer includes the Ogallala formation and the groundwater covers around 174 thousand square miles, 33 thousand of which are within Kansas (Dennehy 2000). Aquifer depths in Kansas are greatest in the Southwest region. The groundwater in the High Plains Aquifer comes from the deliberate accumulation of fluvial deposits over tens of thousands of years from Rocky Mountain development (Weeks et al. 1988). Center pivot irrigation technology has fundamentally changed the integrity of the Ogallala Aquifer. Irrigated land in the Great Plains makes up 30 percent of all irrigated land within the United States (Kromm & White 1992). The Ogallala Aquifer supplies 70 percent of all water used in Kansas (Sophocleous 2013). The estimated economic contribution of irrigation from the Ogallala Aquifer to the Southwest Kansas economy is \$188 million annually (Steward et al. 2009). The availability of groundwater varies between Southwest Kansas counties and even fluctuates within the counties because of diverse levels of saturated thickness (Kromm & White 1992). Predictions forecast major dry areas in the aquifer within 25 years while other areas can be pumped for another few centuries (Kromm & White 1992). Figure 1.1 depicts aquifer depth in 2013 in Kansas Counties. Deep well depths support intensive farming in Southwest Kansas.

Figure 1.1 Thickness of Ogallala Aquifer over counties in Kansas



Source: Author's own calculations 2015; Data from USDA 2011

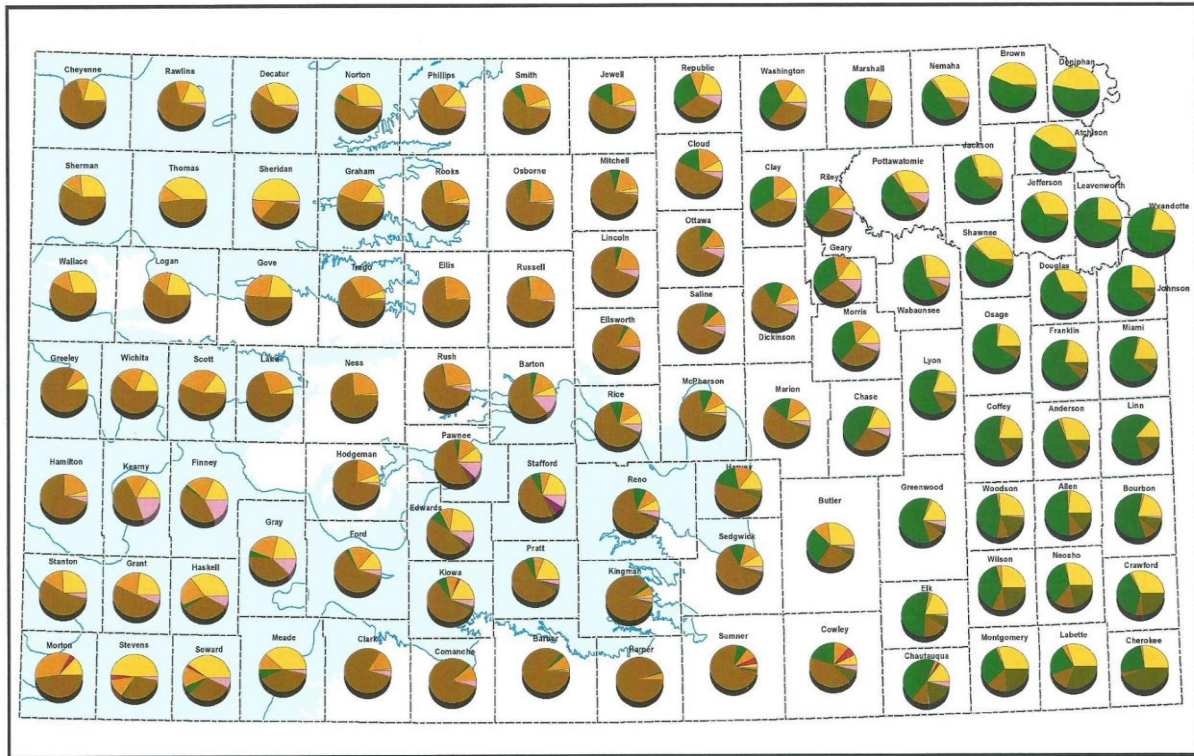
Kansas exports \$4,741,000,000 worth of agricultural products throughout the world (USDA 2014). Kansas agricultural export industries are strong, stronger than states like the Dakotas and many Midwestern states, like Indiana and Missouri. States like Iowa, Illinois, Texas and Nebraska produce more agricultural products than Kansas (USDA 2014; Broadway 1995). Nevertheless, agricultural related businesses, production of value added agricultural industries, farming and livestock production contribute billions to the Kansas GDP (Gross Domestic Product) and are essential to Southwest Kansas counties economies (USDA 2014; Broadway & Stull 1991). Throughout the Great Plains, including Southwest Kansas, wheat and corn are frequently grown (Barlett 1993). Wheat was a highly profitable agricultural export throughout 2010-2014. Kansas wheat generated almost a billion dollars in agricultural exports in 2014 (USDA 2014). Wheat exports increased from 2010-2013, but fell under the billion dollar threshold by 2014 (USDA 2014). Kansas corn exports have varied in value, from around half a billion from 2010 and 2011 (USDA 2012). Export prices for corn have increased marginally

throughout 2012-2014, but they are far lower than the prices in 2010 (USDA 2014). Overall, agricultural exports from Kansas are staying consistent, and slightly increasing.

In 2014, all corn farms in Kansas planted a little over four million acres of corn to produce corn grain and corn silage (USDA 2014). The total acres of corn harvested was 3,950,000 and 3,800,000 cubic meters of corn grain and 150,000 tons of corn silage was produced (USDA 2014). Yield per acre data is inconsistently available for all corn, but 149 bushels was the yield per acre for corn grain and 14.0 tons was the yield per acre for silage (USDA 2014). The total acres planted for wheat in 2014 was 9,600,000 while the total acres planted for corn was a little over four million (USDA 2014). The farm value of wheat was \$1,515,360,000 and the farm value of corn was \$2,123,250,000 (USDA 2014). Corn requires less acres to produce and earns farms more value (USDA 2014).

Corn, winter wheat and grain sorghum are popular crop choices in communities like Haskell County and other western Kansas counties that have access to the underground aquifer (Broadway 2007). Figure 1.2 illustrates the crop choices of Kansas counties and corn is a popular crop choice in counties like Haskell, Meade, Seward and Stevens. Irrigated crops are typically more productive and given the underwhelming precipitation in the Great Plains and Southwest Kansas especially, the Ogallala Aquifer is pumped to compensate for the lack rainfall (Cassman 1999). Corn is a water intensive crop and can be abundantly grown in counties with vast water resources. Figure 1.3 explains the discrepancy between irrigated and non-irrigated corn production and corn yields. Less non-irrigated corn is grown in Kansas than irrigated and the difference in corn yields explains why. Wheat is a popular crop choice throughout western Kansas counties.

Figure 1.2 2006 Cropland Data layer Percentage of Crop distribution in Kansas by Counties



Map Information

Prepared by: Peiwen Wang & Eric Bernard
 Projection & Coordinate System: NAD 1983 UTM Zone 14N
 Sources: USDA NASS & KS DASC
 Date: June 29, 2012

1 in = 40 miles
 1 inch = 211,200 feet

2006 CROPLAND DATA LAYER PERCENTAGE OF CROP DISTRIBUTION IN KANSAS BY COUNTIES

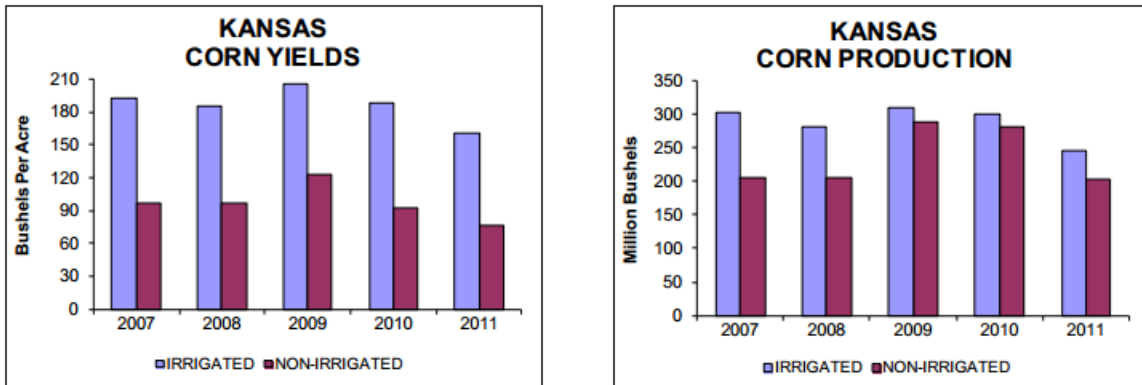
Legend

Kansas County Boundaries	Sorghum	Winter Wheat	Millet	Potatoes
Ogallala Surface Boundary	Soybeans	Other Small Grains	Canola	Other Crops
High Plains Aquifer Boundary	Sunflower	DBL Crop Winter Wheat/Soybeans	Flaxseed	Peas
Corn	Barley	Rye	Alfalfa	Clover/Willows
Cotton	Spring Wheat	Oats	Dry Beans	

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 LANDSCAPE ARCHITECTURE
 / REGIONAL & COMMUNITY PLANNING
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Figure 1.3 Kansas Corn Yields and Kansas Corn Production from 2007 to 2011



Source: Institute for Policy & Social Research; The University of Kansas; data from U.S. Department of Agriculture

Precipitation has been and continues to be a serious concern in areas of the Great Plains, including Southwest Kansas. Precipitation has historically been a critical issue in the discussion of Southwest Kansas farming. Precipitation was all Kansas farmers had to moisten their crops before irrigation and years of minimal rainfall had major impacts upon the region’s population trends (Elder & Conger 2000). Ironically, rainfall is lower in Southwest Kansas than in other regions of Kansas, like Eastern Kansas where the rainfall is almost doubled. Yet the area grows some of the thirstiest crops, such as irrigated corn. Dryland agriculture is a present source of farming in Southwest Kansas, but it is not a preferred agricultural strategy for many farmers (Russo 2003). The minimal rainfall and susceptibility to drought conditions in Southwest Kansas discourages many farmers. Dryland farming is also impeded in Southwest Kansas by other issues such as wind erosion and losing moisture through runoff or moisture loss from soil (Flora & Flora 1991). Below is a table depicts total precipitation in some Southwest Kansas counties in 2011, compared to the average rainfall between 1981 and 2010.

Table 1.1 Rainfall in Southwest Kansas Counties

	Total Rainfall in inches in 2011	Annual Average Rainfall in inches from 1981-2010
Finney County	10.30	19.90
Grant County	12.33	17.39
Haskell County	7.07	19.22
Seward County	11.52	19.73
Stevens County	14.90	18.43

Source: KSU Weather Data Library and Kansas Water Office

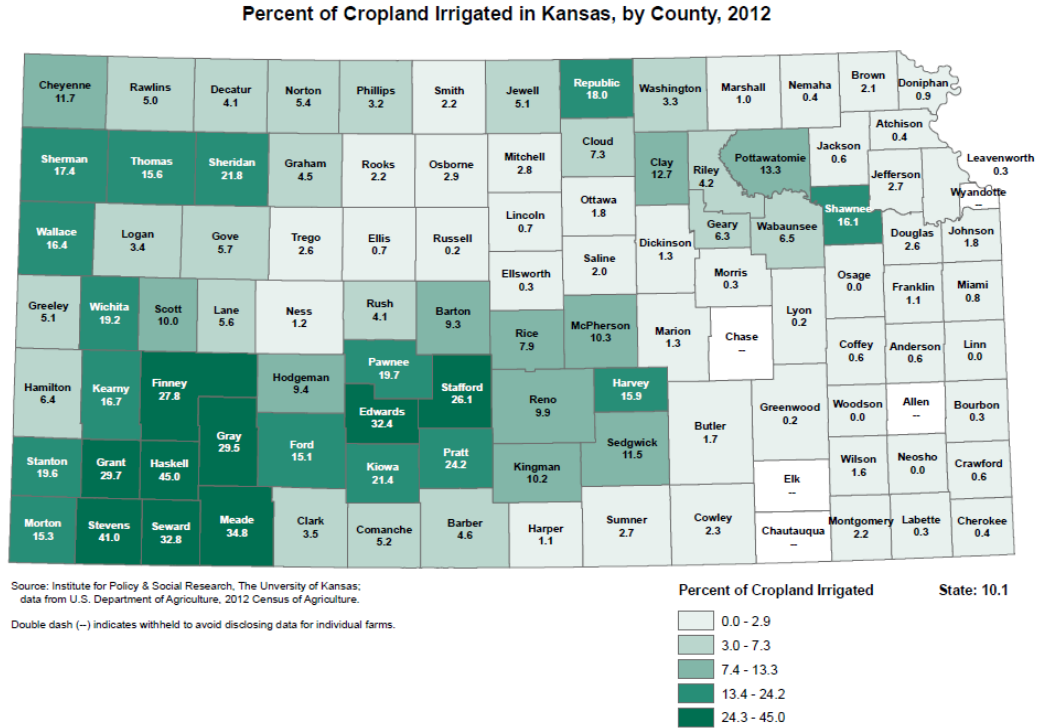
In the 1930s, farmers began to devise better systems of preserving and utilizing precipitation (McClure 1988). Farmers have been perfecting moisture preservation techniques through techniques like summer fallowing (generally 1/3 of previous wheat crops) and within the last 30 years, no-till practices. However, after irrigation became possible, farmers came to depend upon the High Plains Aquifer for the majority of their crops' moisture needs. Feedlots and meatpacking plants also dig wells to pump groundwater (Gutierrez-Montes 2005).

The proportion between applied water and crop yield appears relatively tangible for most crops. Corn is a prevailing product of the region and it can be highly productive. Generally speaking, the more water applied to corn, the more corn can be grown (Peterson 2006). Wheat has a more complicated reaction to applied water. Wheat benefits from irrigated water, but unlike corn, wheat cannot utilize extra water (precipitation) to improve productivity (Peterson 2005). If the region receives abundant rainfall that year, the crop will not produce 'extra' wheat. Wheat is drought tolerant crop and produces some grain in even the driest conditions (Peterson 2003). The less precipitation the region receives the more farmers irrigate from wells. The feedlots use locally grown products, but a large percentage of feed grains is imported (Peterson

2006). From an economic perspective, local feed needs to be available to ensure the feedlots and meatpacking industries continuance in the region (Smith et al. 2007).

Figure 1.4 examines the percentage of irrigated cropland by county within Kansas in 2012. This chart depicts a cluster of counties in Southwest Kansas that have the highest percent of irrigated cropland from 24 to 45 percent. These counties, Finney, Grant, Gray, Haskell, Meade, Seward and Stevens are largely agricultural communities and lie adjacent to each other. This cluster of the heaviest irrigating counties are surrounded by counties like Ford, Kearny, Morton and Stanton which irrigate 13 to 24 percent of their cropland (USDA 2014). These intensely irrigating counties can manage such water practices because they overlay particular areas of the Ogallala Aquifer. Haskell County has the largest percentage of irrigated cropland in the state of Kansas. Besides a close leading Stevens County at 41 percent, every other neighboring county has 10 percent less irrigated cropland (USDA 2014). Almost half of Haskell County's cropland is irrigated, while northern Kansas counties grow mostly wheat with few irrigated acres. Forty-five percent of Haskell County's cropland is irrigated, while northern wheat king counties use substantially less irrigation (USDA 2014). Visual aids like this demonstrate that adjacent counties can have similar agricultural ventures, when similar natural resources are accessible. It can be argued that the natural resources available in this area have shaped the economic and environmental landscape in Southwest Kansas (White 1994).

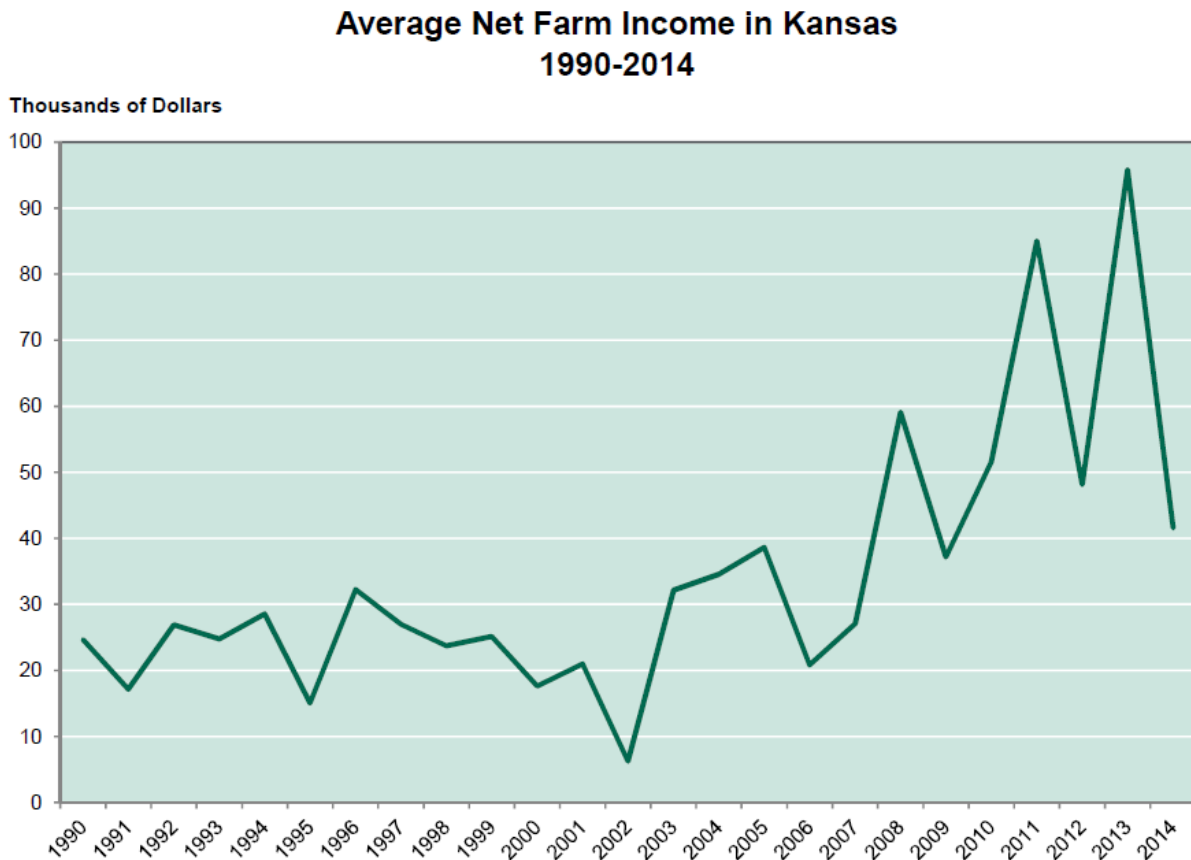
Figure 1.4 Percent of Cropland Irrigated in Kansas, by County 2012



The average value per acre of Kansas farms has been a multifarious pattern. The value of the land and buildings was collected throughout a selection of years from 1920 to 2014. The average value per acre increased progressively but there were periods of time in which the value decreased, specifically 1983 through 1987 (USDA 2014). Also data collected on particular years revealed that the average value per acre dropped from \$62.00 in 1920 to \$49.00 in 1930 and \$30.00 in 1940 (USDA 2014). From 1988, the average value per acre continuously rose and dramatically increased 2011 through 2014 (USDA 2014). The turnaround in value per acre is likely attributable to (generally) increasing commodity prices and to changing irrigation techniques- irrigated land is worth more value. In 1940, the average farm value rose from \$9,

094 to \$24,689 in 1950. In 2014, the average value of farms in Kansas was \$1,545,902 (USDA 2014). The total value of Kansas farms grew from almost three million in 1920 to over ninety-four million in 2014 (USGA 2014). This demonstrates the current and sizeable economic contribution of farming to the state’s wealth and exported products.

Figure 1.5 Average Net Farm Income in Kansas 1990-2014



Source: Institute for Policy & Social Research, The University of Kansas; data from U.S. Department of Agriculture.

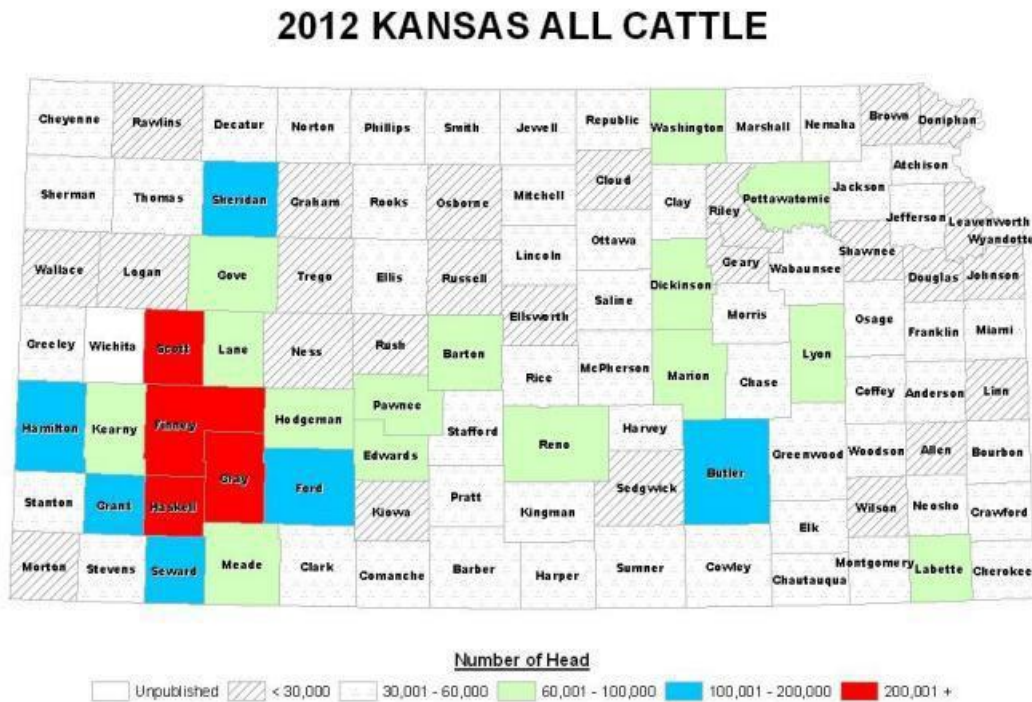
The average net farm income in Kansas from 1990 to 2014 is depicted in Figure 1.5. The average net farm income in Kansas has had several, severe year to year gains and losses. This demonstrates the relative unpredictability of farming and farmers vulnerability to market forces. There are particular products that offer higher cash receipts than others. Wheat and corn can be highly profitable among crops, while cattle and calves are most lucrative among livestock and

animal products. Crop prices received by Kansas farmers has been chaotic, rising and falling throughout the years. For instance, in 2008, corn prices were \$4.12 per bushel and in 2011 they were \$6.28 in 2011 and \$3.75 in 2014 (USDA 2014). Wheat prices have stayed more consistent at almost \$7 a bushel in 2008 and 2011 and \$6.15 a bushel in 2014 (USDA 2014). Grain sorghum can be a popular crop choice because it is more drought tolerant than other crops and prices are typically higher. Between 2008 and 2014, grain sorghum prices peaked at \$12.00 in 2012 and then fell hard to \$7.46 the following year (USDA 2014).

The value of livestock production has significantly increased since 1976 (USDA 2014). Despite occasional market fluctuations, the value of cattle and calves have grown moderately, yet progressively for the last forty years (USDA 2014). Despite reductions in commercial head slaughter count, the value has improved. Livestock and livestock products produce a large portion of the cash receipts among major commodities on Kansas farms. Every year from 1935 to 2014, crops make up less than 50 percent of cash receipts among major commodities (USDA 2014). For instance, in 1935, total crops were around a quarter of Kansas farms' cash receipts, while livestock made up three-quarters (USDA 2014). Other years, the discrepancy between crops and livestock was less dramatic than in 2009 when crops were 49.6 percent and livestock and products were 50.4 percent of cash receipts (USDA 2014). The divergence between cash receipts among crops and livestock/livestock products endures. In 2014, cash receipts from crops increased to around 37 percent and expectedly, livestock and livestock products made up 63 percent of major commodities on Kansas farms (USDA 2014). These numbers persuade of the monetary potential in livestock production the economic value of cattle production in this area. Figure 1.6 demonstrates that the Kansas cattle industry is concentrated in Scott, Finney,

Haskell and Gray Counties. This is due to the meatpacking plant in Finney County and the plethora of feedlots in Haskell, Gray and Scott Counties.

Figure 1.6 2012 Kansas all Cattle



Source: Kansas Farm Facts, 2012 U.S. Department of Agriculture

Despite the unpredictability of crop prices and declining rates of precipitation, figure 1.5 demonstrated that average Kansas farm incomes are generally increasing since the early 2000's. Year to year the average farm income rises and falls by thousands of dollars- sometimes, dramatically- falling almost \$50,000 between 2012 and 2013 (USDA 2014). Fluctuating year to year incomes makes farming challenging, but farmers continue to farm because farm incomes are increasing overall (Flora & Flora 2008).

Figure 1.7 Number of Farms and Average Size of Farms in Kansas 1980 to 2014

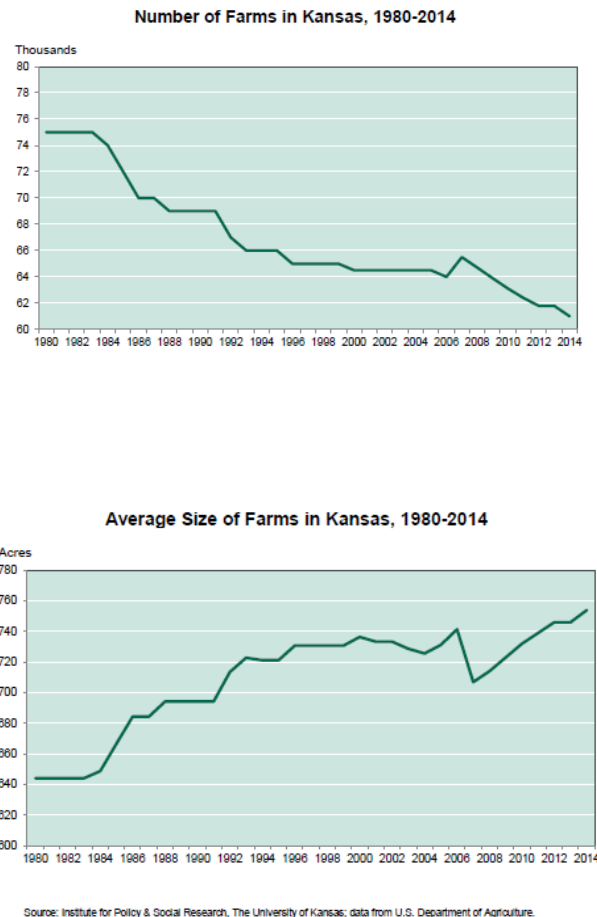
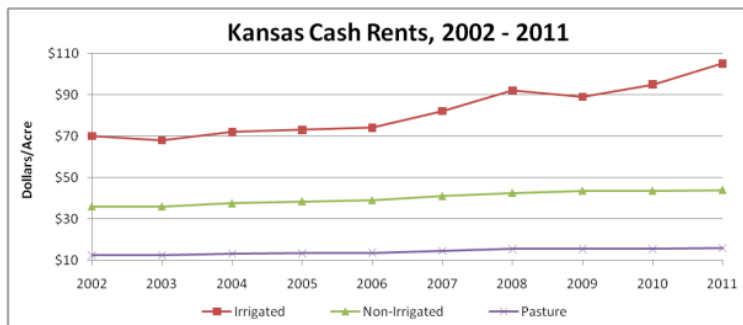
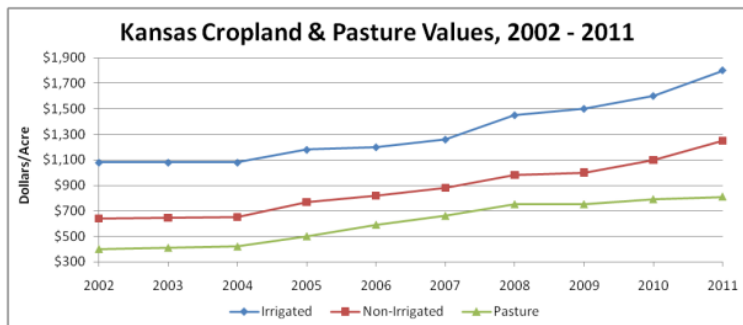
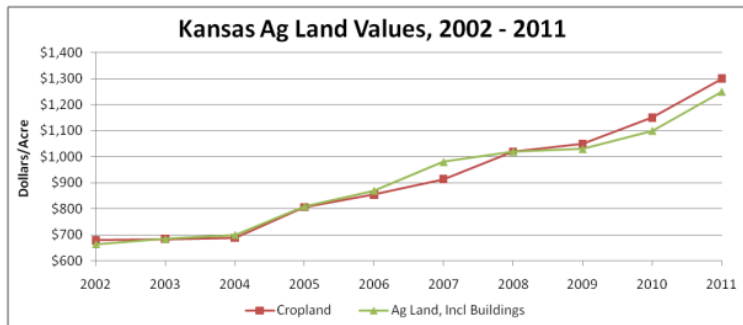


Figure 1.7 illustrate a trend that is occurring in most farming communities throughout the Great Plains. The number of farms is decreasing while the average size of farms is increasing. The average size of farms in Kansas increased steadily from 1920 to 2014. Throughout the 1970s the acquisition of farmland increased slowly but progressively and continued this projection continued into the 1990s. This trend slowed during the 2000s and then the pattern changed. Gradually, the average size of Kansas farms has increased from 2007 throughout the present. The average size of farms in Kansas increased by 482 acres from 1920 to 2014 (USDA 2014). The graphs demonstrate that while number of farms in Kansas has decreased dramatically, the average size of farms has increased. The number of farms in Kansas decreased

from around 75,000 farms in 1980 to around 61,000 in 2014 (USDA 2014). Except for a small jump in 2007, the number of farms have decreased every year (USDA 2014). From 1984 to 1986, the average size of farms increased by around 40 acres (USDA 2014). Another period in which average farm size increased more rapidly was from 2008 to 2014-by almost 50 acres (USDA 2014). The average size of farms in Kansas has increased steadily except for a moderate drop from 2006 to 2007 (USDA 2014). Economies of scale are pursued in Southwest Kansas because of monetary motivations like improving cash rents and swelling land values (Flora et al. 2004). Figure 1.8 suggests that as an occupation, farming has become more capitalistic and farmland is controlled by fewer individual entrepreneurs. Farmland is also acquired because technological advancement has made large farms possible for fewer skilled persons (Flora & Flora 1993).

Figure 1.8 Kansas Land Values, Cropland and Pasture Value and Cash Rents from 2002 to 2011



Source: Kansas Farm Facts, 2012 U.S. Department of Agriculture

Groundwater Management

The Ogallala Aquifer provides life to the southwest Kansas economy and provides water sources for the agricultural production in western Texas and eastern New Mexico and the Oklahoma and Texas panhandles (KGS 1979). This resource must be managed. There are several forms of structural groundwater management systems like the Kansas Water Office and the Groundwater Management Districts. These locally governed institutions regulate pumping

by monitoring the amount of water taken from the aquifer. Other big organizations like the Environmental Protection Agency and the Kansas Department of Health and Environment manage runoff from feedlots and chemicals to crops in the region. Community leaders, ranchers and farmers are significant stakeholders and involved in local decision making and resource management (Emery & Flora 2006; Erickson 1996). Modifying farming practices, improving irrigation technology and crop differentiation are ways to extend the aquifer's lifespan. The state government controls water rights, which helps to regulate irrigation practices. There is very little surface water to use or manage in Southwest Kansas, which encourages dependence upon the High Plains Aquifer (Ding & Peterson 2005). Groundwater Management Districts (GMD's) "enforce regulations, developed at the state and local level" (Ding & Peterson 2012 p.228). The Kansas Geological Survey studies conditions of the aquifer and administers regulations based upon their research. However, there are studies which suggest that local stakeholders utilize a fair amount of agency within local decision making about groundwater use. Interviews in Southwest Kansas reveal that many residents recognize the importance of "cattle culture" because feedlots are a staple in the local economy (Broadway & Stull 2006 p.59). Feed yards and farmers depend on grazing fields, crop land and the aquifer- and so do non-farming residents in this region (Broadway et al. 1995).

Irrigation systems are a costly investment and can put substantial stress on producers. Center pivot irrigation systems are more water efficient than previous systems, but Kansas weather- strong sun, high winds and dry air stimulate evaporation-reducing water efficiency. New technology, like subsurface drip irrigation (SDI) is more water efficient. SDI technology consists of underground pipes that apply aquifer water straight to plant roots, providing low energy precision application (Dennehy 2000). Unfortunately, SDI systems have to be replaced

every 10 to 15 years, making this a considerable expense (Dennehy 2000). Although farmers might idealistically want to reduce their water consumption, it's not always possible due to debt and general financial constraints farmers are under (Peterson 2006).

Farmers using dryland agriculture usually grow crops like milo and wheat because they are less water intensive. Dryland agriculture produces a lower crop yield and hence, lower return on investment. Conversion to dryland agriculture could depress profit margins and induce economic instability throughout the region. If agriculture is the foundation of the region's economy, many doubt that dryland agriculture can support the existing Southwest Kansas population and economy (Stull 1998). According to one of Ding and Peterson's interviewees, the number of farmers decreases dramatically when a county converts to dryland agriculture. Typically, in dryland agriculture a county has 70 to 80 farmers, opposed to 400 to 500 irrigators (2012). There is a vulnerability within these industries because many gains or losses are dependent upon environmental conditions (weather, available well water etc.). A government agent Peterson interviewed explained that "The idea of cutting back water might be ethically desirable but it's not financially possible because of the debt load and constraints that [farmers are] under" (2003 p.17).

The water level decline within the Ogallala Aquifer has been vast. Irrigation practices were widely embraced in Southwest Kansas by the late 1950's and by 1978, the aquifer had declined in the region by 174 feet (KGS 1979). The Ogallala does not easily recharge, so the extraction rate far exceeds the amount of water that is replaced. The Ogallala lies under much of the Great Plains, approximately 3.6 million acre feet of aquifer waters are extracted every year, while less than half of that is recharged (Aistrup 2013). Parts of southwest Kansas have lost over 100 acre feet of aquifer water, 40 feet of which was extracted from 1980-1996 (Aistrup 2013).

There have been measures to conserve remaining water levels, but modeling methods predict a grim looking future under current water management practices (Aistrup et al. 2001).

Researchers advise that either depleted saturated thickness or excessive well depth will eventually make groundwater extraction unfeasible (Water & Society 2013). The southwest Kansas economy bourgeoned through irrigated agriculture in sandy soils, low-levels of precipitation and whirling top soil. Without use of the aquifer, the future of this region appears uncharted.

Social, Economic and Demographic Considerations

Economic development within the Great Plains region has been irregular and often absent from small, rural communities (Broadway 1995). Economic development within Southwest Kansas has been extensive in the last several decades. Industries like meatpacking, ethanol plants, windfarms, feed lots and other value added agricultural industries have re-shaped the region (Fey et al. 2006). Meatpacking plants were originally located in urban areas. Cattle were raised on rural farms and transported to slaughter houses in urban centers, like Chicago and Kansas City. Overtime, major meatpacking plants came to face issues like high transportation costs, competitive wages demanded by urban workers and cattle were lost due to the stress of transport (Stull & Broadway 1995). Within a few decades, meatpacking companies were almost exclusively located in the High Plains from the Texas Panhandle to northeastern Nebraska. The area was selected for several reasons- fat cattle, plentiful water, cheap feed grain, acceptable weather and limited labor unions (Webb1986). Industries associated with meatpacking became remarkably concentrated in rural areas throughout particular areas of the High Plains (Barcus & Simmons 2013). Iowa Beef Packers opened the largest beef packing plant in the world in 1980 a few miles outside of Garden City in Finney County, Kansas. IBP opened the meatpacking plant

in one of the most developed areas of Southwest Kansas, which promoted development of farms and feedlots in surrounding rural counties (Peterson 2006). Over 100 cattle feed yards are located within a 50 mile radius of the Garden City IBP plant containing around 13,000 head (Stull 1994). The presence of meatpacking encourages expansion of feedlots throughout the area. Finney County and surrounding counties like Grant, Gray, Haskell, Scott and Seward Counties are affected by the environmental, economic and social changes associated with this growing industry (Flora & Flora 2008).

Beef packing creates jobs beyond plant employment. Industries like transportation (or trucking) and cattle feeding have grown in response to the IBP plant (Broadway 1995). The rising population in southwest Kansas has increased jobs within the service sector (Stull & Broadway 1995). From 1980 to 1988, 4,200 jobs were created, which is a 55 percent increase in employment in less than a decade (Broadway 1995). The meatpacking industries encouraged thirty-nine retail stores like Walmart and J.C. Penny (Stull et al.1995). A few dozen restaurants and half a dozen motels opened in the area (Stull et al.1995). Despite increasing mechanization, efficiency and productivity, beef-processing plants continue to require large, local labor pools. Disadvantaged workers were and continue to be recruited by the thousands from Mexico and Southeast Asia (Whitener & McGranahan 2003). The targeted populations are poor women minorities, new immigrants, women and refugees (Aguilar 2008). Changes within immigration laws, particularly the Immigration Act of 1990 expectedly coincide with corporate labor strategies (Aigner et al. 2001). The cultural, linguistic and ethnic makeup of communities in Southwest Kansas were transformed.

Rural communities who attract multinational corporations (like IBP) often suffer from degrading economies and aging and dwindling populations, so that they can develop value added

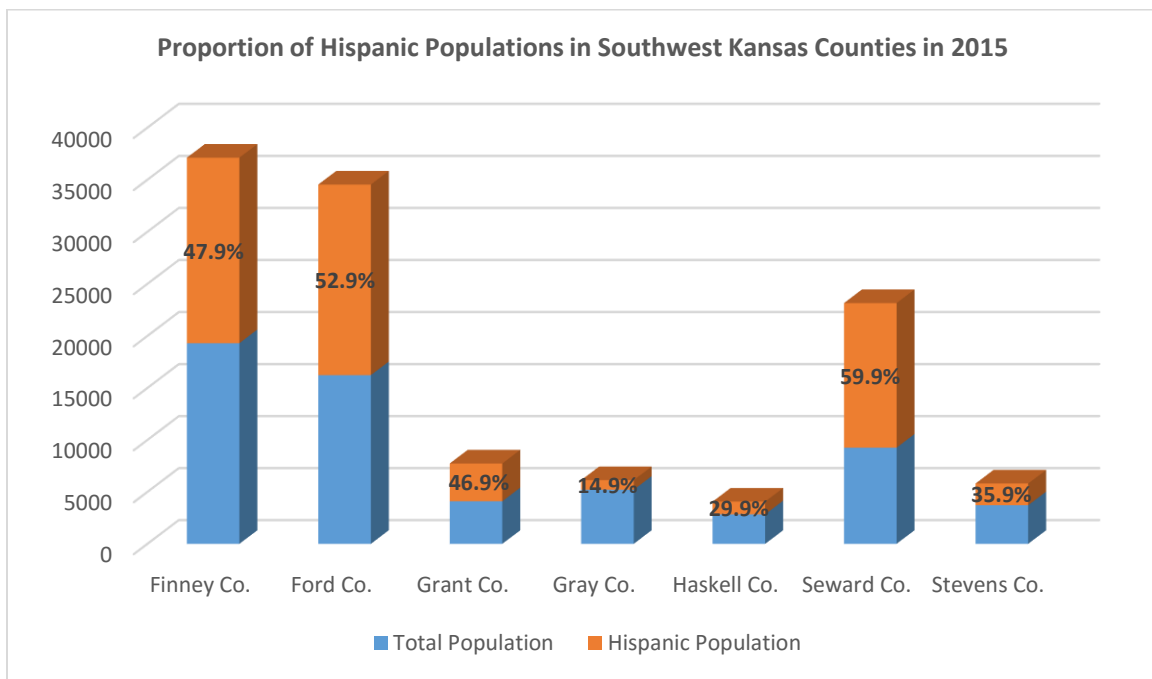
raw or agricultural materials (Strange 1988). Yet, the rural communities who are home to meatpacking plants have the challenge of caring for an influx of poor migrants that are rarely provided a livable wage (Wilkinson 1999). A large migrant population is susceptible to typical issues of chronic poverty: homelessness, increased emergency room visits, housing shortage, overcrowded schools, unemployment and workers frequently get hurt on the job (Brown et al. 2005; Broadway & Stull 2006).

Ford, Finney and Seward counties have experienced growing numbers of migrant and natural born Hispanic populations. The Hispanic population in these counties grew rapidly throughout the 1980s and continued to increase over the next two decades (Brown et al. 2005). For example, Garden City's Hispanic population increased from 25% of community members in 1980 to 44% in 2000 (Broadway & Stull 2006). The white population in Garden City actually declined from 1980 at 69% to slightly below 50% of the population in year 2000 (Broadway & Stull 2006). This could partly be attributed to white flight (Broadway & Stull 2006). Within counties that attracted meatpacking plants, the Hispanic population has been expectedly higher-compared to the Kansas average (Wilkinson 1991). Yet, in adjacent counties like Haskell, Gray and Kearny the proportion of Hispanic populations exceeded the state average of 8.5 percent between 1990 and 2000; previously, these communities were almost exclusively white (Brown et al. 2005). Figure 1.9 recounts the percentage of Hispanic populations in counties in 2015. Approximately half of Ford, Seward and Finney County's residents are Hispanic. Hispanic migrant populations are also growing in what is known as *bedroom communities* in counties like Haskell, Gray and Kearny counties (Haverluk & Trautman 2008). The cost of living is less expensive in these places with proximity to employment opportunities a county over (Flora et al.

2006). These demographic gains are particularly notable in a region characterized by out-migration and population decline (White 1994).

The demographic issue of interest in these counties is the influx of Mexican migrants into an almost entirely white region. As figure 1.9 illustrates, Hispanics makes up half of the population in Finney, Ford, Seward and even Grant County. Gray, Haskell and Stevens Counties have less Hispanic populations, but the proportion of Hispanics continues to grow in this region. In a few decades, many of these communities have transformed from mostly homogenous communities, to whites increasingly becoming the minority (Cretney et al. 2008). Several scholars have compared the massive economic, environmental and ethnic transformations that have occurred in this region to other hyper- extractive “boom-towns” (Broadway & Stull; Wilkinson, K.P. 1986).

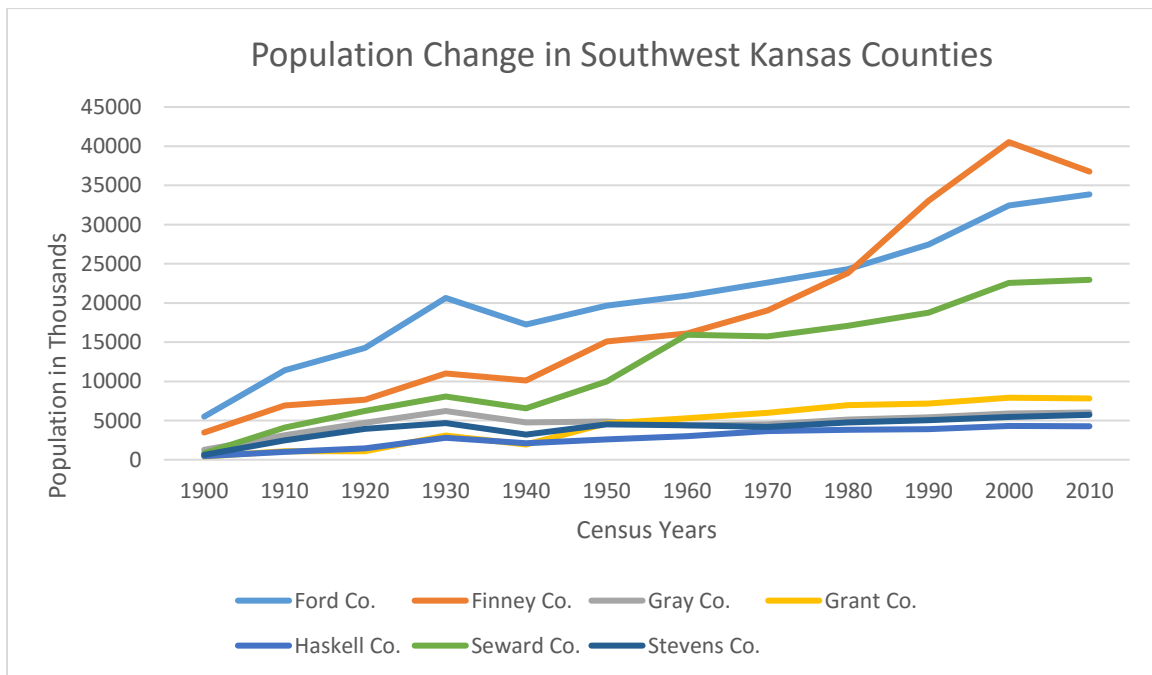
Figure 1.9 Proportion of Hispanic Populations in Southwest Kansas Counties in 2015



Source: Author’s own calculation; Data from Quick Facts Population for Counties of Kansas *US Bureau of Census Population Estimates and Population Distribution Branches* (April 2015).

The population of counties that house meatpacking plants have had greater population growth than other Southwest Kansas counties since the 1900s. Finney, Ford and Seward Counties had more expansive infrastructure and commercial development, which likely persuaded their choice of county. Counties that have meatpacking plants like Finney, Ford and Seward continue to have higher populations than adjacent agricultural communities. Finney, Ford and Seward Counties' population grew rapidly from the 1900s until 2000, save a brief period around 1930s to 1940s (Census 2015). Agricultural counties like Haskell, Gray and Stevens Counties have had little population change since the 1900s and presently have around 4,000 to 5,000 residents (Census 2015). Growth in these farming counties has been minimal, but the population trend has been positive nonetheless. Southwest Kansas counties have withstood the demographic challenge of 21st century agricultural communities in the Great Plains region: they are not rapidly losing residents.

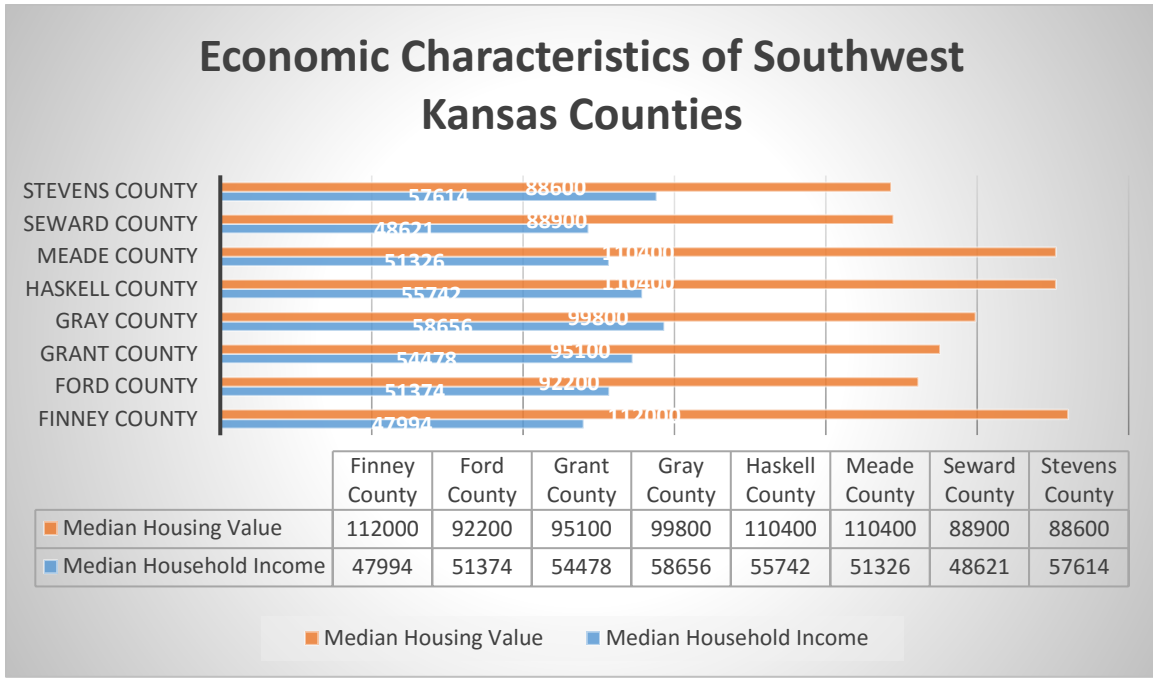
Figure 1.10 Population Change in Southwest Kansas Counties



Source: Author's own calculations; Data from Quick Facts Population for Counties of Kansas *US Bureau of Census Population Estimates and Population Distribution Branches* (April 2015).

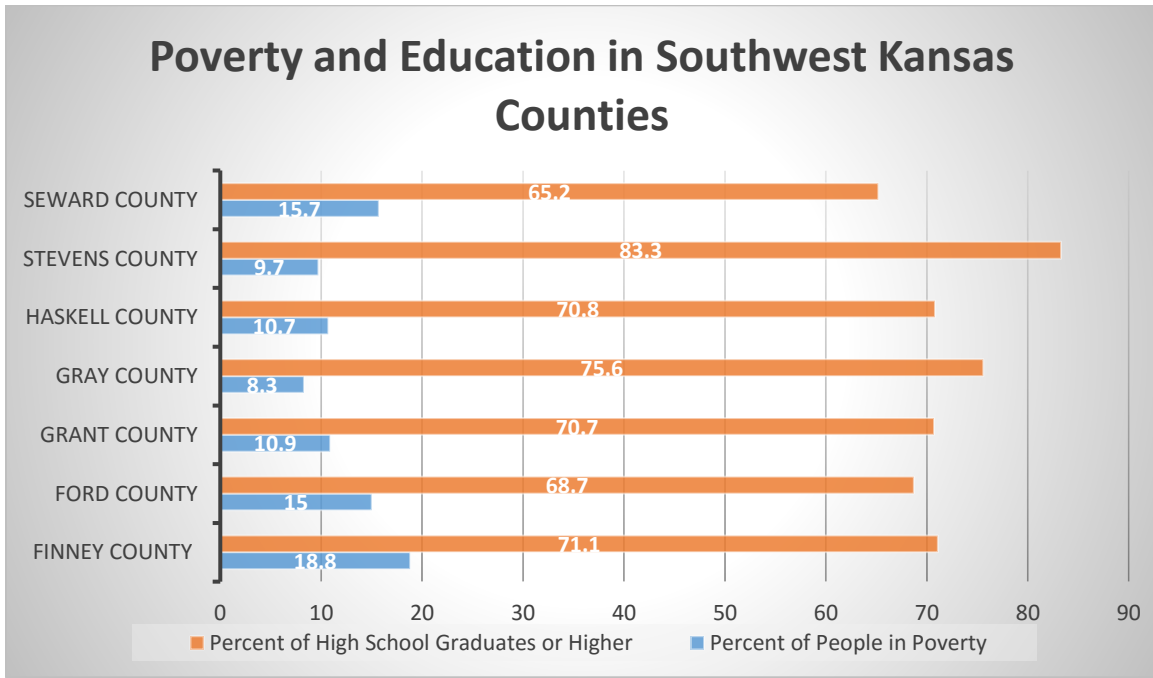
Outside of Garden City, there is little commercial development in Southwest Kansas, save some services available in Liberal and Dodge City. There was existing commercial development in Garden City, but development has since improved from population growth associated with the IBP meatpacking plant. In surrounding counties, populations tend to be small and the counties in proximity to Haskell County have meager economic diversity. The counties' economic activities and development are comprised mostly by agricultural or feedlot activities. Finney County's median housing value is higher than all the other counties examined, likely because of Garden City, the largest city in the Southwest Kansas region. Stevens and Gray Counties have higher median incomes than Haskell County, but the percent of high school graduates is significantly higher in these counties than in Haskell County (Census 2015). However, the percent of irrigated cropland is relatively higher in Haskell County than Stevens and Gray Counties (USDA 2014). For this reason, logic presumes that Haskell County's median income would exceed Stevens and Gray Counties. However, this is not the case. Housing values are not necessarily an indication of wealth, although they can be used as an indicator of property values, the cost of living and relative wealth in each county. In Haskell County, residents complained about high housing costs, which generally keeps the county's housing values higher. Incomes are generally lower in counties that have meatpacking plants (Census 2010). The discrepancy between median income and housing values are most extreme in Finney County (Census 2010).

Figure 1.11 Economic Characteristics of Southwest Kansas Counties



Source: Author's own calculations; Data from 2010 Census Bureau

Figure 1.12 Poverty and Education in Southwest Kansas Counties



Source: Author's own calculations; Data from 2010 Census Bureau

The percent of residents that have graduated high school is lower in counties with meatpacking plants, like Finney and Ford, but also lower in some agricultural communities like Seward, Haskell and Grant Counties (Census 2010). Counties like Stevens and Gray have a higher percentage of high school graduates (Census 2010). This likely influences these counties higher median incomes and the lower percentage of people in poverty. Seward, Haskell and Grant Counties have lower percentage of high school graduates, which may explain the higher percent of people in poverty (Census 2010). There are many migrant workers in Finney and Ford Counties, which contributes to these counties' poverty rates. It is surprising to find that these agricultural counties have similar social issues.

The purpose of this thesis is to demonstrate the relationships between environmental change, economic development and social change in a Great Plains farming community. The intention of this chapter was to explain the historic evolutions of environmental, economic and social change in Great Plains agricultural regions, like Southwest Kansas. As this chapter demonstrated, changes in farming have impacted the environmental, economic and social life of Great Plains farming communities. Places like Haskell County have transformed from an agrarian to a post agrarian community where economies of scale are pursued in farming. Changes in farming stimulated economic development in other agricultural industries beyond farming. Feedlots and meatpacking plants have grown tremendously in Southwest Kansas and Haskell County, which increases the region's dependency on irrigated water. Social changes like youth out-migration and an influx of migrant workers have followed changes in economic development. The evolving relationship between economic and social changes in Haskell County maintains and intensifies hyper-extraction from the Ogallala Aquifer. This thesis will address the relationship between the environment, economy and social life of a Great Plains

farming community through investigating changes in Haskell County, Kansas. In chapter 2, the theoretical foundations of this study will be discussed. Chapter 3 will inform the reader about the methodology used and chapter 4 will concern the case of study: Haskell County, past and present. Interview findings will be explained in chapter 5 and chapter 6 will discuss conclusions.

Chapter 2 - Theoretical Foundations

There are two different theoretical paradigms which were utilized in this study. The first theory explains the relationship between regional economic development and hyper natural resource extraction. Many Great Plains communities, including Southwest Kansas counties, rely on hyper-extraction to maintain increasing economies of scale. Theories that examine types of capital provide an understanding of how small, rural farming communities develop and reproduce types of capital like place attachment. Understanding types of capital present in communities helps to explain how small, farming communities perpetuate social values, perpetuate an agricultural economic system, understand natural resource use and sustain existing population numbers.

Hyper-extraction and Boomtown Literature

To understand the relationship between human and natural systems throughout capitalistic economies, we can turn to theories such as *boomtown* literature (Black et al. 2005; Brown et al. 2005 and Smith et al. 2001) or *path dependency theory* (Arthur 1989). Later literature like ‘regional economic clusters’ (McDaniel 2003; Novack & Abraham 2004; Winkler 2010) and ‘rural extractive systems’ (Kromm & White 1992; Popper & Popper 1987, 1999; Schlager 1994) were developed based upon these preceding theories to explain the relationship between natural resource extraction and economic dependency. Rural extractive literature provided the theoretical foundation for the novel and more complex discussion of ‘hyper-extractive coupled-systems’ (Aistrup et al. 2013).

Boomtown literature argues that communities seemingly popped up overnight because of the fiscal opportunities associated with resource extraction, or in other words, they “boomed.” After the resources were depleted many people left, leaving these towns to suffer through

consequences of the *bust*. Without revenue from resource extraction, essential socioeconomic elements of the community, like businesses, services and tax bases wither in consequence (Black et al. 2005; Brown et al. 2005; Smith et al. 2001). The boomtown theory is relevant to the discussion of classifying rural communities, but it may not accurately describe southwest Kansas communities. Communities regarded as boomtowns have undergone a bust cycle. However, Southwest Kansas regional economy is dependent on mining local water resources and this creates a bottleneck or vertical hierarchy in which dependent industries are crippled without their foundation: access to groundwater. While southwest Kansas communities appear to have survived the typical fate of declining rural regions, their bust cycles may be more prolonged than other communities (Aistrup et al. 2013). Extraction industries have acted as the foundation for years of expansion and decline, job opportunities, and heavy demands on community services (Camasso & Wilkinson 1990). Booming rural economies based upon extractive industries help development, temporarily. But, bust cycles lead to long-term decline in numerous places like mineral mining in Canada (Cretney, Vadgama, & Doukas 2008; Smith, Krannich & Hunter 2001) and coal mining in West Virginia (O’Leary & Boettner 2011) and oil production in North Dakota and Wyoming (Weber et al. 2014; North Dakota Petroleum Council, 2012; (Kohrs 1974). Community crises cause rising rates of alcoholism, depression, divorce, suicides, criminal acts, emergency room visits and school truancy and delinquency (Kohrs 1974).

Typical extractive rural economies often experience or project *path dependency* for their future (Flora et al. 1992; Funk & Bailey 2000). As mentioned, many rural areas throughout the Great Plains region are dependent upon non-renewable or renewable resources extraction and producers seek heightened scale and increased mechanization, which reduces available jobs and

population. Path dependency takes time to develop, but once a community has succumbed to the *path* it is difficult to divert the community's future direction.

One could argue that southwest Kansas counties are an example of *regional economic clusters*. Regional economic clusters refer to the advancement and expansion of specific and similar industries or service. The benefits of regional economic clusters is that economies of scale can be developed which provide opportunities for suppliers, manufacturers, producers and financial organizations and so on (Aistrup et al. 2013). Regional economic clusters often recruit skilled employees, educated entrepreneurs and immigrant populations. The problem with this economic strategy is that many communities' economic clusters depend upon water extraction (Kromm & White 1992). Path dependency often impedes sustainable future development (Lieu et al. 2007). Regions are often at the mercy of previous decisions which determined the economic trajectory of the community, making economic diversity challenging (Martin & Sunley 2006).

Researchers' modeling results determined that Southwest Kansas counties can be considered to be hyper-extractive coupled-systems. Communities who heavily extract resources have been able to escape the typical destiny of rural communities: greying populations, youth outmigration and declining economic opportunities (Aistrup et al. 2013). Hyper-extractive coupled-systems are often characterized by two elements: marginal, positive population change, heavy influx of Hispanic migrant workers and above average extraction rates (Broadway & Stull 2006). The model created by Aistrup et al argues that there are 54 counties in the United States (many of which are in the Great Plains) that can be considered hyper-extractive coupled-systems (2013). The dependency of these counties may be disguised by the healthy impression of economic stability. Yet, what may exist in southwest Kansas counties is a vertical concentration

of industries that rely on a resource not readily available in the area to support an industry that is not economically viable long-term. Essentially, Southwest Kansas is still in the boom phase and when the groundwater becomes too low, the “bust” cycle will ensue (Popper 2013). The existing economic system is unsustainable, but it continues to further prosperity, so it is embraced (Malamud 1984). Managing common pool resources is difficult because each farmer irrigates his crops as an individual, which creates the perception of indefinite water supply (Popper & Popper 2010; Ostrom 1990). Despite public outcry about declining water resources, water conservation strategies are mostly left to individual farmers’ choices-and there can be little incentive for farmers to change their water use practices and water conservative strategies (Opie 1993).

Capital

Capital is present within our subjective and objective worlds and directs the engrained or rooted regularities that make up the social world (Portes 1998). The distribution of different kinds or categories of capital and subtypes of capital embodies the organization and structure of the social world (Bourdieu 1986). Generally, capital requires time and energy to accrue and replicate. The limitations and expectations of capital govern how it functions in the social world (Bourdieu 1986). Many forms of capital can be transformed into other forms of capital. Forms of capital comprise the organization and functional nature of the social world and are certainly not reducible to simply a social or economic theory. Economic exchange is a form of capital, but non-economic capital stimulates a different type of exchange (Coleman 1990). Mercantile exchange produces material capital while social and cultural capital is realized in capital’s immaterial forms (Putnam 1993).

Emery and Flora explain that all communities have resources or some sort of assets that can be utilized despite geographic isolation (2006). A community's capital is developed when the community's resources are invested for the purpose of generating new assets- new capital (Paxton 1990). Resources can be converted or remade into other forms of capital and improvements in one type of capital encourages other forms of capital (Flora & Flora 2008). Flora and Flora argue that when one form of capital is prioritized over other forms of capital, the other resources of the community are disenfranchised (2008). Underutilizing any part of capital or under-developing many of the community's applicable resources can compromise the local economy, environment or social equity (Monier 2011). The community's capital impacts their capability to embrace progression and improvements in rural community life (Becker 1964). Capital resources are discussed by many academics, but Flora and Flora developed the Community Capitals Framework which identifies several types of capitals and interactions among capitals (Emery & Flora 2006). Great Plains farming communities are considered with regard to their natural, cultural, human, social, built, financial and political capitals.

Literature about boomtowns and theories such as path dependency and hyper-extractive coupled-systems illustrate the relationship between environment, economy and social changes from a macro level perspective (Little 1977; Murphy 1995). The literature surrounding hyper-extractive communities demonstrates the regional consequences of exhausting the Ogallala Aquifer. Theories concerning hyper-extraction are macro level models we use to explain the micro level decisions individual farmers make. The Capitals Framework allows a researcher to deconstruct various community resources, so they can be studied individually. Isolating one form of capital from the other is necessary to understand the relationships between types of

capitals (Becker 1992). To understand how types of capitals can hinder or contribute to rural community development, I turn to the Capitals Framework developed by Flora and Flora.

Built Capital

Built capital can be understood as a community's infrastructure that contributes to enduring and permanent structures that provide for human needs (Flora & Flora 2008). These include educational buildings, hospitals, schools, streets, waste management systems and water, utility and emergency services. Built capital is established in rural towns to support civil needs (such as a courthouse or housing) and industry infrastructure for local businesses. In rural communities like Haskell County, Kansas, much of the built capital focuses upon agricultural development and agriculturally related industries. Built capital supplies amenities and tools required of the community to support civic and economic activities (Summers 1986). The importance of this capital is easily discounted, but built capital is required to support residents' potential and maximize the community's productivity. Built capital is expended and eventually exhausted, requiring more resources to repair or replace structures (Woolcock 1998). Many rural communities struggle with raising the funds for built capital because they undergo shrinking populations and consequently, shrinking tax base. Rural, farming communities are often isolated because they are hours away from large cities and surrounded by hundreds of acres of farmland. Hence, maintenance and installation of built capital can be difficult and expensive and small rural communities often struggle to provide sufficient built capital for its residents (Warren 1978). Although small, wealthy farming communities in Southwest Kansas are often able to afford suitable municipal infrastructure. In rural farming communities in the Great Plains, built capital refers to agricultural structures like grain elevators, co-ops and suitable highways to

transport goods. Built capital also concerns civic buildings like adequate schools, grocery stores, housing and facilities in which the community can interact.

Economic or Financial Capital

Financial capital can be understood as the accumulation of wealth for a community's present and future development (Lorenz 1999). Financial capital is fashioned through monetary resources that a community has available for residents' entrepreneurship, commercial and professional development and overall civic progression (Lorenz 1999). Bourdieu argued that while economic capital is more than just money, economic capital is critically important to modern society. In fact, Bourdieu argued that economic capital is often the origin for all types of capital (Bourdieu 1986). Economic capital can transform into financial capital when it is converted into money or assets (Flora & Flora 2008). Like many other forms of capital, financial capital has the capacity to encourage economic growth and community development. Local communities' priorities often fare better when financial capital is achieved through multiple, local sources (Flora et al. 2004). Rural community scholars argue that rural communities should determine means of venture capital, retain existing financial capital and reduce risk within local investments (Fey et al. 2006.) It is difficult for rural communities to achieve these goals, mostly because it is often difficult for new businesses to survive (Bates 1990). Economic capital is important for a community's residents. It provides resources for civic needs like schools and streets as well as investments into private capital for present and future ventures, like farms, feedlots and agricultural related businesses (Flora & Flora 2008). Economic capital can be transformed into social capital and requires expending time or attention or enduring a process of exchange (Emery & Flora 2006).

In Great Plains farming communities, inputs can be understood as a form of financial capital- as financial capital can be understood in more ways than simply money (Flora & Flora 2008). Naturally, financial capital can be invested and used to produce money, or rather money can make more money. And yet, financial capital can be used to invest in or increase other forms of capital (Sharp et al. 2002). For instance, an equipment loan can be understood as a form of financial capital that is used to buy a more efficient irrigation system. Implementing a new form of technology improves one's human capital, as well as natural and built capital.

Family owned farms and feedlots are popular in Southwest Kansas counties as are many various types of businesses that service agricultural needs (crop consultants, aerial sprayers, insurance and loan officers, fertilizer and seed companies and so on). Although locally owned businesses in Southwest Kansas are not particularly diversified, these members have increased their financial capital by servicing the wealthiest industries of the area: farming and livestock care. Without receiving financial capital from one's family, farming is almost impossible- the start-up input costs are too high without some existing land ownership.

Political Capital

The political capital that a community utilizes should further residents' participation in community affairs and promote wellbeing throughout one's respective locality (Flora & Flora 1993). Community groups or subgroups within the residency may use their influence to manipulate the distribution of community resources (Rossi 1960). Political capital can be understood as a type of power that can be maximized by particular groups, modified through outside influences and often determine the community's path or future (Aigner et al. 2001). Popular or dominant cultural capital in communities often mirrors local political capital (Emery & Flora 2006). Popular cultural capital can often reinforce existing traditions. Political capital is

a type of social interaction that is not hierarchical- it is organized in a horizontal fashion- thereby encouraging communal trust (Turner 1990). In small, rural communities, Hyman and others found that individuals do not “rule” communities, rather the issues are managed by those informed on the subject (2001). Political power increases every time community participants get involved with community organizations or local government (Hyman et al. 2001).

In Great Plains farming communities, political capital can be found in community organizations and public school boards and city councils. In Southwest Kansas many small, rural farming communities have only recently adopted a Chamber of Commerce, which influences the economic trajectory of the community. Participants in Southwest Kansas Groundwater Management Districts (GMD) and Local Enhanced Management Areas (LEMA) enhance their individual and community political capital.

Human Capital

Human capital refers to developing social skills, acquiring knowledge or education or enhancing leadership skills (Flora et al. 1997). Human capital can be understood as the skills people must acquire to make a living, raise a family or improve one’s community (Flora & Flora 1993). There are many debates about what forms of human capital reproduces human capital best. Some scholars argue that education is most important (Flora & Flora 1991; Becker 1964) while others prefer the intrinsic value of human capital like health, self-esteem and intergenerational knowledge (Dreze & Sen 1995). One way of demonstrating the intrinsic value of human capital is to examine the how residents with higher incomes are overwhelmingly college educated, formally trained or have developed skill sets (Becker 1962). It is critical for a rural community to increase their human capital at pace with built capital so as to maximize economic development. Cultivating individual human capital improves the citizenry’s skills and

prepares for the community for prospective economic development (Blau 1964; Bates 1990; Coleman 1988). Major technological advances throughout the world have required increasing levels of training and advanced degrees to carry on means of economic growth (Carr & Krefalis 2009). Industries that require use of emerging technologies rarely set up offices or manufacturing plants in rural areas (Johnson 1996). This is due to a deficiency of large numbers of educated members in the local labor force (Flora et al. 2004). Clearly, this can impede rural community's capacity to attract new businesses and industries.

Human capital creates avenues for change by improving one's skills and abilities, ultimately helping people perform in new ways (Bates 1990; Coleman 1988). Parents' capital can certainly impact their children's acquisition of human capital through the environment in which children are exposed to skills and education attainment (Coleman 1998). In many Great Plains communities industrialized farming continues to be owned and managed by residing families. Industrial farming enterprises have a vested interest in acquisition and use of human capital, so as to sustain the family farm (Castle 1998a). Flora and Flora argue that employment as a type of human capital provides interpersonal interaction, making a living and sense of identity (2008). Farm knowledge is a critical form of human capital for farming families because it provides the socioeconomic skills to manage the family farm and embrace farm values.

Cultural Capital

Cultural capital is a socializing process in which values are verbally and non-verbally transferred. Cultural capital can be understood as the cultural interpretations or rituals and the way the world is observed (Hummons 1992). Cultural capital often functions in a symbolic nature, making its acquisition disguised when compared to economic capital (Bourdieu 1986). Families and communities impart cultural capital to younger generations with hopes to advance

education or socioeconomic status. Acquiring cultural capital can improve families' ability to increase social and financial capitals (Flora et al. 1997). Cultural capital is passed on through generations within the social institutions to support interpersonal connections and fortify values (Flora et al. 2006). Similarly to human capital, cultural capital is transmitted primarily through families, but also communities (Barth 2000). Flora and Flora argue that families in rural communities are especially aware of the job opportunities and class structure within their communities (2008). Principally, farming families and small business owners who require an heir for their life's work must ensure that their children have a healthy economic future. Cultural capital passed on from one generation to the next includes values like industriousness, illustriousness, self-reliance and hopefulness (Klamer 2002). Passing on family farms is a type of cultural capital, which includes farm knowledge like farming practices and business management skills.

Many young people have to leave their home for more urban areas. They do so to acquire necessary social and cultural capital like a formal education or job training; they also procure new and different forms of cultural capital. Many families spend considerable time and energy planning their children's future cultural capital and financial security through family farms and businesses. But, many youth desire to out-migrate or are forced to pursue jobs and education in other communities- thereby disinvesting in their community (Flora et al. 2004).

Place Attachment

Lewicka explains that a person's identity is partly derived from the interaction and affection they have with a place (2011). Someone's *home* is a place that people feel their most genuine personal emotional bonds (Anton & Lawrence 2014). For these reasons, I argue that place attachment is a type of cultural capital that is very important in shrinking Great Plains

communities. Place attachment theories are expansive and well documented within fields like cultural anthropology, sociology, psychology and cultural geography throughout the last few decades (Altman 1992; Dominy 2001; Stedman 2002; Stedman 2003; Corbett 2007). The relationship between an individual or group of people and a location has been discussed by many names: rootedness, belongingness, sense of place, insideness and so on (Gieryn 2000; Giuliani 2003). Psychologists, Low and Altman describe place attachment as an emotion tie that exists between a place and a person (1992). A place exists in a unique and irrefutable position in the world and is typically regarded as a physical locality that makes up the material and natural world. Developing members' 'sense of place' or attachment to their place requires a community in which to construct an identity. Cultural anthropology emphasizes the feelings a place invokes, the elevated meaning a place has to someone (Milligan 1998; Rubinstein & Parmelee 1992). Symbolic interactionist viewpoints explain that residents transform spaces into places by symbolically created meanings derived from objects existing in the physical environment (Giuliani 2003). Feelings of belonging influence members' identity construction can be formed and maintained through engaging in behaviors and rituals that connect people to their landscapes (Hay 1998).

Place attachment in Great Plains communities, can be understood through members' identity, community belonging and the role of the physical environment (place). Place attachment has been explored with regards to natural environments (Gray 2003) or built environments (Low 1992). Being born and raised in a place, married into a household or residing in a specific place for an extended period of time all contribute to feelings of place attachment, specifically genealogical attachment (Marshall & Foster 2002). Even family narratives and stories add to the cultural milieu that connects people to a specific environment

(Rowles 1990). Engaging in the shared symbolism within the community or sustaining the figurative boundary actually serves to preserve the community itself. For instance, isolation and ruggedness of some geographic regions contribute greatly to the making of people and to the making of a place (Sampson & Goodrich 2009). Cohen argues that communities create symbolic boundaries and determine factual or alleged distinctions between their community and outside communities (1985). In Great Plains communities, community identity is often created and maintained by the collective understandings or values surrounding agriculture (Barth 2000). In farming communities, a place is inseparable from its traditions and customs and residents form other bonds and attachments through agrarian activities.

Sampson and Goodrich argue that the role of attachment to a place contributes to community cultural production, or forms of social, cultural and human capital (2009). Place attachment will be considered in this study as a form of *cultural capital* because of the communal and cultural influences one's place has on one's identity. Possessing high levels of attachment to one's place is a form of community cultural capital because it influences residential choices and consequently, the demographic trajectories of small, rural farming communities. Many aspects of rural life, like lack of access to services and opportunities can encourage out migration. So, loss of youth is an issue in the Great Plains region. Adolescents who are raised in rural areas often grow up experiencing tension between their desire to acquire metropolitan social experiences like occupational and educational opportunities and attachment to their rural communities (Petrin et al. 2011). Recent works cite that many rural high students find it in their best interest to pursue urban areas away from their hometowns (Corbett 2007) so many rural communities lose their brightest youth- permanently. Youth require precious

resources throughout their early years and leave the community before they can contribute more socioeconomic resources to the community (Carr & Kefalis 2009).

Natural Capital

Natural capital is tied to a geographic space or a physical locality that accounts for a location's weather patterns, natural resources and scenic amenities (Flora, Flora & Fey 2004). Examples of natural capital within Western Kansas refers to land, aquifer thickness underlying land, premiere topsoil, rain, wind (as it relates to energy production) and natural gas supplies from the Hugoton gas field. Cultural capital is influenced by natural capital as a culture is influenced by qualities of its space. A space is often transformed by the values of the settled culture (Pretty 1998). Agriculture in the Great Plains requires a large amount natural capita, particularly in Southwest Kansas. In Southwest Kansas, natural capital is hyper-extracted to convert to financial capital which can be used to attain built, economic, social, human and cultural capital (Flora et al. 2004). Natural capital is generally understood by economists to be an added value to a community. However, Goodland and Daly explain that natural capital cannot continue to be perceived as "free goods" and treated as the often limited resource it can be in long-term community development plans (1996).

Social Capital

Social capital is a network of relationships and acts of establishment that sustain and strengthen social interactions, which involves tangible or prospective resources (Bourdieu 1986). These exchanges produce acknowledgment and acquaintance and ultimately reproduce membership to the community. These relationships may involve symbolic or material value to sustain them, or they could be socially established or assured by family name, socioeconomic class or community (Coleman 1988). Institutions within larger society inform desired exchanges

thereby establishing socially acceptable or legitimate conduct. Producing suitable practices or occasions in which homogenous members of the community form groups allows institutions to exclude undesirable exchanges (Coleman 1990). In order to reproduce recognition, time and energy is expended through an unremitting sequence of interactions and perpetual labors of sociability (Coleman 1990). Social capital is a symbolic venture and the interaction does not have to include economic capital or some sort of profitability (Portes 1998). Bourdieu suggested that accumulating social capital can be highly productive when its utility is exercised and often improves procurement of other forms of capital, like cultural and economic (1986). Social capital is accumulated through relationships that are elective, mutually obliging and obligating. Individual and communal interactions produce a network or system of members that institute and replicate social capital in diverse relationships within families and communities (Woolcock 1998).

Agricultural industrialization has changed the nature of social capital within farming families. Yet the collaboration between members of farming families continues as does the mutual trust (Castle 1998a). Forms of social capital in Great Plains farming communities include matters such as socioeconomic status as a landowner, social relationships with community members and protraction of agricultural lifestyles. From a broader perspective, leaders of economic development in farming communities are responsible for determining the impacts of agricultural industrialization and its influences on rural community capacity to manage future problems (Castle 1998a). Rural communities in support of entrepreneurial efforts and local businesses may enjoy employment expansions and built capital (Emery & Flora 2006). Social capital with an entrepreneurial focus should promote internal and external actors or networks that work to mobilize local resources through innovative methods (Emery & Flora

2006). Capital begets capital-as entrepreneurial capital grows, so does political and cultural capital. Improvements in local incomes can have positive implications for families' social and human capitals (Flora et al. 1997; Svendsen & Svendsen 2003).

The Capitals Framework includes seven types of capital: built, economic or financial, political, human cultural, natural and social capitals. The capital model was developed to understand how healthy, sustainable communities function. Flora and Flora argue that sustainable community development requires all seven types of capital. This theoretical model is useful to this research project because it demonstrates how and why individuals acquire capital. For instance, farmers obtain natural capital to transform it into economic capital, which can increase or improve social and cultural capital. Likewise, possessing human capital is required to reproduce some forms of economic and cultural capital. Community members' capital contributes to the community's capital and the community's capital shapes members' capital. The Capitals Framework is useful to this study because it demonstrates that when a community or members prioritize particular kinds of capital over others, a community may develop unsustainably. Arguably, in Haskell County, natural, economic and cultural capital are prioritized over other forms of capital. Specifically, irrigated waters (natural capital) permit agricultural economic development (economic capital) and family farming and rural, agrarian lifestyles (types of cultural capital) support agricultural community development. The Capitals Framework explains members' motivation to hyper-extract from the aquifer to acquire socioeconomic forms of capital. This model informs the relationship between environmental change, economic development and social changes from a micro level perspective. In the next chapter, the methodology of this project will be explored.

Chapter 3 - Methodology Section

Research Methods

I used qualitative research methods to gather my data. I employed a mixed methods approach that included secondary data such as statistics from U.S. Department of Agriculture, indicators from the Census Bureau and former case studies conducted by Bell, Mays and Bloomquist & Williams. Primary data was gathered from anecdotes, stories and experiences collected from interviews for this study. I conducted semi-structured interviews with key members of the community, such as the extension agents, local farmers, chamber of commerce members, city council members, various leaders of non-profit agencies, local business owners, employees of the feedlot sector.

Haskell County was selected because of two reasons. First, Haskell County represents an example of a typical rural farming community in the Great Plains. Haskell County is a hyper-extractive community that has an almost entirely agricultural economy and has suffered through demographic booms and busts. Secondly, Haskell County has been studied by three previous authors throughout the last several decades: Bell in the 1940s; Mays in the 1960s and again by Bloomquist and Williams in 1996. This series of independent collections work together to create a historic ethnography about Haskell County, Kansas. I made initial contacts within the community and then employed the snowball method to earn referrals for proceeding interviews. The snowball method suited my research style well because I was able to develop trust with my initial interviewees, which, in turn, benefited my snowball method. The “snowball sampling” approach depends upon networks-professional, family and friendships to gain access to additional interviewees (Bernard 1988; Stratford 2000). The way in which participants were identified is a limitation in a sense that the sample was not randomly selected, which prevents

generalizability or replicability of this study. The original sample of interview participants was collected through an interview participant's professional contacts. I extended an interview invitation to the entire network. Seventy-five percent of the network agreed to an interview. I then selected 12 participants, who, I believe possess a wide range of experiences related to environmental, economic and social life in Haskell County.

I divided the 10 interviews I conducted between the two most populated towns in Haskell County, Sublette and Satanta. The shortest interview lasted for 1 hour and 20 minutes and the longest 4 hours and 30 minutes. The age, gender, level of education and socioeconomic status of my participants was diverse. All the interviewees were white, English speakers. Residents can be considered true experts of their place of residence, their *place* (Salter 2001). Cary de Wit is a successful researcher within the High Plains communities and believes in putting residents at ease through starting the interview like a conversation (2003). Embracing a comfortable, casual tone within the interview atmosphere permits the respondents to simply 'tell their story' (de Wit 2003). Through these approaches, I believe that I was able to develop trust with the interviewees.

I used a set of interview questions which inquired about their personal and familial histories, means of earning income, social environment, opinions about the aquifer, types of attachment to Haskell County and expectations concerning the community's future. Throughout the interviews, I was able to connect with the participants, develop flexibility and deliberate the topics in a free flowingly manner (Weiss 1994). Marginally veering from my interview questions provided enlightening and pertinent research information (Emerson 1995). Qualitative interviews offered a means to acquire *thick description*. Dense analysis is important because it generally improves reliability within a qualitative research project (Katz 2001:142). The

analysis must be made dense to make the data representative, to claim, in other words, that the study is generally useful (Katz 2001:42). Employing thick description can be understood as noting all behavior, even a “speck of behavior” or a “fleck of culture” (Geertz 1973:3). The difference between thin versus thick description is where qualitative research strategies are produced, perceived and interpreted (Geertz 1973:3). Reliable qualitative data can be found in thick descriptive field notes that document a simple physical behavior such as a wink into a *cultural category*. After all, without thick description a wink is only a simple eye twitch (1973:3).

According to Katz, *representativeness, reactivity, reliability and replicability* must be identified to create proficient qualitative studies (1982). Representativeness refers to the chance that this study can be generalizable to other similar populations. My respondents represent a range of residents in Sublette and Satanta distinctive by income earnings, occupations, sex, and educational experience, length of residency, family history and attachment level to Haskell County. Although, statistically speaking, these interviewees are not representative of the population. According to Katz, “analytic research rests the external validity of a study on its internal variety” (1982 p.134). The more differences or *negative cases* discovered in my data “the more broadly valid my resulting theory” (Katz 1982 p.134). Achieving objectivity during data collection and analysis, or reactivity is difficult in qualitative investigations. As there is no data collection design in qualitative methods, there is an inherent struggle, yet it is necessary to practice reactivity. Katz argues that the way respondents react to the researcher herself and to her data collection methods, can be used as data (Katz 1982). Throughout my experience as an interviewer, I noticed the initial distrust my interviewees felt upon first meeting- but, I was able to gain their trust.

Using Katz's advice, I concerned myself more with sociological imagination than objectivity to glean the expectations my respondents have for my research and myself as a researcher (1982). Practicing reactivity also speaks to awareness of how a researcher's presence impacts respondents. In my particular research, I was aware of how my age and perhaps my education and sex affected my respondents. Being younger than most of my respondents required constant reactivity about how I was perceived. I would argue that my age, sex, experience with farms and affiliation with Kansas State University all provided points of connection or qualities of a perceived genial nature. Reliability refers to the quest for *negative cases* and drives the researcher to seek analysis that combines "propositions and data into an intricate network" (Katz 1982 p.140). These concepts speak to an overarching obligation of the researcher to develop a seamless relationship between her theoretical explanation and data (Katz 1982). Katz speaks to this as *analytic induction*. Katz argues that every negative, or disconfirming case encountered within my data must be transformed into a confirming case by "revising the definition of either the explaining or the explained phenomenon" (1982 p.129). With that said, I must revise my explanandum or explanans within my study to utilize all negative cases I encounter (Katz 2001).

I created a varied schedule of open-ended interview questions that prompted diverse responses from a wide-range of participants. I argue that community capital theories speak to all of the data collected from my participants. But, if there is any unsupported data discovered, then I must qualify my themes and produce evolved theoretical proposals (Katz 1982).

My study is a type of case method study that provides insight about the environmental, economic and social experiences of residents within a single Southwest Kansas community, Haskell County. I will use the "Dust Bowl to Green Circles" case study to provide historical

perspective of the relationship between environmental, economic and social factors. This case study includes three studies that were written subsequently, over a 50 year period. It creates a type of ethnography about Haskell County. My study is much smaller than the previous ethnographies about Haskell County, but it provides information about residents' experiences in the Southwest Kansas region and Haskell County in particular. My research will investigate environmental, economic and social change in Haskell County. Haskell County was selected because of previous authorship that documented change over time within the community and also because Haskell is one of the most productive and extractive family farming communities in the Great Plains Region.

Case Study Method

Many methods used in qualitative research are respected by researchers from several social science fields; they include theories like ethnography, grounded theory and phenomenology. The case study method has been considered less rigorous or weaker than other social science research methods (Anthony & Jack 2009). Yet, this is misleading due to the fact that the case study method has been used in anthropology, education, sociology, psychology and sociology (Anthony & Jack 2009; Bergen & While 2000; Yin 2003). The case study method accommodates circumstances in which the researchers has marginal control over the research setting, yet there is emphasis on real life phenomena (Yin 2003). The strategy of the case study method is to resolve questions that answer "how" and "why" (Yin 2003).

The case study method was utilized in this study to develop limited generalizations about environmental, economic and social change in Haskell County, Kansas. In addition, the case study method was used to produce limited generalizations about what Haskell County residents expect in their community's future.

Many scholars explain the efficacy of the case study method (Orum et al., 1991; Ragin 1987) as useful to researchers concerned about interpreting specific cases and come to a general understanding of the phenomena through explanation as opposed to prediction (Salamon, 1996; Kaarbo & Beasley, 1999). The case study method employs qualitative data that is an intensive, descriptive approach that can offer insights about a small number of subjects. In consequence, this method is not meant to be a statistical representation of a large population (Johnson 1996; Salamon 1996).

Case studies use numerous qualitative methods to collect data pertaining to interviews, observations, and content analysis (Jick, 1979; Kaarbo & Beasley, 1999). Research that is primarily qualitative in nature brings about findings which produce rich data. Replication is generally an expectation within research -with intention to produce comparable data- but, replication is too difficult to achieve (Ragin 1987). Despite being too problematic to replicate, Weiss explains that qualitative data is premiere to quantitative data in terms of vividness, information density and clarity of meaning (1968). To collect data that possesses characteristics of a vibrant and rich source, this study builds off interviews with key informants to enrich the analysis of environmental, economic, social, historical and demographic considerations. The qualitative nature of this study permitted a unique perspective of residents' views concerning their social and economic lives with respect to their attachment to their community, views on aquifer use and some expectations of the community in the future.

Gathering research data can be achieved through many forms despite whether it is possible to achieve convergence within the case study data (Jick 1979). If the results produce conflicting results there will be alternative or more intricate accounts for the findings. Yet, divergent results can be expected to produce enhanced accounts of the research objectives being

pursued (Jick 1979). Jick also claimed that qualitative research methods are more inventive than many research methods because it usually produces rich data (1979).

Analyzing rich data in the field benefits the researcher as they are able to draw personal observations and impressions within a particular research setting (Jick 1979; Salamon 1996). Throughout this study, the interviews conducted with key participants provided knowledge of the shifting environmental, economic and social aspects of Haskell County, Kansas. Ragin argued that the case study method inspires researchers to inspect research cases as complete units, or unabridged entities (1987). Ragin also affirmed that the case study methods should not be utilized with intention to describe variation in the sample, but rather to define configurations or patterns of consistent association via a methodology that enhances the relationship between evidence and creative thinking (Ragin 1987). In fact, case studies have been considered invaluable in describing victories and disappointments throughout the process of community development (Johnson 1966). The case study method also sheds light on improvements that can be applied to future research projects (Johnson 1966).

A criticism of the case study method is the assumed lack of strength within the sampling logic. Replication logic may dictate that multiple case studies should be employed so as to bolster to robustness of the sample (Yin 2003). The idea is that a researcher discovers a finding in one case study and then proceeds to replicate said finding in a separate experiment. Succeeding case studies will find either diverging or equivalent findings-but with logical substantiation (Yin 2003). Yin explains that you can improve the results of a study by replicating each case within a multiple-case study (2003). Through this process, researchers are able to develop and expand social science theories (Yin 2003).

As detailed earlier, the case study method has been considered less scientifically rigorous, but this is not necessarily an accurate assessment. The case study method is able to collect information about the relationships and connections that are lost in surveys and other experimental strategies (Yin 2003). Construct validity can be achieved through utilizing various sources of evidence, a logical chain of evidence and through verifying particular evidence with many participants. Internal validity can be achieved through building explanations, matching patterns and embracing opposing explanations. External validity is upheld through dependence on theory in a single case research study and via replication logic throughout a multiple case study. Reliability can be achieved through prescribed case study protocol. For these reasons, the case study method can be considered an appropriate method within empirical social research, particularly this study (Yin 2003).

Human Subjects Review

The Committee for Research Involving human subjects (IRB), Human Subjects Research Protocol Application Form was submitted to the University Research Compliance Office (ORCO) at Kansas State University (KSU) in Manhattan, Kansas for the purpose of obtaining a master's thesis.

Chapter 4 - Haskell County, Kansas

From Dust Bowl to Green Circles: A Case Study of Haskell County, Kansas

From Dust Bowl to Green Circles: A Case Study of Haskell County Kansas is a collection of publications that creates a type of ethnography covering the environmental, economic, social and historical conditions of Haskell County Kansas since the 1940s. The opportunity to study a single rural farming community over several decades of social, economic, demographic and environmental change is exceptional. I will discuss each author's findings in 1940 (Bell), 1965 (Mays) and 1992 (Bloomquist & Williams) who have contributed to the multi-part ethnography of Haskell County, Kansas. Each publication marks the changes that have developed since the previous study. The findings from each author will be summarized and briefly discussed.

Bell, 1940s

Bell chose several major forces that he believed shaped the Sublette Community in the 1940s. These included environment, federal government programs, development of agriculture and human psychology, class stratification, spatial patterns in community, centers of social interaction, the Haskell County "Community," patterns of social interaction, the family as a social unit, the role of schools as formal institutions, the role of churches as formal institutions, social participation of men and women and the role of government. These variables were evaluated again in the proceeding studies, along with a few additional variables. Bell found the *environment* to be a major concern because despite the fact that the soil is rich and the topography is ideal, rainfall is minimal and droughts were frequent (Bloomquist & Williams 1996). *Federal government programs* like the Homestead Act settled the Haskell County,

Kansas area (Bloomquist & Williams 1996). Federal government programs stabilized the economy throughout the late 1930s and early 1940s by providing payments that accounted for 50 percent of agriculture gains (Bloomquist & Williams 1996). Setbacks within agricultural development influenced the *human psychology* of the citizenry. Before irrigation, success in agriculture was attributable to either “fate or luck” (Bloomquist & Williams 1996). In 1940, *class stratification* was very minimal, as the farmers were mostly monoculture wheat farmers of similar income strata (Bloomquist & Williams 1996).

Dodge City is northeast of Haskell County, while Liberal lies to the south and Garden City is situated to the north. Unfortunately, *Haskell County’s location* amidst these larger cities pulls financial resources and residents away from the small town (Bloomquist & Williams 1996). The *centers of social interaction* within Haskell County were minimal in the 1940s. At the time, there were only religious groups, such as Mennonites, or the Church of God that created affiliations within the community (Bloomquist & Williams 1996). Bell discovered that local residents shared one commonality that tightly bound them together-as *the Haskell County Community*: economic dependence on agriculture ventures. *Patterns of interaction* within the community evolved into a more independent two-family basis, departing from “the whole neighborhood cooperative pattern...” (Bloomquist & Williams 1996 p.11). Bell learned that modern society had transformed immediate and extended families into the primary social and economic unit within the area (Bloomquist & Williams 1996). Schools were a crucial *location of social interaction* and an institution of community interest and control. Schools replaced churches as the primary arena of social engagement (Bloomquist & Williams 1996). *Women* were especially involved in these formal institutions. Church and school activities were largely run by women and girls. Men were marginally involved in such matters and boys were pushed

towards undertakings concerning future or current income generating activities (Bloomquist & Williams 1996).

The final component Bell studied was the *role of government* in Haskell County community. The local government in Haskell County was favored by the residing citizenry, but was unable to solve crucial economic recovery issues. State programs and federal programs that distributed financial aid to farmers that helped stabilize the regional economy. The aid distribution was well known amongst Haskell County residents and appreciated. Local government was very influenced by historic families who traced their lineage back generation after generation to Haskell County; they had great sway over local elections.

Mays, 1960s

William Mays was the next scholar to study the forces of influence that have shaped the Haskell County community. The fourteen different variables that were studied in the 1940s were studied again in 1965. There were a few additional forces of influence that were studied by Mays, such as *residence of farm families, groups of farm operators etc.* Mays found change within the *environment* to be the most transformative difference within the community. Previously, the single missing component of economic success in agriculture was rain, but pump engineering deflected this deficiency. The development of irrigation technology paired with flat landscapes, vast groundwater and natural gas resources created premiere conditions for irrigated crop production (Bloomquist & Williams 1996). Irrigation wasn't easily accepted in the county; in fact, it took a four-year drought from 1952-1956 for community members to be willing to accept irrigation (Bloomquist & Williams 1996). By 1965, over 204,000 acres of farmland were irrigated and this change created economic permanence for the community (Bloomquist & Williams 1996). Due to the new agriculture stability in the area, *state and federal government*

programs lessened their monetary assistance. Nevertheless, government programs changed the trajectory of *agriculture development* within the community. Haskell County agriculture transformed from monoculture wheat production to more diverse crop production. Agriculture also changed from a “seasonal venture” that most residents executed, to agribusiness dominated. The *human psychology* of the local residents changed from ‘striking luck,’ to economic rationality and the degree of individuals’ efforts (Bloomquist & Williams 1996 p. 14-15).

Mays found differences among the 1940s and 1960s in relation to *class stratification*. There was limited class variation among the populous in the 1940s, but Mays found distinct economic classes during his research. The top class was “held by the successful farmer capitalist” (Bloomquist & Williams 1996 p.15). The middle class was wide-ranging and included farmers who rented land, civic employees, shop keepers etc. (Bloomquist & Williams 1996). The poorest class was composed of various wage laborers and poor families (Bloomquist & Williams 1996). Mays discovered a new community power structure led by the ‘successful farmer capitalists,’ who exercised governance in school and church boards, local government and community activities (Bloomquist & Williams 1996 p.15). Invariable leadership within all local institutions created a power elite who wielded intertwined economic and social dominance over the community (Bloomquist & Williams 1996). Increasing economic development, within both Sublette and Satanta, changed the spatial patterns in the community to more inwardly focused (Bloomquist & Williams 1996). Sublette concentrated on irrigated farm production and local government activities and Satanta focused on oil and gas development (Bloomquist & Williams 1996 p.15). Residents of Haskell County evolved their *spatial influence* by commuting to entertainment opportunities in larger surrounding cities. However, most *social interaction* among residents was focused within Sublette and Satanta (Bloomquist & Williams 1996).

The *Haskell County* “community” changed in the 25 years between the studies, largely due to the rising distinction between socioeconomic classes. With that said, the residents continued to share commonality within agriculture and rural living, although the number of rural-farm population dropped from 57.5 percent in 1940 to 33.9 percent in 1965 (Bloomquist & Williams 1996 p.16). Much of the population not engaged in agriculture, worked in the oil and gas industry in the western portion of the county (Bloomquist & Williams 1996). Families continued to dominate *social interactions*; visits with neighbors became substantially less frequent and meetings with friends occurred mostly at sporting events (Bloomquist & Williams 1996). Although the *familial unit* continued to be the strongest bond of social interaction in 1965, education and economic pursuits stimulated familial outmigration. Socialization of children occurred beyond just parental influence and school and church activities became the sole sources of social interaction within many families. This is likely attributable to rising individualism Mays discovered when he studied *the functionality of the family unit*. Family cohesion gave rise to individual self-interest, particularly within younger generations (Bloomquist & Williams 1996). ‘Christian morality’ and general ethical standards continued to be highly valued priorities amongst community members (Bloomquist & Williams 1996 p.17). Mays found several changes among *men and women’s social participation*. Bell’s study discovered that typically women were in leadership positions within the community, whereas Mays found that men were much more active than women in positions of responsibility (Bloomquist & Williams 1996).

Mays studied the *residence of farmers* in 1965 because Bell found that community members looked down upon ‘suitcase farmers in 1940.’ ‘Suitcase farmers’ are understood as those who have inherited farm land, but live outside Haskell County. In 1965, community

attitudes concerning “farm-resident” and the ‘suitcase farmers’ were not differentiated (Bloomquist & Williams 1996 p.18). It is possible that this attitude change came from the fact that many farmers moved their families to reside in a more populated locale (Bloomquist & Williams 1996). Mays found there to be 3 different *groups of farmers*: traditionalists, experimentalists, and rationalists. These groups were classified based on interest in adopting innovative technologies and planting diverse crops (Bloomquist & Williams 1996 p. 18). Traditionalists were wary of irrigation and possessed the mindset of “luck or fate,” which was highly attributable to the 1940s. The experimentalists group were local, small time farmers like the traditionalists, but willing to experiment with county extension knowledge, soil experts and irrigation techniques. They devoted some of their land to crop diversity experiments (Bloomquist & Williams 1996). The rationalists were agribusiness farmers. They used irrigation because watering their crops was not left to Mother Nature, but they only planted crops proven to grow well.

Bloomquist and Williams 1990s

Duane Williams and Leonard Bloomquist studied Haskell County again in 1994. They found discovered several changes within the community since May’s publication in 1968. The *environment* did not change; however, the way the environment was used did change. Rain patterns did not improve, but a vast amount of groundwater and natural gas resources were used to improve crop production. Improved crop production led to greater feed grain availability, which attracted cattle feedlots that ultimately enticed beef packing corporations to set up several plants in the Southwest Kansas region. The environment, specifically the *natural resource base*- the Ogallala Aquifer and the Hugoton gas field- is the foundation of the economy in Haskell County (Bloomquist & Williams 1996). While the economy within this largely rural area is

strong, it is situated precariously on non-renewable resources. Irrigation levels steadily climbed from 1950s to 1970s, making Haskell County the most intensely irrigated farmland in Kansas (Bloomquist & Williams 1996). Water availability allowed farming to become more intensive and more diversified. With irrigation farming became a year round job instead of intense work for half the year during dryland wheat production (Bloomquist & Williams 1996).

Agriculturally dominant counties have significantly declined in population throughout the state and the surrounding Great Plains region. Haskell County has endured this depopulation trend and has exceeded state and national norms in growing length of residency (Bloomquist & Williams 1996).

Although Haskell County's employment rates exceed the state average, the Haskell County's "narrow economic base is reflected in its income levels" (Bloomquist & Williams 1996 p.26). The county's per capita income has been unpredictable and various, but it generally above state and national averages (Bloomquist & Williams 1996). From 1969 to 1992, Haskell County reported both the "highest and lowest per capita incomes in Kansas," but high per capita incomes were much more frequent (Bloomquist & Williams 1996 p.26). Haskell County farmers have been able to retain a larger proportion of farm ownership and have generally maintained the size of their farms, which indicates moderate agribusiness occupation (Bloomquist & Williams 1996). The county's agricultural employment is shocking, as it was actually increasing during the 1990s, as opposed to the harsh decline among state and national averages. Agriculture employed one-third of the county workforce, ten times the national average (Bloomquist & Williams 1996).

All of this economic success is juxtaposed against the declining water levels of the Ogallala Aquifer. By 1991, out of all the irrigating counties in southwest Kansas, the water table

drop was the most severe in Haskell County (Bloomquist & Williams 1996). Some of the wells have already been drained beyond the point of usefulness and local natural gas production is sometimes costly and inconsistent (Bloomquist & Williams 1996). These factors make irrigation less feasible in Haskell County. Farmers and local residents are concerned about the declining water supply. This concern stimulated Haskell County's participation in the Groundwater Management Districts, (GMD) quasi-public institution that uses meters to keep track of water use (Bloomquist & Williams 1996 p.27). Groundwater Management District is tolerated in the community because farmers understand the precarious condition of the aquifer, but they resent the government intervention (Bloomquist & Williams 1996 p.27).

Federal government program assistance was spoken of fondly by many farmers who remembered the assistance previously provided. Through interviews conducted by Bloomquist and Williams, residents explained contradictory feelings about government assistance and “preserving individual freedom” (1996 p.27). Local control over decision-making concerns residents- particularly in light of government assistance. *Development within the Agricultural Sector* in Haskell County was transformative since 1940. Improvements in mechanization, more hired labor, use of different crop hybrids and fertilizers, less regulated energy sources, better marketing strategies and even more government regulations have supported agricultural success. Successful modern farmers must have superior management skills, not simply crop production knowledge. This ‘management know-how’ is necessary mostly due to the plethora of paperwork and tax documentation that is required for federal assistance. For a few decades, Haskell County was one of the few counties in the country whose farms were not shrinking in size or declining in number. This was largely due to labor intensive irrigation. Yet, the farm crisis in the 1980s and

issues within irrigation reduced the number of farms and increased their average size, exceeding state and national averages (Bloomquist & Williams 1996).

The residents of Haskell County largely maintained the same *human psychology* of generations past, which is progressiveness within farming and stability within the social sphere. The community continued to be led by successful, wealthy farmers who were born and raised in Haskell County (Bloomquist & Williams 1996). The middle socioeconomic group was largely made up of business managers and professionals who are not lifelong residents. The latter group, tries to encourage business and community development, with opposition from the capitalist-farmer group (Bloomquist & Williams 1996). This has created a struggle between these two opposing groups, straining the collective conscious within the Haskell County community. *Class stratification* within the community likely influences the local human psychology. The capitalist-farmer group continued to be the top socioeconomic class within the community which may assist their social and economic agenda (Bloomquist & Williams 1996).

Satanta and Sublette within the *Haskell County community* have developed with a few key differences. Santana's amenities, like premiere schools and health care facilities are possible because of the tax levy earned from the natural gas resources in the western region of the county (Bloomquist & Williams 1996). Satanta residents do their shopping in their local community, which Sublette community residents do not feel exists in their community (Bloomquist & Williams 1996). Satanta has grown into a diverse community and residents reported generally high satisfaction with their residence. The residents within Sublette were still interested in maintaining the cultural homogeneity of their community. Both locations have experienced Mexican immigration, but in Satanta these newcomers live integrated within the community (Bloomquist & Williams 1996). There are strong levels of personal attachment in both

communities. About 75 percent of interviewees said they are acquainted with over half of their community and less than 25 percent of residents have no family in the area. While this level of community connection furthers place attachment, new residents who cannot trace their family heritage back several generations do experience an ‘outsider feeling’ (Bloomquist & Williams 1996 p.35).

The family unit continued to be just as critical to the citizenry as in studies past, but there were some changes that occurred. For instance, women worked outside the home much more than studies past and families met many times a year. Farming without family assistance is considered nearly impossible and it has been almost two decades since an independent farm started up (Bloomquist & Williams 1996). The family continued to be the most important social unit throughout all the studies. The *roles of schools and churches* continued to act as *formal institutions* within the county. The school system ranked first and churches the third most socially engaging place of interaction (Bloomquist & Williams 1996). The *role of women* within the county as changed due to more women working outside the home, as noted previously. Farm wives’ contribution continued to be immense, estimated at 20-25 thousand dollars saved from paying outside laborers (Bloomquist & Williams 1996 p.37). Women continued their civic leadership roles, which provides some notoriety within the community, but this does not compensate the general lack of employment opportunities for women (Bloomquist & Williams 1996 p.37).

There were a few more variables that Mays and Bloomquist and Williams studied, one of which is *residence of farm families*. Residents who presided within the non-city usually were younger, traditional families who farmed. These young couples replace the aging farmers who migrate to the city limits after they retire (Bloomquist & Williams 1996). There was much less

differentiation between the *Groups of Farm Operators* (Traditionalist, Experimentalists and Realists) now than previously; generally, the only differences now is willingness to embrace technology developments. There are a few extra variables that Bloomquist and Williams studied, one of which is the *effects of water availability*. Bloomquist and Williams found that “people are well aware that the county is basically mining its resources” with increasing energy costs (1996 p.39). People are reliant on technological solutions. Interviewees explained how center pivot systems replaced flood irrigation and how moisture conservation will postpone the inevitable demise (Bloomquist & Williams 1996). Due to the risks associated with purchasing land, many farmers prefer to rent for dryland wheat production (Bloomquist & Williams 1996). Utilizing the natural resources base, *community progress* has made remarkable jumps from the Dust Bowl. It is likely that at least the Ogallala Aquifer has already *peaked*. This means that economic development will peak unless more *economic diversification* occurs (Bloomquist & Williams 1996 pp.38-40). The county needs new leadership to transition the economy towards more than simply agriculture, perhaps using Haskell County’s central location amongst three regional centers.

Overview of Haskell County, Kansas Today

The area that now makes up Haskell County is located in The Great American Desert. When territories were formed into county lines, Haskell County was originally located in Finney County before it became its own township (McClure 1988). When Haskell County was established in the late 1890s, the region was populated with pioneers who came to create homesteads (McClure 1988). In efforts to settle Southwest Kansas in particular, 160 acres was awarded in exchange for 5 years of settlement (McClure 1988). Haskell County is located in Southwest Kansas and lies adjacent to Finney, Grant, Seward, Gray, Stevens and Meade

Counties lie adjacent. Haskell County is 578 square miles and the largest town in the county and county seat is Sublette. Haskell County Township includes Sublette, Satanta and Copland. The 2010 Census found that the county population is 4,256 residents. The unemployment rate is relatively low at 2.6 percent. A Mennonite population comprised of three families moved from Manitoba to Meade, Kansas, in 1915, thereby establishing a diaspora- which is a fundamental demographic of these largely homogenous communities. By 1916, these Mennonite families moved to Satanta for livestock opportunities (McClure 1988). One of the families bought 3 quarters of land, whose revenue helped fund a Mennonite church, school and a small community (McClure 1988). The Mennonite population has been an established and growing settlement in Haskell County history and is a key point of discussion among interviewees. Interviewees' call this population, *German Mennonites* and a more recent Mennonite settlement, *Mexican German Mennonites*.

Haskell County suffered through several cycles of population boom periods followed by drought conditions and population bust cycles (McClure 1988). Worst of which and most infamous, is the Dust Bowl. The Dust Bowl is a fundamental piece of Haskell County history. Most of the interviewees I spoke with had ancestors who survived the whirling winds and soils of the 1930s. The experiences of the Dust Bowl fundamentally changed attitudes and behaviors about irrigation practices. The Dust Bowl destroyed the livelihoods of thousands of farmers in the southwest Kansas region. Before the *Dirty Thirties* farmers had regarded irrigation as a supplemental water source second to precipitation (Beaumont 1985). After withstanding disastrous environmental, economic and social consequences, access to plentiful water supplies (and suitable soil) became a staple in commercial farming. The county grew wealthier from its natural resources like the Ogallala Aquifer and the Hugoton gas field- both one of the largest

sources of their respective kind. Access to the Hugoton gas field provided families with cheap natural gas and later, royalties when the field became controlled by large corporations (Bloomquist & Williams 1996). Land owning residents still receive gas royalties, but now many farmers in Haskell County receive rent from wind farms developed by Westar Energy.

Counties like Haskell and Grant have a history of heavy pumping, which demonstrates their agricultural focused economies and dependence upon groundwater. For instance, by 1978, most farmland in Haskell County lost 20 to 40 feet of aquifer depth, but some farmland lost up to 100 acre feet (KGS 1979). In Grant County, the pumping was more intensive and hundreds of square miles lost 100 to 170 feet of groundwater to irrigation (KGS 1979). Historically, counties like Finney and Seward have not pumped as deeply. From 1940 to 1978, groundwater under farmland in Finney County lost less than 60 feet. Seward County had many square miles used for farmland, but 50 percent of aquifer loss was less than 10 feet (KGS 1979). Pumping groundwater causes the depth to water distance to increase. By 1978, depth to water in Haskell and Grant Counties wells was over 300 feet (KGS 1979). Currently, depth to water levels in many Haskell County wells ascends to almost 700 feet (KGS 2014). If many Haskell County wells go dry, it could have major economic consequences for this community.

The agricultural industry has grown in Haskell County, contrary to the declining state of agriculture across the United States (Bloomquist & Williams 1996). The number of farmers continues to decline in Haskell County, but work in fields related to agriculture or industries servicing agriculture has grown. Haskell County is a relatively small county in terms of land area, at around 369,613 acres, but 98.4 percent of the county (363,603 acres) is used for farmland (USDA 2014). Larger, adjacent counties like Finney are approximately 833,261 acres and 97.9 percent of these acres are for farming (USDA 2014). Similar sized counties in Eastern Kansas,

like Riley County has around 390,254 acres, while farmland comprises only half the county land (USDA 2014). Most of the land in southwest Kansas counties is used for farmland, which demonstrates that cultivation of the environment is a fundamental part of these counties' economies. Finney County has 499 farms and based on the acres used for farmland, we could presume that the average size farm is around 1,600 acres (USDA 2012). If we estimate average farm sizes in Haskell County in the same fashion, Haskell County's farms are closer to 1,900 acres per farm. Haskell County has higher market value in livestock than other Southwest Kansas counties at \$902,380 (USDA 2012). Counties closer in size to Haskell, like Seward have much lower livestock market values, valued at \$369,229 or Stevens County's livestock market value of \$183,912 (USDA 2012). Even Finney County has significantly lower livestock market value at \$724,724 in 2012 (USDA 2012). These figures demonstrate the importance of feedlot industry in the Haskell County economy. Historically, agriculture and agricultural activities have been fundamental to the Haskell County economy. These industries have intensified and will likely continue to do so. Yet, the social and demographic conditions surrounding farming have changed, which alters the traditions associated with farming in the community.

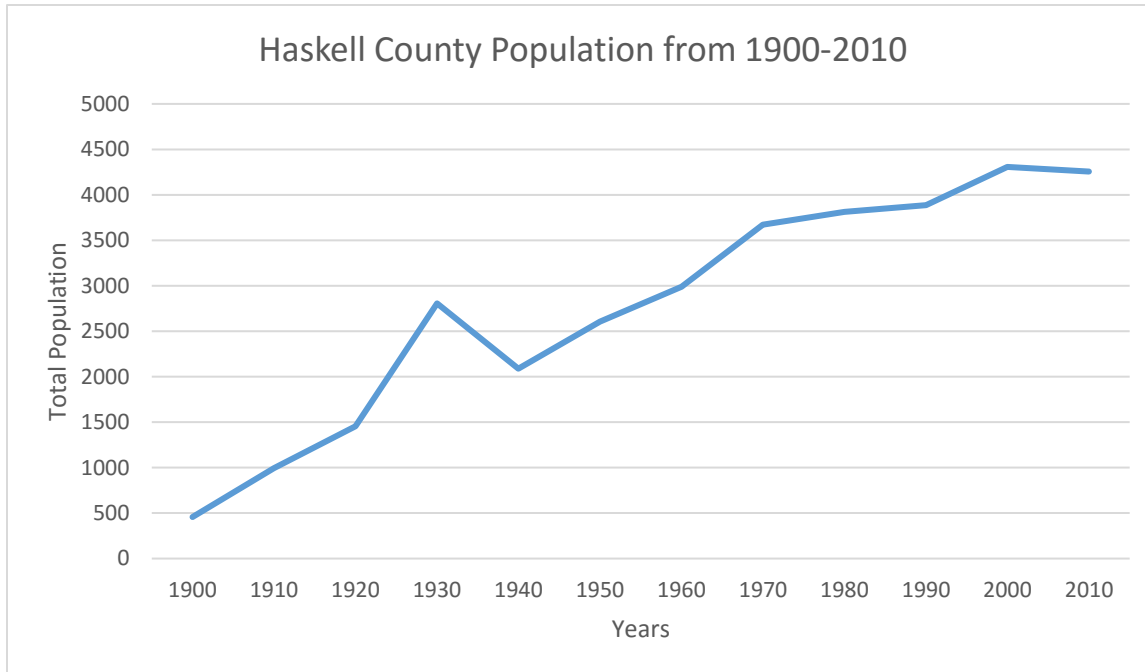
Haskell County Population Trends

Before irrigation, several droughts impacted the region's economic security and demographic stability in boom and bust cycles (Warrick & Bowden 1981). For instance, in the late 1880s there was a severe drought that led to the population exodus of Haskell County from 1893 to 1897 (Warrick & Bowden 1981). Haskell County's population was also heavily impacted by the 1930s Dust Bowl; the county lost almost 1,000 residents (Census 2010). The county has not had a population exodus since the dirty thirties. Groundwater extraction reshaped the county's population trajectory and consequently, the community's economic development

(Bloomquist & Williams 1996). Haskell County is primarily an agricultural economy with many industries dependent on farming and feedlot operations. It is clear that this area's history has been shaped by residents' struggles against their climate until they were able to surmount their environment (Worster 1979).

In the 1970s, population increased from around 3,700 people to a peak of 4,100 people in the mid-1970s and finally declining to approximately 4,000 at the end of the decade (Census Bureau 2010). The 1980s population saw an initial decline to around 3,800 residents in the early 80's and improved by 100 more residents by 1989 (Census Bureau 2010). Recent population trends from year 2000 to 2012 experienced little diversity within the years, only changing by plus or minus a 100 residents. The population in Haskell County in 2015 was 4,064 people, which is a 4.5 percent loss of population since 2010 (Census Bureau 2010). This is a loss of only 192 people in a 5 year period- but it is a loss nonetheless. See figure 4.1 below about the population of Haskell County since the 1900s.

Figure 4.1 Haskell County Population from 1990-2010



Source: Author's own calculations; Data from Census Bureau 2010

The percentage of the population under 18 years of age was 31.2 percent in 2010, dropping to 29.3 percent by 2015. The population of adults over the age of 65 increased from 10.7 percent in 2010 to 12.3 percent in 2015 (Census Bureau 2010). The population of adolescents under 18 decreased by almost 100 people from 2010-while the number of residents over the age of 65 increased by around 62 people from 2010-2015 (Census Bureau 2010). These population changes are not dramatic, but slow population decline in addition to a declining number of youth and increasing number of elderly residents is a common trend in Great Plains farming communities. This population pattern is also attributable to the national Baby Boom transition. Nevertheless, Haskell County has been somewhat insulated from the fate of other rural regions- which is a demographic success story for small, rural agricultural communities (Lasley et al. 1995).

The racial demographic in Haskell County is almost entirely white at 94.8 percent of the population in 2015. The percent of the population which identifies as white alone has actually risen from 85.5 percent in 2010 (Census Bureau). Applying current population estimates, one finds that the number of white residents has increased by 203 people from 2010 to 2015. This may imply population growth outside of growth of migrant workers. The African American and Asian alone population is slight at only 1.1 and 1.4 percent of the population (Census Bureau 2010). As discussed, this area was mostly white. Expectedly, almost 30 percent of the population recognizes part or all of his/her ethnic identity as Hispanic or Latino (Census Bureau 2010). The Hispanic population of other Southwest Kansas counties has increased dramatically. The population of similarly sized, small communities such as Grey, Grant, Stevens and Haskell Counties have similar demographic projections. These communities have seen almost no population change, but it has been in a positive direction. Larger communities in Finney, Ford and Seward Counties-who also have meatpacking plants- have seen population growth and demographic change like the proportion of whites compared to other ethnicities. Specifically, many of these counties (Finney, Ford, Grant and Seward) have Hispanic populations that have grown to represent 50 percent or more of the county's total population (Census Bureau 2010).

Themes of Study

Natural Resource Base

When Bell studied Haskell County in 1942 he explained that environmental hardship was the main source of community instability (Bloomquist & Williams 1996). Without rainfall, the community was unable to maintain a meaningful economy. By the second study, Mays discovered a transformed economy that was exceeding the agricultural output of most farming communities. By the time the third study was conducted by Bloomquist and Williams, they

argued that Haskell County had experienced much of their ‘economic peak’ “The county’s dominant issues have been and will continue to be water and agriculture” (Bloomquist & Williams 1996 p. 39). Hyper-extraction is overshadowed by irrigation and natural gas extraction which has created an economic safety net, or rather an economic parachute for the community. Haskell County residents are aware of their water security issues and that mining the Ogallala Aquifer creates impending water scarcity. Citizens are considering their future as energy costs increase and water table measures decline (Bloomquist & Williams 1996). Water conservative center pivot irrigation has replaced flood irrigation- and dryland farming is increasing- but serious measures are required to change the fate of the aquifer. Knowing the county’s dependence upon natural resources, I questioned subjects about current natural resource use. I also inquired about subjects’ predictions concerning natural resource use, agricultural dependence upon water resources and its impact on the local economy. Additionally, I sought to understand of community members and leaders’ insights and predictions of hyper-extraction.

Economic Development

Economic development within Haskell County has continued to revolve around agricultural progression. Increasing numbers of feedlots and business ventures that service agriculture (like banks, crop consultants, cattle and crop transport, seed companies, value-added agricultural products and so on). The *human psychology* of the Haskell County community was documented in 1960s to be primarily concerned with economic advancement, yet social permanence (Bloomquist & Williams 1996) and these community values persist. Throughout previous studies, the most elite social group within Haskell County was wealthy, older farmers who were born and have since resided within the community (Bloomquist & Williams 1996). This “farmer-capitalist” group’s top social position is still relevant, but may be changing in this

community. Understanding the composition of this elite group is of interest to my study because they lead decision making and the overall social and economic direction of the community (Bloomquist & Williams 1996). In 1993-1994, the elite group continued to be most concerned with agricultural progression and community stability and these values continue to be pertinent (Bloomquist & Williams 1996). Economic expectations within Haskell County have changed dramatically because of increasing efficiency, farm consolidation and increasing economies of scale. Bell noted that the community used to consider their livelihoods to be determined by 'luck with the environment,' which was later replaced by premiere business management skills (1996 p.24). Skills in business management within farming ventures have become intensely pursued in Haskell County.

In my interviews, I questioned if elements of *economic development* within the community has persisted or changed. For instance, is the elite group of people within the community still wealthy farmers who have resided in the community their entire lives? I questioned participants about financial risk in farming. I inquired about how declining groundwater has impacted livelihoods and how lower gas prices have impacted the valuation of the community. I asked participants to explain their expectations about the future of agriculture in their community and their understanding about the importance of water to the county and regional economy.

Social Change

Place attachment is not a specific topic of research within the three previous ethnographies about Haskell County. Place attachment is implied within Bloomquist and Williams's research in the section, *Centers of Social Interaction* as the depth of personal and community ties (1996). Place attachment discovers personal affinities and affections residents

have for their hometown and how it impacts their residential choices. It is likely that returning to the community or lifelong residency is attributable to high levels of place attachment. Tuan says that the more ties someone has with a particular place, “the stronger is the emotional bond” (1977, p.158). Place attachment involves the intricate back and forth between beliefs, emotions and actions situated on a place (Altman 1992). Residents from Satanta and Sublette generally regarded their communities as “a good place to live” and that living in a smaller community promotes a “sense of closeness and strong mutual support” (Bloomquist & Williams 1993 p.30-31). For instance, around 70 percent of the respondents said they were really interested in local affairs and just only 10 percent of people said they would not be sorry to leave their residence. Almost 75 percent of the participants reported membership in a community organization (Bloomquist & Williams 1993). Understanding the present degree of place attachment in Haskell County is a significant topic of study because it sheds insight into residents’ emotional bond to their community. Pride for one’s *home* may encourage preservation of the Haskell County community in light of physical isolation, limited commercial activity and declining groundwater resources in an agricultural dependent economy. Passion about one’s residence could encourage positive change for the future. Understanding place attachment in Haskell County speaks to the character of the community in 2016, how it has changed since 1993 and what residents expect for their future.

The “small town feel” and increasing economic development within Sublette and Satanta may contribute residents’ feelings concerning place attachment. There are some studies that discovered a linear negative association between the degree of place attachment and size of a community. People who live in traditional, small residences such as small towns report the highest attachment (Lewicka, 2005). Theodori and Luloff (2000) compared residents of four

rural areas differing in level of urban presence and pressure, and found that it was the residents of the most urbanized rural area who claimed the highest attachment (operationalized as ‘feeling at home,’ unwillingness to move, and interest taken in community). This suggests that factors other than community size may play a more important role in place attachment. Two cities may be of equal size, but they may differ in social and racial heterogeneity (Florida, 2002), urban density (Wasserman, 1982), strength of local social capital (Wood & Giles-Corti 2008), service access and type of landscape (Kelly & Hosking, 2008), and all these factors may influence attachment.

Learning the degree to which residents feel ‘attached’ to their community of residence will indicate their willingness to stay or to leave the community. The community is reproduced based upon the members who continue to reside in the community. I examined the extent to which place attachment is expressed within present day Haskell County. I examined the ways in which interviewees’ express displays of attachment to their communities. I also questioned the extent to which place attachment is more or less important than other factors like educational and employment opportunities, proximity to commercial services and other issues like tough weather conditions.

Demographic Trends

Haskell County has been able to guard itself against the typical demographic projection for small, rural, farming communities. Most small, rural farming communities experience massive population decline as the number of farms decrease and their respective sizes increases. Haskell County’s population has been marked by relative stability has actually increased due to such long lengths of residency (Bloomquist & Williams 1996).

Many counties similar to Haskell have experienced outmigration among their youthful populations (Flora & Flora 2006). This is likely because of several explanations, one of which is lack of educational and occupational opportunity. Outmigration among youth does not appear to be too problematic within Haskell County. Economic success and relatively strong place attachment assist in preserving population levels. Haskell County stable population levels may come from its central position among the region's three most populated areas: Garden City, Liberal and Dodge City. Haskell County's location makes it a convenient bedroom community for employees of adjacent counties, offering a simpler life and slightly lower costs of living for residents (Bloomquist & Williams 1996). Although, limited housing options in Haskell County may undercut the number of bedroom community commuters in this area. Population booms due to meatpacking plant employment improves population trends (Bloomquist & Williams 1996).

Haskell County represents a typical Great Plains farming community in many ways. Gains and losses within the population were largely impacted by the quality of agricultural conditions. However, changes in natural resource use and growing agricultural industries has sustained the Haskell County population rate with minimal loss in number of residents. The Haskell County community has changed because many members have migrated out of the community and been replaced by outsiders. The environment in Haskell County has changed due to declining well depths, which indicates shrinking saturated thickness. Most of the land in Haskell County is used for farmland and commercial development for entertainment has been relatively minimal. The civic infrastructure in Haskell County, like schools and government buildings are well supported by valuation of the oil and natural gas industry from the Houghton Gas Field. Housing options in Haskell County are limited and expensive. The population of Haskell County has changed somewhat from outmigration and incoming Mexican migrants

employed in crop and cattle services, but the population remains mostly white. The last population exodus was after the Dust Bowl and unlike other counties across the Great Plains, Haskell County's population has been mostly growing since the 1940s. The relationship between environmental change, economic development and social change is critical in Haskell County; and for that reason have been selected as the *themes of study* in this project.

Chapter 5 - Findings

Twelve participants shared their experiences and stories. After looking for common topics in the interviews, I found 11 themes in three broad categories. These themes have been titled and include: Loss of Well Depth; Groundwater Conservation and Embracing Efficiency; Perceptions of Current Groundwater Management Policies; Discussions and Predictions for the Future; Farm Ownership; Risks in Farming; Farm Transitions; Rootedness; Life Today in Haskell County; Social Challenges and Farmers are no longer American Heroes. These themes have been divided into three categories, those relating to the environmental changes, economic development and social changes.

Environmental Changes

Loss of Well Depth

The varying degrees of saturated thickness throughout the Ogallala Aquifer are diverse and the depth to well levels can be various and changing (KGS 2014). Shrinking saturated thickness and declining well depth is a great concern among many of the interview participants. One participant illustrated the difference in historical and present well depths concisely, “The first well that was drilled on the homestead went 50 feet down and the well my husband had drilled went over 300 feet down... the water table is going down so fast because so many people are accessing it.” Most participants considered Haskell County to have ample saturated thickness compared to other counties. Yet, many interviewees described scenarios in which their farm wells or their family’s farm wells have been or will be pumped beyond the point of feasible, future extraction. When one participant was asked to describe the most challenging aspect of living in Haskell County, her first complaint concerned a declining well on her husband’s farm. She says, “We have two wells on our farm and we live within range of a neighbor’s farm that has

3 circles- you know, like center pivot irrigation- and we suspect that our well is running dry because they are pumping so much for irrigated corn. And they will probably have to pump even more in the next few summer months....yeah and the droughts around here are so tough and you have to pump more.” This participant expounded that they purchased their land less than five years ago. She says, “It’s unfortunate cause we already have issues with the groundwater on our land...” I questioned her about the possibility of digging a new well and she replied, “yeah no... that’s not really an option for us right now, we have a land payment.... I mean yeah we have to look into all our possibilities and we hope we can qualify for a FSA loan, I mean we have to do something because our water well is on its last leg.” This participant continues to woefully explain that “We checked the wells out on this property before we purchased it- we were careful... ya know? When good land is available out here you go for it because it won’t come around again and the wells were great when we bought the land. But, then there was no rain and no moisture in our soil and our neighbors were pumping so much...it just killed our water tables I guess...” She explains that declining well depth can be tragic “because we could have to sell our land at a loss if we cannot come up with a solution.” After further inquiry, the respondent denied feelings of tension toward their neighboring farmer over well depth.

Another farming participant explained that “The 15 water wells I have on my property are doing fine, so not too many issues there. But, I have neighbors that have a farm that is two miles away from part of my farm and they are really struggling with their water supply. They have two dried up wells and it’s really affecting their bottom line.”

One participant explained that “My father stayed away from irrigated corn because of our well depths. Corn is a thirsty crop so we grew wheat and milo-but, we still had to lower a few of our wells and it’s really expensive process.” Another participant described a situation in which

his parents' well went dry and digging a new well wasn't affordable for them. He explains, "We, we hooked our dry well to another well on our property, but there were serious issues that came from this...and we still had to dig another well... and now we have another well on the farm that we tested and it's going dry as well..." Another participant explains woefully that "Our well depth is fine, we don't have wells that are too low, but my neighbors' water use concerns me. They do organic farming and it takes a lot of water to be organic and it could impact our water tables. Without water to irrigate, our land loses half of its value." One participant explains that well depth on her land is declining and she has neighbors who irrigate a lot of corn, "We worry about our well depth all the time...without groundwater our land is worth half as much as we paid for it...without water for irrigation we won't be able to make our land payment..." Participants' discussions about shrinking saturated thickness and declining well depths demonstrate the importance of the Ogallala Aquifer.

Eight of the ten individuals or couples that were interviewed referenced a fairly large local lawsuit. Each participant that mentioned this issue explained the same type of story, although none of them could recall the entire story. One participant expounds, "It's a lawsuit over water rights involving the Garretson Brothers, who are longstanding corn farmers and they are suing a neighboring farmer who has over-pumped and it's impacted the Garretson's well levels or something...I don't know the details, but, I know it's been a hot conversation topic in the county." None of the participants could recount the details of the lawsuit beyond the quote above. This finding is significant because it demonstrates the significance of irrigation in the community, and more specifically, access to saturated thickness procured through water rights. Access to groundwater pertains not just to water rights, but also concerns farming families' livelihoods and financial security. Access to groundwater is a form of natural capital and that is

used, along with other forms of natural capital, like farmland to create forms of financial and human capital. This resource directly impacts farming families' livelihoods and the economic cornerstone of the Haskell County community.

Groundwater Conservation and Embracing Efficiency

The interviewees I spoke with represented relatively similar perceptions about hyper-extraction of the Ogallala Aquifer. None of the participants considered terminating irrigation practices themselves. None of the participants considered exclusively dryland farming in the region. In fact, throughout discussions concerning the Ogallala Aquifer, most interviewees deliberated specifically about groundwater conservation techniques. In eight interviews, participants expressed concern about conserving groundwater and in the other two, the interview participants rejected the discussion point all together. I suspect one interview participant may have been uninformed about the extent to which the Ogallala Aquifer has declined. In the other interview, the participants were unwilling to discuss the level of their water wells or their opinions about groundwater decline. When I asked about their water wells or regional use of the aquifer they grew quiet or attempted to change the subject. Generally, I found that while most of my interviewees' were gravely concerned about declining saturated thickness, they did not consider their peers to be concerned.

The majority of the interviewees conveyed great concern about aquifer levels. For instance, the only participant I interviewed that was not a Kansas native conveyed his shock to see an article in the National Geographic magazine that focused on Haskell County's groundwater decline. He said, "I was waiting in a doctor's office one day and I was skimming through a National Geographic and there was an article about hyper groundwater extraction in Haskell County Kansas... we have less than 5 thousand people in this town and our community

specifically is the focus of that article? I mean the article discussed regional aquifer decline, but the focus was Haskell County...I mean wow... our tiny little farming community is in Nat. Geo for how much groundwater we extract? I mean, *wow*, so I hope people wake up and maybe figure out a way to get more farmers sub drip irrigation or reroute the Missouri River water or something.”

Shrinking saturated thickness and declining well depths is partly attributable to former inefficient irrigation systems that pumped more water than could be applied. All the participants that grew up on Haskell County farms discussed two memories with regard to flood and pipe irrigation from their past. The first memory involves the agony of moving irrigation pipes and the second is the amount of water that was often lost to these systems. As one interviewee recalled “The pipes would leak and we would waste a bunch of water and you know, you would see flooded fields or water all over the road, but that doesn’t happen now.” One participant explained, “When I was dating my husband we couldn’t go on our date until we moved some pipe, irrigation pipe, so we always had to go move pipe before we could go out...” Many participants complained of the physical labor involved in moving pipe and argued that “...center pivot technology is so much easier than moving pipe and it requires way less people.” One young participant explained that every summer morning of her childhood was spent moving pipe and she says, “You would work so hard to do this back breaking work and then leaky or busted pipes would waste so much water, so we had to pump more water...” One farming participant recalled, “We would lose as much water as we gained with flood irrigation and we couldn’t predict the rains we would get either so sometimes your fields were just drowning...” Another common farming practice was pre-irrigating tilled soil. One farmer explains, “See they used to think that they had to pre-irrigate the soil, we all thought you pre-irrigated and then put water on

in the summer, so you would put 15 inches on the soil and then hope you would get 15 inches of rain and it would be enough for the crop.” These quotes describe participants’ recollections of hard physical labor required of former irrigation systems. The participants also recount memories of water waste. All participants from farming families exclusively use center pivot or sub-drip systems, except one, whose family uses partly irrigation pipes and partly sprinklers. In nine out of ten interviews participants recollected moving irrigation pipe in their past. This community wide change in irrigation systems is an example of cultural capital.

Irrigation systems are more efficient now and many participants argued that conserving groundwater could expand the lifetime of the Ogallala Aquifer. In the same fashion, many participants expressed that more precipitation is critical to groundwater conservation. Many participants made comments like, “It has been raining, which helps so much because people can leave their sprinklers off for a while.” Using precipitation instead of irrigating groundwater appeared to be a point of pride among farming participants. Every interview participant that currently farms deliberated how infrequently they have had to irrigate so far this year compared to former years. They made comments like, “We have only had to turn on the irrigation system twice so far this year and we have had some rain and that makes all the difference...” Many farmers’ wives would boast about their husband’s efficient use of groundwater. One participant, whose husband recently purchased a sub drip irrigation system explained that, “When there is rain, he only has to turn on the irrigation system twice, but without this irrigation our crops couldn’t survive. In addition, two participants married to farmers argued that their husbands had used little groundwater this year. First, because the region had received more rain this spring and secondly because their husbands use efficient irrigation systems, like center pivot or sub-drip systems.

Most interviewees conveyed that they did not often find their peers as concerned about conserving the Ogallala Aquifer as they would like. One participant concisely stated, “People around here are not as troubled about the Ogallala as they should be.” The majority of the participants said that preserving the Ogallala Aquifer does not come up often in public discussions or personal conversations. One interviewee who works as an agricultural loan officer for a local bank explained that “...farmers definitely don’t talk about water conservation very much, and I guess you would expect they would feel comfortable talking to me about it [water conservation] since I work with the same farmers over and over. Maybe farmers talk about water conservation techniques to their crop consultants? The only time I hear about conserving groundwater is when farmers are trying to buy center pivot systems... but, I feel like farmers want sprinklers more for the savings in physical labor than because of water savings.” All of the interviewees said that the declining aquifer is not an issue discussed by community members. But on more than one occasion, a single participant said that community members were both concerned and unconcerned about groundwater loss. Interestingly, participants had a more positive outlook of farmers’ concern of groundwater loss. So groundwater decline is not an issue discussed by community members, but participants considered farmers to be generally conservative with groundwater use. Around half of the interviewees said that most farmers are generally conservative with groundwater use particularly through use of center pivot technology and using no-till techniques. Although participants in wage positions (as opposed to farming) had more negative interpretations of farmers’ groundwater use.

Two participants who work with farmers through positions in local government explained similar perceptions of farmers’ water use. One participant commented that “There is a range of interest in water efficiency...many farmers try to grow crops that are not as water intensive and

lots of farmers try no till, but I don't think it's because they care about the aquifer. I think it's because these changes are better for them financially speaking. Farmers don't really bring up making these changes because they want to reduce their water consumption..." The other participant argued that "Most people seem concerned about how much saturated thickness we have lost in our county, but they act like they put a lot of faith in technology because they use more efficient irrigation systems now..." These discussions imply that farmers are more efficient with groundwater because more advanced irrigation systems like center pivot and sub drip require less labor. Likewise, moisture loss prevention strategies like no-till reduce labor hours, (time on a tractor) improve productivity, limit runoff and decrease dust storms. It cannot be determined whether these farmers are also interested in this technology because of their water efficiency.

Some participants explained that they don't consider farmers "as people who care about water conservation, most of them don't I would say..." Some participants said something like, "I think their thinking [farmers] is that 'I have enough water to water my corn this year' and they really aren't thinking into the future." Another participant argued that many farmers grow thirsty crops like corn and they are likely thinking, "Corn is what we know and corn is what we are going to plant until the well is gone; I mean my dad was kind of like that..." Yet, when farmers discussed groundwater use or groundwater conservation they referenced center pivot irrigation systems they employ or they often discuss no till strategies. One farmer explained changing his agricultural practices for moisture preservation in the soil, "... I went to all no till in 1992 after one of my fields close to the house lost just about all the top soil and we had dirt all over the inside and out of our house and that day I said, 'no more' ...and I tried no till and done it ever since...no till keep more moisture in my soil so I don't have to irrigate as much." Another

advocate of no till farming explained, “I hardly used any water last year. I grew mostly grain sorghum instead of corn which helps...I planted a few circles of corn this year and some milo because we had more rain and the pay is usually much higher for irrigated corn and milo...”

Many interviewees expressed a point of pride when they referenced that they purchased center pivot irrigation systems. Many participants told me specific years in which they purchased this more efficient technology or when their farming parents or children did so. One participant explained, “My father went no till in 1998... my husband and I purchased sprinklers in 2004...” Similarly, another farmer explained, “We purchased two more sprinkler systems because our farm is getting bigger, one in 2011 and the other in 2013...” Most participants quickly recalled these dates of purchase or change in agricultural practices. These events were often a decade or more ago and may attest to the great financial capital this technology requires or how these events change or transform their human capital. These specific memories may also imply a type of cultural capital in which families acquire or earn a symbol of success. Center pivot irrigation may also be sought after for increased water efficiency and conserving natural capital. As one farmer explains, “I hope our water conservation increases through better technology like center pivot systems... I mean they cost money, but they are worth it they have 85 percent efficiency...the next step is sub-drip irrigation and those people are getting 98 percent efficiency and that’s the next step...”

These discussions reveal that these participants, farming and wage workers alike are either concerned about groundwater conservation or they are proud of using efficient irrigation systems and no till practices, which promote groundwater conservation. Participants argue that more precipitation would promote water conservation. Groundwater conservation is the most

discussed technique used to extend the length of the aquifer's life. This may indicate a method of preserving the current system or maintaining the status quo of irrigation in Haskell County.

Perceptions of Current Groundwater Management Policies

Perceptions concerning groundwater management policies are relatively consistent. Interviewees willing to discuss aquifer decline all expressed concern about whether current groundwater policies can improve water conditions for future generations. Participants willing to discuss the aquifer mostly agreed that current groundwater management policies were not preserving enough saturated thickness. A participant notes that 1954 is the year his grandfather drilled his first well, but it wasn't until the 1980s that people began to discuss that there was an issue with declining groundwater...but it's been 30 or 40 years since then and our water policies are still not doing as much as we should." One participant argues that "...using water resources is most concerning because of the next generation who might not have water to farm." Likewise, another interviewee says, "It's frustrating to see people taking water conservation so lightly, because our children need this water." Current penalties for over pumping are minimal and several participants described that they have known several farmers over the years who pumped more water than their water rights permitted. One farmer explained that "when farmers use more water than they are supposed to they just you know pay the fine and go on farming, the fine is not bad enough that it keeps them from using more water." A farmer whose farmland is in Scott County explained that "...there are people who use more water than they should but the fines are not that detrimental financially so people would just use the water and pay the fine, but the LEMAs [Local Enhanced Water Management Area] are gonna change that now." A local government worker summarizes the problem, "Some farmers strategize ways to use less

groundwater and some use as much water as they want to and although there are is a groundwater management system, penalties for over-pumping do not prohibit overuse.”

Many participants would often make pragmatic statements about groundwater policies. The farmer with land in Scott County explained that “Farmers go to these LEMA meetings so we can all agree to curb our water use, but you can’t hardly get anyone to agree at these things or consent to making changes.” He continues, “...people think, ‘well I got my water rights and have to protect them’ but, we aren’t using all the water we have appropriated so I don’t understand why we can’t agree on anything... I mean, hell, more water is appropriated to local farmers than we have in the ground!” A different participant argued, “It is unfortunate that we are losing so much aquifer, but, on the same hand, I’m realistic because I understand that our region needs this water and we won’t stop draining the aquifer... but, the aquifer’s lifetime can be extended...conservation is important.” One young farmer explained that he wants to be able to tell his children that “my generation worked to extend the aquifer by x amount of years.” Another farming participant said, “I know that something more legally binding or greater fees are in the future because a more drastic water conservation plan has to happen in the next 5 years or the end is closer than I’m comfortable with...” A farmer that is involved with the Haskell County GMD reasoned, “The current GMD administration is trying to get more local participation and involve people in decision making and if farmers don’t get involved it’s their fault.”

Participants also widely recognized that groundwater management policies are difficult to develop and implement in the Southwest Kansas region. One of the interviewees who owns one of the larger farms in Haskell County explained to me that “I really do believe that people in this community want to save water and regulate aquifer use, but they also believe that the

government doesn't need to be the institution that develops and enforces irrigation policies. You'll find in rural America that they just wish that the government would stay out of almost everything but transportation, like for highways and cattle transference. No one I know is in favor of more rules and regulations, but I am unsure of whether freedom will necessarily change the state of the aquifer, especially in light of tough financial times." Another farmer explains a similar perspective, "Sometimes we know we need to turn our sprinklers off because we've used a lot of water, but we have to irrigate for another week to make our quota. No one wants to waste it because you know that irrigating is a carefully considered financial decision. But sometimes tough economic decisions override environmental decisions and that's why I see strict water policies as difficult to do." An interviewee revealed his leadership position in the Groundwater Management District on behalf of Haskell County. He explained his opinion concerning regional groundwater management policies, "Creating regional or even county wide irrigation policies are unrealistic... I wouldn't even create a binding irrigation plan for all the wells on my farm. Individual wells should be managed individually because the wells constantly change." This participant believes that multiple well plans is the best way to improve well management. Yet he woefully notes that the administration and monitoring of all farmers' multiple well plans would be improbable. He and his wife believe in water conservation, but they believe farmers should lead the changes. His wife explains, "We agree with the state's decision to leave water conservation decisions to local decision makers... but I mean he [her husband] still has to prove that he is conserving water with current policies." Clearly, superior groundwater management policies are desired, but also deeply apprehended by participants.

Discussions and Predictions for the Future

Participants expressed a wide range of opinions or predictions about the Ogallala Aquifer. All the participants who would speak with me about the Ogallala Aquifer were keenly aware of Haskell County's history of heavily irrigating and that the declining groundwater wells will dry up or groundwater will eventually become unfeasible to pump. The majority of the dialog concerns future farming generations. One participant who is married to a farmer contended that "Sometimes farmers don't seem worried about their future water supply, although many people express fear to me about whether their grandkids will be able to farm the way they did." A large farmer who is involved in groundwater management with GMD claims, "Around 80 percent of Haskell County farmers carry out techniques to achieve water savings, mostly because they want their children to be able to farm irrigated crops...I think we will just get better at that" But this participant eventually revealed that he does know farmers that "...do believe that we will just have to use the water until it's gone and then we will adapt." I push the issue further and he explains that "Regardless of people's interest in preserving saturated thickness or saving the aquifer, I think that most people will continue to self-regulate water use because we want water here for our children." This dialogue demonstrates that participants are most concerned about the next generation's access to groundwater, so they are able to farm in the same way their parents farmed.

A participant married to a farmer explained a different trend, "Some people won't hardly talk about the aquifer, but they are largely in denial about how bad the problem is...people deny the problem because it's such a scary topic...people counting on technology or rerouting Missouri flood waters..." Another interviewee explained that "Water conservation is easy for farmers to forget about because it's not a topic discussed very often because it's a subject people

fear...” A participant who is well respected in the community provides clarification, she says, “People will talk about the aquifer sometimes but you can hear them explain how technology will fix the problem or that we will get more rain in the future and that there will be plenty of water... it’s kind of like the way people feel about climate change out here, they deny the problem and discuss weather cycles and how the changing tilt of the sun makes everything drier for a while...” These comments illustrate that shrinking saturated thickness can be an overwhelming issue for residents.

Many participants point to groundwater conservation efforts as the way of the future. An interviewee explains, “Farmers like using more efficient irrigation technology and no till practices to save moisture... but the question is if it will be enough...” One large farmer explained that “...I know some people who use sub drip and its great because it gets you 98 percent efficiency and if all the farmers in this county could use the systems we could be in a better spot in the future...Sub drip is very expensive investment that some people like myself are concerned about getting because we don’t know how long our water will last and without groundwater we can’t pay off the sub drip system...” Another farmer pointed out, “sub drip is a great system, but it’s in my land, I can’t just take it out and move it to another farm. It’s in the land forever.” Another farmer explained “the expense of sub drip is just too costly for most of us [small farmers] these days.” Another type of technology development several participants hope for in the future is seed development. Four participants mentioned something like “Southwest Kansas is only one of many places dealing with water issues, so seed companies have motivation to create more drought resistant crops.”

Another prominent farmer I spoke to explained to me that “Without groundwater there would be few people in Haskell County, the water is like a foundation of a home, without the

groundwater, the boards have nothing to stand on...you know the GDP in Kansas would decline a lot without agriculture in this region.” Another interviewee argues a similar point, “Irrigation will never use so much water that the county won’t have drinking water, but who would want to be here without agriculture? So maybe the future of agriculture will change, maybe in the crops that are grown.” One participant pointed out that “There are almost no industries here that don’t revolve around agriculture or serving farmers, so everyone has an incentive to improve water efficiency.”

A participant who has worked for the local government for many years explains that “the city commissioners and the people who work on economic development and attracting new businesses and all talk about groundwater loss and water issues a lot... especially after Haskell County had to drill for another well for municipal use.” Redirecting Missouri flood waters was a topic brought up by several participants as a future strategy. All the participants who discussed this topic considered it to be likely implausible because of the enormous amount of financial capital required for such a project. One participant noted that “...while it [rerouting Missouri flood waters to Southwest Kansas] seems like a wild plan, the president of our local water board considers it to be a future solution.”

Generally, farmers contend that they think there will be enough groundwater for their children to farm and use irrigated water, but “...we assume our grandchildren won’t have any [ground] water.” But as one farmer exclaimed, “I think my kids will have enough water to farm, but I pray they need less water to do so!” Another farmer estimated that “If we can lower the amount of water we need for the same output by 20 or 30 percent in the next 10 years, we will be able to put a significant dent on the dependency we have on [ground] water.” Two participants brought up the same farming family who argue that dryland farming is the future of agriculture

in the Southwest Kansas region. One interviewee said, "...this family says they are not investing in new sub drip irrigation systems because they can't rely on available groundwater and it's just another step preventing the inevitable... instead they are buying as much land as they can because the more land you have the better you can do in dryland farming..."

Summary of Findings

Farmers and community members in Haskell County are concerned about saturated thickness in the Ogallala Aquifer. They are most concerned about declining well depths and the ability to conserve enough groundwater to guarantee water availability for the next generation. Yet many participants explain that their wells or wells they know of have been over pumped and on occasion pumped beyond the point of feasible extraction. The critical nature of groundwater is demonstrated by the lawsuit local community members described in which a farmer has lost groundwater and specifically, profitability because of another farmer's hyper-extraction. Farmers explain that shrinking saturated thickness and declining well depths is partly attributable to previous irrigation systems like flood and pipe irrigation that required over pumping and generated excessive water waste. All of the participants in this study used center pivot irrigation systems except one whose family still uses pipe irrigation for part of their farm. Farmers noted that their irrigation systems are more efficient than irrigation systems used in the past. Farmers pointed to the growing use of moisture preservation techniques, like no till that many of them employed. Compared to past farming practices, farmers greatly embrace water efficiency through improved irrigation technology and changing agricultural practices. Farmers explain that they have conserved groundwater through these difficult and costly changes. Farmers are interested in preserving saturated thickness, but they explain their efforts to do so mostly through groundwater conservation techniques. Farmers and participants from farming families take pride

in purchasing costly irrigation equipment or when they embraced no till techniques. Farmers are concerned about preserving thickness mostly because they understand that it is essential to do so in order to extend the life of the Ogallala Aquifer so that the next generation may farm as they have. Many participants argued that their peers should be more concerned about decline of the Ogallala Aquifer. Participants explain that their peers put too much faith in technological solutions.

Participants explain that groundwater conservation policies do not do enough to improve saturated thickness. Yet, participants express that they do not desire more policies, in fact they support the opposite. Participants explain that they are good stewards of their land because they have an economic and even social incentive for good stewardship of their environment. They argue that county wide or region wide policies are difficult to implement due to various well depth discrepancies. Participants are in support of the state's decision to leave groundwater management decisions to local entities. Participants explain that most farmers embrace efficiency, but it appears they qualify efficiency as technological improvements and changing agricultural practices. Generally speaking, aquifer decline and the potential lack of available water for irrigation is a topic which community members may largely deny because of the gravity of the issue. Groundwater conservation appears to be widely practiced but some participants question whether or not it's enough to preserve agricultural as a way of life for the future.

Economic Development

Farm Ownership

Economic development in the Great Plains region has historically revolved around agriculture. This tradition has continued and in many ways intensified. A participant illustrates

this point when he says, “There are very few businesses in Haskell County or in the six surrounding towns that don’t involve agriculture in some way.” Every participant in this study either currently farms or grew up on a farm. This demonstrates that the tradition of agriculture continues to be an important element of the historical, environmental, economic and social fabric of the Haskell County community. Farm ownership in Haskell County typically involves the traditional model, in which the father owns and manages the farm until he retires. Farmers age of retirement is diverse, “most farmers retire in their late 60s and some farm until they die.” Traditionally, the farm is inherited by the farmer’s spouse and/or children and an heir assumes ownership (sometimes partial) and management responsibilities for the farm. Participants focused their discussions on several factors (old and new) that characterize present day farming. Some of the factors discussed are similar to older findings that Bell, Mays and Bloomquist and Williams deliberated decades earlier. This study may reveal some new factors that influence conditions of current farm ownership.

Many participants explain that farming in Haskell County is challenging for a number of reasons, one of which is the weather. One participant describes, “Living in such a dry, hot place that gets such strong winds is frustrating for us [residents] but, for farmers it’s worse. He [her farming husband] comes home from the field and has grit in his teeth and eyes and you get wind and sun burn on your face...it’s tough... not everyone can be a farmer.” Many participants made comments similar to, “It takes a special kind of person to be a farmer out here...” Suffering through hardships to continue farming attests to the attractions of farming. When I questioned the issue further, three farmers expressed a similar theme to this point, “I’m addicted to it [farming] looking at changes in market prices, weather conditions, agricultural practices and so on... and in my opinion you have to be raised in it [farming] to understand...”The challenges

mentioned by farmers can also be seen as a moral argument of “suffering farmers” who have particular experiences which separate them from others.

Some farmers carry out traditional farming practices and some prefer to embrace change. Participants explain that “Some farmers are pretty rigid about their planting choices” or “...older farmers tell me that I don’t farm the way my daddy did...” Other farmers are opportunistic, like this interviewee who explains, “I am an opportunistic farmer, I plant what makes sense- based on the weather...this approach has its challenges, but it’s worked. Take this year, since it rained more this spring, I am going to plant differently than I would if there were less rain.” One participant elaborates on this topic, “...about half of farmers are resistant to trying new seeds or crop choices and the other half are willing to try new options.” Another participant concisely argued, “Farming is much different than it was, but it’s still raising crops and paying loans and hoping there is something [money] left over at the end of the year...”

The number of farms in Haskell County has declined and the size of the farms has increased. This trend is largely because of improvements in agricultural technology that improve efficiency. One farmer discussed that “There aren’t as many people in farming now mostly because of efficiency reasons... there have been so many technological changes in farming over the last 15 years, but there was even more change that occurred in the 15 years before I was born.” Another participant explains, “One man can accomplish a lot on a farm now...our planters and combines are so much bigger, faster and more accurate...” The same participant remarks, “Professional harvesting companies can come in with a combine and harvest your whole farm in a few days...” A farmer who practices no-till explains, “I no longer have use of a tractor... a lot of time used to be spent riding a tractor.” The same amount of farmland is farmed

in Haskell County, but there are fewer farmers than in previous generations. Economies of scale greatly reduce the number of farmers, and consequently, the number of farms.

Economies of scale have changed the way farming is conducted. One participant explains, “I never saw my dad use anything like a cash flow or a debt to equity ratio...and these days my wife and I go to the bank annually to establish our operating loan and credit line of \$450,000... and we show him [their banker] cash flow projections for next year and income statements about the former year...” Another participant argues, “There is capitalism within farming now to try and raise the biggest crop we can.” Farmers used to deliver products “...in grain trucks, but now most farmers need a CDL [commercial driver’s license] to haul their 1,000 bushels of wheat or whatever in a semi-truck...” Many large family farms in Haskell County have become incorporated and three participants explained that public perception of farm incorporation is often misinterpreted. For instance, one participant argues, “Some people around town and in the government think my farm isn’t a family farm because it’s large and is incorporated. But that’s not true my family still exclusively owns and manages our farm... incorporation is mostly about taxes...”

Every participant argued that most farmers in Haskell County avidly pursue means to acquire more land- or wish they could do so. Family history is frequently referenced when participants explain how much land they own. A local historian explains that “Family history is discussed when people talk about what land they own because they are explaining to you how they acquired the land, or specifically who they acquired the land from.” Participants considered inheriting a large amount of land to be an important factor of being a successful farmer. Two participants expounded that when Haskell County was being settled through the Homestead Act, their ancestors only purchased as much land as they needed to make a livelihood. As one

participant reflects, “My grandfather was not a greedy man and only acquired enough land around the homestead to take care of his family...so we don’t have a lot of land” The other participant argued that “...my son has had to struggle to acquire more farmland because our family only settled 1 quarter in the homestead...we didn’t have many boys in our family to buy land for...and my daddy couldn’t afford more land.” All participants who discussed the process of acquiring more land argued that farmland doesn’t come up for sale often. One participant told me, “...being able to buy land in this county is rare- really rare, so when it is available you jump at the opportunity, you do whatever you can to buy it because more land won’t be comin to sale for a while.”

Many participants argued that there are no *new* farmers in Haskell County. A longtime, successful farmer laments, “...yeah you used to be able to become a farmer without existing land ownership... but ah... that’s probably close to impossible now.” As one participant noted, “There is no college graduate that could start out with a loan big enough to cover the cost of equipment, operating costs and definitely couldn’t cover the cost of land... it’s just improbable to start farming without family land and family support when you start out...you just can’t get loans to cover everything you need to start farming, too much risk.” Another participant who is an agricultural loan officer, argued that “It’s almost impossible to do, you gotta have a farming family and the community supports the family farm tradition.” One participant explained “My son is in high school and he talks about wanting to farm all the time, but I can’t make that happen for him...”

Feedlots are a growing industry in Haskell County and one participant explained that she knew a few different couples who started feeding businesses that fatten calves. She said, “Yeah we know some people who pre-condition calves... they started with nothing and now are doing

well... it's probably possible because input costs are lower up front [for feedlots] than the 30 year equipment and land loans for farmers... oh and we know people who have started transportation companies...they transport cattle between grazing grounds.” Another participant argues “It seems like there are more crop consultants, seed companies and businesses that do services for farmers and other you know, companies like that than there used to be.” Start-up businesses that service agriculture or meatpacking plants are much more likely than new farmers on new farms.

Risks in Farming

Risks involved in farming were brought up by many different participants. Most participants described wishing weather patterns to change. Many participants said phrases like “...we prayed for rain...” or “we asked God to send rain instead of hail...” As one participant noted, “Mother nature likes to throw you curve balls.” One participant illustrated the importance of weather patterns by explaining that “Everyone is on a high right now because wheat is going well and the wheat hasn't needed excessive water and there has been rain so getting corn in and planted so it will be warm enough to germinate the seeds can be hard to do.” There was a large fire in Satanta and three interviewees described that they “...were praying the fire didn't take our farmland...” One participant illustrated, “...when the fire first hit, my neighbor called me and told me to spray water on my house, my yard and my fields if I could because the fire was headed right toward us.” Another participant explains, “...one of our first years in farming together we were standing in one of our wheat fields when it began to hail so hard... and I had to watch our wheat crop get like ravaged by this golf ball sized hail...we didn't have hail insurance on wheat at the time.” These quotes demonstrate that participants risk having their livelihoods impacted by poor weather.

The most critical financial concerns participants discuss relate to wells going dry, huge loan payments and periods of financial loss. Four participants made arguments that referenced something like, “it’s getting harder to make a living off a small farm...” or “...you have to have a lot of land to farm successfully now...” Another participant complained that both they and their neighbors may have to dig a new well “...but they have a bigger farm than us, I mean a new well is a huge expense but they will get a big harvest payment for their 2016 corn and probably afford it...we can’t [afford a new well] without help.” Many participants explain that they have persevered through difficult experiences with their well depth and well equipment. One participant explained “...like when we lost electrical power on a well we were thinking, oh my gosh the well is done, this is all over if the well is gone... we can’t afford to replace the electrical system on the well...but we were able to fix the points on the well...” One risk that all farming participants described was past or current concern over well depths affecting land values. One participant explains, “Take this example, I bought a half dryland section in 1973 for \$64,000. That half section is worth over a million dollars now, but if I run out of groundwater, I will lose \$1,500 an acre.”

Five different farming participants explained there were several years that they themselves and many farmers they knew had been losing farm valuation. One participant recounts a story I heard often “...we have spent the last few years in the red, so we weren’t making money these last few years... that’s why crop insurance is really critical because it keeps us going when it’s too dry for good crops.” Another farming couple explains that “...for several years we went red and now we are finally getting back to where we were.” One participant explained they sold some dryland acres “to get a handle on some debt that built up” and another family had to sell equipment at a loss because they couldn’t make a land payment.

Another participant tells a story about how she married a farmer whose family declared bankruptcy the year they were married. She explains that he [her husband] had to take out a huge loan to “...save part of his family’s land that didn’t go to auction...” She explains that “...other family members like two of his sisters purchased some of their dad’s land together too...but my husband’s debt to the bank for this land was eight years of payments for \$22,500 a year... when couldn’t make a payment one year because we lost an entire wheat crop to hail...we didn’t have hail insurance...so we were so scared we would lose our land...but luckily a great friend loaned us the money until we could pay her back...” The same participants explain that “...for eight years we continuously planted on all our fields and left none to fallow so that we could try and make more money, but this strategy can be risky for your soil...”

Market prices are also a source of concern for participants. One farmer says, “Farming is like gambling, because the only thing I can determine is when I plant my crops. And we have to have enough rain to moisten the crops, then enough gas to run the irrigation system and enough dollars to pay for it...” His wife continues, “We are at the mercy of people who don’t own anything that establish the price for our products and the combines have gone up to more than half a million dollars...” They make a distinction between wage work and farming by arguing that “wage work is much more predictable because they [wage workers] get paid the same every money every two weeks, but we only get paid twice a year and even then we don’t know what we will get paid and we don’t know what to predict for our taxes... I mean for the same amount of effort, we can get completely different incomes year to year...” Another participant explained that “...people who work normal jobs [wage work] could not comprehend the amount of debt we have at a time and market prices for crops fluctuate so much that we can’t hardly predict what we are going to earn.”

One participant whose son pays rent to farm her ex-husband's land explained that "My son is struggling to acquire more land... the more land your family has had throughout the years the better off you are in farming... buying land today is too risky." The same participant has worked in the local government in a fiscal position for many years and she says exasperatedly, "I worry about young farmers these days who are buying more land these days because they can barely swing it on paper... [Assets and liability analysis]... and that's why you see so many women working now, to supplement farm incomes." Another participant explains that he and his wife really struggled with the decision to buy more land. He says, "...we were approached by a family that does not have an heir to see if we were interested in buying their land. They wanted to give the land to a young couple that had farmland adjacent to theirs... we really struggled with the decision to buy land... I mean we could hardly make it work on paper and my wife is good with financial planning and she was really concerned about the decision... so we talked to a lot of farming people we trusted and they all told us they regretted not buying more land when they were young...so we bought the land, but it's a hell of a payment..." Another participant suffered from the risk he took to acquire more farm land. He explains, "I bought some land at a high price in the early 80s at \$725 an acre and things [market prices and drought conditions] got worse and worse and I had to sell some of the land for \$400 an acre because we had other big loans to think about..." His wife continues to reminisce and says with a laugh, "Yeah we called those awful eight years the '*Big Debt Days*' and I tell everyone that I lost my diamond ring and hope chest in the *big debt days*..." These quotes demonstrate that acquiring land can be a risky for farmers.

Dependence upon mostly agriculture or natural resource extraction can be risky for a community as well. One participant who has experience and knowledge of financial and

political affairs in the county explains “If the county is forced to go to dryland agriculture because we don’t have enough water? Well that could be really devastating for this county and if we can’t irrigate corn? I don’t know what would happen, but I know it would really hurt this community. Another participant argued, “Dryland agriculture in Southwest Kansas...? Ah, you know plenty of people have dryland acres they farm, but if we went dryland as a region? I don’t know about that, we only get 18 inches of rain a year if we are lucky and you know dryland corn barely grows and then it burns up and leaves no residue [for no till] and blows all over the place.” Another participant also experienced in local financial and political affairs explains that “the natural gas devaluation in this community is really hurting us. In the past, we had a high evaluation from gas and oil fields and we could keep taxes low, but now we will have to raise taxes pretty high now... Due to the state legislature putting a tax lid on county taxes we will have to raise the tax even higher in the next comin years because we have to appropriate taxes for years to come with inflation in mind...” These quotes demonstrate that Haskell County community has a history of dependence upon transforming natural capital into financial capital. Participants seemed very knowledgeable of the ways in which natural resources have benefitted their community’s economy.

Transitions in Farming

There are several new transitions in present day farming discussed by interviewees, they include: Farm knowledge, lack of family farmland and families unable to produce an heir. Topics of farm transition include the transition of expectations for farm knowledge. Farm knowledge can be understood as knowledge about farming passed down from one generation to the next or knowledge the upcoming farmer is expected to obtain. Farm knowledge is most assuredly a tradition that has persisted throughout the Great Plains region, although it is not a variable

discussed by Bell, Mays and Bloomquist and Williams. A participant who owns a large farm discussed that after he returned home to farm his father has helped him acquire the business knowledge it takes to run a farm of their size; “My father will come get me from the fields and say, come on, let’s go to the office... he has taught me about how to manage the business side of the farm. I can farm, that part isn’t the issue... but, how to make farming work financially, to turn a profit and support families and prepare for the future, that stuff I could never do without my dad... he’s teaching me.”

Another participant went to work on his father in law’s farm when he was twenty-seven. He recalls, “I was astonished that he [his father in-law] put me in charge of a half a million dollar cattle operation... of course, I was flattered he trusted me enough... he taught me a lot... at that time about cattle because I was in charge of the cattle operation and he was in charge of the farm... he told me that I should not move the cattle to a new field until they are full. If you move them in the morning after they laid down all night they are likely to get bloat and die.” Even a participant whose father owned an accounting firm that serviced farmers described working in her father’s office doing books for farmers. She says, “I was making cash flows and operating budgets and cost analyses for million dollar farm operations when I was 18 years old... my dad’s business is where I learned to do books for my husband’s farm... they [friends, community members] call me a ‘farm wife,’ but I’m really a business woman.” This type of human or cultural capital is acquired through familial obligations and ultimately provides a type of specialized knowledge that is reproduced and then utilized by the proceeding generation. Farm knowledge is a type of cultural or human capital that is often needed to produce financial capital. Acquiring farm knowledge is essential to running a successful farm.

Another type of farm knowledge required in present day farming is a college degree. Eight out of ten participants explained a scenario in which a farmer attained a college degree or was expected to earn one before he farmed. At times, expectations for this form of social capital are extreme. One participant recalls in frustration, “My new brother in law felt like his step son didn’t have enough education to farm so he wouldn’t let his step son farm his land and instead employed his step nephew to farm his wife’s land.” Farming participants clarified that their parents and their friends’ parents stipulated that their descendants “must have a college education before taking over the farm.” One interviewee explains, “My dad expected me to go get a college education before I could take over the farm because I had to have something I could fall back on.” Another participant described, “...my brother wasn’t allowed to come back to the farm until he got a college degree because farming is never guaranteed.” In similar fashion, a participant illuminated “...my dad said that the requirements for a job on this farm is a college degree... because you never know what could happen...” Attaining this type of social and human capital, or farm knowledge is clearly very important to farming families, partly attributed to risks in farming.

Participants explained a growing trend in which people want to come home to farm their family farm, but there is no space for them on the family farm. While several of my participants were offered the option to farm, a few were not. Four of my participants explained that either they themselves, their uncle, brother or son is unable to farm because of lack of opportunity. For instance, one participant’s brother cannot come back to farm their family farm because “...my mother continues to rely on the income from my father’s farm...my father passed away unexpectedly and my mother had to figure out how to operate the farm through someone else [farm rent arrangement] so she needs the farm income and we have to take care of her... Many

times there isn't enough income from the farm to support two families." Another participant wanted to farm his whole life, but his oldest brother wanted to farm too, so he had to choose another field. He went into an agricultural field, first managing a grain elevator and later as an agricultural loan officer. He explains, "Like many people in my situation, I wanted to come home and farm but my older brother had been helping my dad longer...I liked agriculture so I went into a field that involves agriculture." Another participant argued that many of his friends didn't have the opportunity to come back and farm or have to wait so long that they don't [ultimately] choose farming. One participant describes, "Several of my older brother's friends wanted to come home and farm, but they can't because there's no place for them on their family's farm, there's not enough land to keep people busy or pay their bills... it's usually because their dad still farms and so they have to work on a different career than farming...It can get hard to pick up and leave all that when you have a job, wife or kids or somethin' that don't want to move." One participant explains, "I have probably 20 different friends that want to come home and farm, but they have to wait another 10 to 20 years until their father quits [farming]..."

Two participants described two different wealthy families, one in Haskell and one in Finney County that employ farmers without a farm and help them obtain land ownership. One participant explains, "A family in Haskell County don't have an heir, so they chose someone outside their family to be their heir." The other interviewee describes a farming family that has accumulated many sections, she says, "...they can't handle all the land they have so they look for young, local entrepreneurs who want to farm and sponsor them." These stories represent unique strategies that current farming families employ.

All of the participants argue that passing a farm down throughout a family's subsequent generations is one of the most important values in the community. The social expectation is that

when the farm is inherited, the heir lives locally and owns and manages the farm. However, there have been many changes in this tradition. The most problematic issue is that many farming families in Haskell County (and throughout the Great Plains) cannot produce an heir. Another issue that many participants discuss is that farming descendants live outside of Haskell County, and often out of state. Family farms continue to be inherited and owned exclusively by descending family members. Participants clarify that even if all the family members live away from the farm, out of state even, "...that the land continues to be owned by the family and passed down... and the farm is worked by a local farming family that has a rent arrangement with the land owners..." One participant illustrates this point as she and her husband grew up in Sublette, but lived in Topeka for a few decades. They returned to Haskell County when her husband "inherited land from his uncle that hadn't been worked in almost 10 years... he wanted to retire to Southwest Kansas to be a leisure farmer...he wanted to work the ground because he wants our nephews or our grandsons to come and farm later... he had to work the ground a lot and spray for bane weed but he is growing different stuff, oh and he installed a sub-drip irrigation system by himself."

Farming continues to be a family tradition in Haskell County in which land, equipment and often the homestead are divided and inherited. Farm inheritance within Haskell County can be understood as a type of social, cultural and financial capital that is passed down within the community through families. Family farm inheritance is often disrupted by farming families unable to produce a locally residing heir to manage the family farm. This growing trend represents a breakdown of social, cultural and financial capital in Haskell County. One farm couple I interviewed were unable to have children, so they adopted a son who cannot farm because of medical issues. They planned to sell their farm to a young, local farmer returning

home to farm who resided to both north and south of their farm. The participant exasperatedly expounds that “Well, the boy to the north died of a heart attack and the boy to the south, he ah, he committed suicide.” His wife explains, “So that’s two more possibilities for us that we were counting on, just gone, we spent our lives building this business into what it is and we have no one to pass it to... our business is worth almost 5 million dollars, I mean what if it [the farm] was a factory or restaurant worth that much?”

Another successful farming couple I interviewed are without an heir to manage their farm. Their children will not come back to even manage the farm business. “This is problematic...” the wife explains because “I’m trying to keep together our farm with a manager after we retire... we worry about what will happen to the farm when we die.” The husband expounds that there are other large family farm corporations like them in Haskell County who “...would be at our front door in 30 minutes with their check book ready if we were going to sell, they want this place [their farm] locked, stocked and barreled.” Another participant argues that “...when families can’t pass their farms on, like what happens on many family farms these days, the family loses their family tradition and what they have worked so hard to keep in their family.” Another participant explains, “So... now I am trying to shut down a multi-million dollar business I built and I have to figure out how to essentially phase us out of farming, out of our farm... but my wife and I don’t want to sell and lose half our land value to capital gains tax.” Another participant explains that they have friends: a farming couple with one adult son who is unemployed, living in Garden City who will not move 40 miles to manage his parents 6 million dollar farming business. These types of stories convey the frustration and desperation that these couples feel when they are unable to produce an heir. Consequently, a few participants who struggled with producing an heir described bouts of depression.

An unusual transition in farming within Haskell County, specifically, is young farmers working on the family farm. A young farmer who is already working on the family farm himself explains that “I feel like I’m witnessing a growing [trend] in this county where fathers try to get their sons to come home earlier to farm than they used to.” He elaborates, “I see this [young farmers returning home earlier] happening more and more, but it’s not like it happens on the majority of farms here or anything.” Another participant explains, “Yeah, it’s pretty unique that there are a couple dozen young farmers in Haskell County because you never really see that in Kansas, hell you don’t see that anywhere...” A transplant participant explains, “When I moved here I was shocked to work with so many farmers under 40...” A wife of a young farmer illustrates, “Me and [her husband] were living and working in Garden City for a few years after college when he [her husband] told me that his dad said it was time for us to move home because he needed [her husband] to come work on the farm. I was shocked because I thought we had another 20 years before that happened!” A couple that lives in Finney County speak to this point, “Our county doesn’t have as many young farmers as Haskell County, but a few families are starting to see the benefit in it... younger generations understand new technology better...when you make your son wait two decades before he can farm it often gets run by a manager outside the family and farm hands and that’s not what anyone wants...” A young farming participant argues, “Farming a large farm that is mostly irrigated ground can be very labor intensive, so you need more people for a farm like that.” Many participants could name large farming families in Haskell County whose farm income supported multiple families. As one participant explains, “...there are several farms in town where the dad, uncle, son and nephew all support their families from the same farm...”

Summary of Findings

Agriculture is fundamentally important to the economy of Haskell County. Participants explain that most of the industries in Haskell County and the surrounding region depend upon agriculture. Consequently, the livelihood of many community members and the community itself depend upon agricultural outputs for economic stability and permanence. Participants explain that there are traditionally minded farmers and opportunistic farmers. Traditional farmers preserve farming practices that are notorious from generations past. Yet, participants explain that many farmers are opportunistic and plant according to the weather conditions and especially, market prices. The number of farms has decreased in Haskell County while the size of the farms has increased. This transition is largely due to improvements in technology that have promoted more efficiency. The need for farmers has declined which has promoted economies of scale in farming. Capitalistic features have increased greatly in farming and the *business side* of farming is a predominate feature in present day agriculture. Consequently, owning land is coveted and acquiring more land is pursued to achieve economies of scale.

Risks are extensive in farming. According to participants, risks can derive from poor weather conditions, large loan payments, periods of financial loss, variable market prices and in one story, loss of the knowledgeable and present farmer. Dependency on farming is risky for the Haskell County community given that agricultural ventures are dependent upon a non-renewal resource. Declining prices for natural capital, like oil and gas production is also a problem cited by participants. Despite these risks, participants continue to farm and wish their children to farm. Participants are well versed in the lengths to which their ancestors fought against all odds to farm, in *the golden era of farming*. Interviewees explain how past farmers took risks and worked extensively to reconstruct their environment, or to tame the beast. Participants likely understand the risks they experience to be part of the farming tradition.

In farming today, inheriting generations are often expected to attain a college degree before they are permitted management and ownership of the family farm. Ascending farm knowledge continues to be important to present day farmers. There is a growing trend in which farmers who want to come home and farm have no place to do so. Participants explain that passing a farm throughout a family's subsequent generations is one of the most important values in the Haskell County community. Yet there are many individuals from farming families who learned how to farm; yet there is no room for them to do so. The most troubling issue expressed by farming families is that many farms have no heir to pass on their land, equipment and knowledge. These essential forms of capital are not transferable to the next generation without a family member willing to take on management and ownership of the farm. A trend has occurred in Haskell County in which young farmers are coming home sooner to begin their farming careers. This is a trend that may be unique in Haskell County. The purpose of farmers returning home sooner may be a consequence of increasing labor requirements large irrigating farms.

Social Changes

Rootedness

Each participant was well versed in their ancestors' history and personal stories. Eleven out of the twelve people I spoke with could explain their relatives' experiences acquiring land or living through the Dust Bowl in great detail. All of the participants expressed pride in their ancestors or admiration for a particular relative. Many interviewees explained their family tree to me like this participant... "I am 4th generation farmer in my family. My great grandmother moved here before the Dust Bowl. She was born in 1890 and survived the Dust Bowl in her middle ages and never produced an heir. She adopted her nephew- my grandfather- and he took over management of the farm after he graduated from Fort Hays University." The participant

goes on to explain his father's history, "...my father attended Garden City Community College...met my mother there...and graduated from Kansas State University...he immediately came home to farm and this was in the 1970s. Many participants noted particular stories of hardship their families endured. Most of the stories concerned farm life before modern technology and the physical and social hardships survivors of the Dust Bowl endured. One participant explains, "In 1918, my great-grandfather went to Kansas City to get a vasectomy because he and my great-grandmother had been married 5 years and had 5 children already... so he actually caught Influenza in Kansas City and died... so my great-grandmother is left a widow with 5 kids and no idea how to run a farm... to survive the Dust Bowl she sold off her land to survive...so I tell people that I lost my quarter of land [in reference to a dowry] to the influenza virus." One participant notes that farming is notable point of connection between generations when she says "They raise so much corn throughout time themselves and their father and grandfather did too and that is what they know how to do-raise corn." Every participant with a farming family explained that "...farming is a lifestyle... it had been in people's families for generations... people see themselves as a farmer, not just as someone who like grows food for a living..." Farming is a type of financial, human, social and cultural capital that helps to construct and maintain members' identities and perpetuate agriculture in the community.

Almost every participant described something like, "Haskell County is "...a really safe place to raise a family and there is no crime here." Many participants referenced family values when they explained reasons for residing in Haskell County. As one participant described, "Most people around here want their kids to grow up like they did because they want their kids to develop the same values they have... growing up on a farm instilled a lot of values in me that I want for my children too..." Other participants explain that "I believe in the values I was taught

through farming and living in a small town and these are values I want my son and daughter to have..." or "...my kids love going to the farm." Four participants explained that they "know of people who want to come home and raise their family here, but they can't because they can't get a spot on their farm... or they aren't interested in agriculture." Participants have mixed responses about youth returning home after pursuing occupation and educational experiences. The general consensus among interviewees is that "I think people try to come home to live their adult lives, but sometimes it's just too hard to find a job..." or "... I think most people interested in farming or agricultural jobs try hard to come home..." Some interviewees said things like, "... if I didn't have a job here I would be frustrated because I'm attached to this community and will always live here."

Many participants explained that they do not want to live in a big town but that Haskell County is different than they remember. One participant explains, "There is something to be said for living in a small community. I thought I would want to move when the time came for me to take that job in Topeka, but I decided leaving wasn't what I wanted, so, I've stayed..." All the participants expressed a desire remain in Haskell County except two farming couples who do not have an heir, will retire elsewhere and will hire a farm manager. As one participant explains, "...We were able to purchase this house [their second home in Manhattan] because we had extra equity... so we can retire to Manhattan...more amenities... living in town to us is novel..." The other couple explains, "...all our family has moved away...we want to live near our grandchildren in Salina..." Other participants I spoke with who are considering retirement in the next decade explained they would not be moving away. These participants have children and grandchildren in the area. Many participants seem to desire continued residency in Haskell County, unless they are retiring from agriculture and are without locally residing family.

Every participant in a farming family expressed that farming encourages a sense of pride. “There aren’t really any farmers left that aren’t good at farming- you can’t afford to be a bad farmer anymore, so we’re all pretty smart” a participant says with a laugh. Almost every participant made mention to how Haskell County farmers feed the world. Participants said things like, “...and we feed the world, our farmers and our community are important to world...” Another participant explains, “...there are seven billion people in the world that we are expected to feed and soon we are going to be expected to feed 11 billion...” “...what would we do without our farmers? How would we eat? World peace depends on food... we have to have places like this [Haskell County.] Most participants referenced how they were stewards of the land or that Haskell County farmers are good to their land because the land is their means of livelihood. One interviewee explains, “I own this land, so I take care of it... I depend on it...” These participants are making a moral argument in which farmers are inherently stewards of farm land that service the world through feeding a growing global population.

Older farmers agreed that owning land is a mark of prestige in their communities. A participant explains “One of my husband’s greatest pleasures in farming is farming everything his eye can see from our homestead... farming all the land around him is important...” Farmers agreed that owning land was important to their identity. Young farmers agreed that owning land was critical to their sense of self, but owning land may not have the same prestige it once had. One participant said, “I can see how young farmers would feel like owning land is prestigious... but on the other hand probably only half of my friends I know I own land... and my friends who don’t farm are mostly just shocked about how much debt we have...”

Life Today in Haskell County

Haskell County's population is changing. Residents who were born and raised in Haskell County move away and outsiders move to Haskell County. A participant explains that, "I used to know everyone in this town, but not anymore." Another participant says, "When I go to the elementary school to pick up my son I see kids and I'm thinking, 'who do you belong to?' but I could never live in a big city, like Topeka, no thank you!" Out of the 12 people I spoke with, only one person was born outside of *the* Southwest Kansas region. A participant explains that "...we don't get new people here often...It's usually because of marriage or a job in the feedlots..." Another participant says with a laugh, "...we're a rural town so of course we get new doctors, teachers, preachers a lot..." In this study one participant was a Colorado native and another interviewee was born and raised in a different Kansas farming community. All other interview participants were born and raised in their respective hometowns (Ten people from Haskell County, Two from Finney County). The two participants born outside of these two counties are labeled what participants call *a transplant*.

As one participant explains, "A transplant is someone who can't find their family history in the library..." The transplant participant born in another Kansas farming community explains that she feels like she has been accepted by the Haskell County community. Her spouse is from Haskell County and she has a position in local government that services agriculture. She explains, "When I first moved to Haskell County, I felt like everyone was staring at me, people are really sensitive to new people in the community, because you know we don't really get many new people here. But, ya know being involved in agriculture, it's something people care about here [Haskell County] and it helped me get to know people." Both 'transplant' participants were raised on dryland farms in Kansas and Colorado. One of these participants exclaimed, "It was a

huge culture shock to see expensive trucks in farm fields... and farmers who owned half a million dollar combines and tractors..." and the other participant argued, "Farmers are wealthier here because of irrigation... and the Houghton gas field helps make irrigation cheaper... farm lifestyles here are faster paced than where I'm from." Other participants explained to me that teachers are often relatively transient in these rural communities. One interviewee said "You know I've heard that teachers sometimes feel like they were never really accepted into the community or not as welcomed in the community...I never really saw anyone gettin' shut out of the community myself." One participant argues, "It has to be hard to be a transplant in this community. I mean when people ask, 'Who did he marry? They won't tell you her name, they'll say 'She's not from here'..." These participants explain that Haskell County transplants can have different experiences being accepted into the community.

Participants explain that residents may not return home or outsiders may decide against moving to Haskell County because of the expensive housing market and lack of commercial development, or built and cultural capital. The housing market in Haskell County is a common complaint among participants, primarily because houses are very expensive. One participant explains, "I got 10 thousand dollars over asking price for even *my* house... it's *not* a buyer's market." One participant argues, "There are people who can't move here I bet because there are very few rental properties and houses to buy..." Another participant elaborates, "This [lack of housing options] can be problematic for our community, I mean you can't even build one [a house] because the farmers who own the lots won't sell them!" I inquire why farmers won't sell lots they don't develop and the participant argues that, "Probably because land is so hard to come by and once people get ahold of land they won't let it go until they die... and they don't want commercial development..."

Participants generally agreed that some people do not return to Haskell County because of weather conditions and “lack of entertainment and convenience...” “You have to love it out here, it’s not pretty and green and the [weather] conditions it’s hard to live out here” says one participant. Many participants complain of things like, “Until Dollar General, you couldn’t even buy a birthday card without driving 40 minutes...” One participant explains, “I don’t want to live around all those box stores and traffic in big cities and you get used to driving for things [from Haskell County]... I take my kids to the movies twice a month...my brother lives ten minutes from a movie theatre in Liberal and they never go [to the movies] as a family...” Another participant explains, the only things that drives me crazy about living in Haskell County is that I can’t even get affordable groceries in town...and we have to drive four hours to get to a mall.

Participants were asked what factor is most responsible for members not returning home, eight participants chose “economic opportunities” and 3 participants said “an unwilling spouse.” One participant in her early 30s explains that “When I was growing up, many people in my high school grew up on farms... but there isn’t always space for all the kids [on the farm] so many had to make another career, which means leaving Haskell...” As one participant described, “my friend was up for a job here [Haskell County] and he brought his wife home to check out the community...they didn’t spend 10 minutes here before she was crying, begging him not to make her live here...” A participant explains, “I would say that most people who live here don’t want to leave, I mean young people always want to leave, but probably 1 out of 3 try to come back or do come back...almost always to an agricultural job of some kind...”

Many participants discuss residency changes within the county. One participant describes, “Few farming families in Haskell County live on the homestead anymore...” Another

farming couple who lives in their original homestead explained how four out of six neighbors left the homestead and moved to an in-town residence or outside of Haskell County altogether. Another farming couple discusses a similar experience, “We live on the family homestead... three out of four of our neighbors no longer live at the homestead property... [] family moved to Kansas City to be with grandkids, and the [] family moved in town...his wife was tired of carting kids back and forth...and [] family, they have no son to farm so they left Kansas to be near her family...” Many participants explained something like, “Many families that farm who have young children move into town because the wife is tired of carting the kids back and forth to school activities... the homestead can be far from town.” Another participant argues, “Many farmers have moved to town, which makes the housing market really expensive...”

In nine out of ten interviews conducted, participants explained that the relationship between community members has changed. Participants said things like, “...the community isn’t as tight knit as it used to be...” or “...you can’t just show up to see your neighbors without an invitation anymore...” and “It used to be that you called on your neighbors when you liked...and we don’t do events together as a community anymore...like the whole town would go see fireworks in Garden City together...” Other participants explained that farm families used to be closer, “...but since my parents had to get out of farming it seems things have changed...” Interpersonal relationships between community members and members’ relationship to their community may have changed. Yet, all of the participants referenced ways neighbors continue to support each other. One participant explained that “When he [her husband] is harvesting crops we count down the days until he is done... but then he will be finished with his harvest...and he’ll be down at the [] farm or the [] helping them harvest their corn...” Her husband explains, “We like to finish harvest together...” Every participant explained a way in

which neighbors assist each other in times of crises or "...we help each other a lot, like you scratch my back, I'll scratch yours."

Participation in school and community programs is increasing. One interviewee involved in the community explains, "In the last 5 years I have worked for [] 4-H participation has tripled and the number of programs for kids in elementary, middle and high school have gone up... participation in programs has increased..."

Social Challenges

Farming continues to be a patriarchal social and occupational system, but there have been some critical changes. "...women do labor on the farm sometimes, but I don't know many women who run their own farm or manage their husband's farm..." "...farming continues to be patriarchal, but it was much worse for my mother than it is for me... I don't know if it's because most women work or because there are less farmers now..." One participant explained that Haskell County has a sexist system in wage work as well. "I know a bank in town where all the female employees have to use time punch cards, even the Vice President of the bank, but the men, clerks and management alike, get paid a salary..."

Women in farming families are treated differently largely due to their age and respective generation. A farmer's wife who is 51 years old explains that "Many people don't like that I manage my husband's farm... they think it makes him [her husband] look weak." She continues, "...Although I manage a multi-million dollar business, I am still considered a *farm wife*..." A participant explains, "...many women my age aren't even stock holders in the farm...the only rights they have to the business are through their husband..." Another interviewee argues "...see younger women are makin sure their husbands list them as a partner in their farm corporation... or they get the farmland retitled to include both their names...because there are horror stories out

there...” The younger women I interviewed who were married to farmers were all listed as partners in their husband’s farm corporation.

Women’s age also impacts community expectations, “I think expectations for farm wives is changing...a woman of my age [56] married to a successful landowning farmer is expected to be involved in the community, to serve on board and organize charity events...” I questioned a younger woman married to a farmer about the “community obligations of a farm wife.” She explained, “Yeah there is probably expectations that I participate in the community, but I don’t think people expect a lot since I work.”

Many participants discuss the growing Hispanic population in town. One interviewee describes, “A lot of Mexicans move here to work in the feedlots at like Cattle Empire for instance.” One participant says, “...people had to adapt to it [influx of Mexican immigrants]... I mean there are youth groups just for Mexicans in Satanta.” One participant who lamented “the growing racism in this region...” explained, “Hispanics know their place. People actually fired Hispanics that went to the nonviolent rallies in Garden City after Obama enacted the Dream Act...” A few participants made comments like... some Mexicans are well accepted and respected in this community and some are not...”

There are two populations in Haskell County every participant discussed: the German Mennonites who settled in Locksport in the 1890s and the ‘Mexican German Mennonites’ who settled in Haskell County within the last 10 years. Interviewees’ perceptions of these populations contained very little variation. The German Mennonites were revered and the Mexican German Mennonites were disparaged. As one participant explains, “The German Mennonites are religious, well respected in the community and are some of the smartest and most efficient farmers... we often call them the ‘the good Mennonites.’ The Mexican German

Mennonites are described as “The bad Mennonites because they buy all sorts of used farm equipment and sell it over the Mexican border... they have two spots in town where they store all this junky equipment and it looks terrible...” Another participant says “Mexican German Mennonites bring drugs from Mexico and buy these big houses in town...they are mean to their wives... their quality of life is construed...” These two Mennonite populations are clearly perceived very differently in their community. None of the participants could explain *how* or *why* the new Mennonite population came to be established in Haskell County.

Farmers are no Longer American Heroes

Many participants felt like farmers were highly criticized by family members, people in urban areas (including Eastern Kansas) and in the media. A participant argued, “When I married my husband in the 60s, farmers were American Heroes and now they are feared by the public... farmers are no longer American Heroes in this country.” One farmer explained, “The disconnection between the public and farming is multi-faceted. Farming takes less manpower now, so there are less farmers than their used to be, so people understand less about agriculture...” His wife argued, “...a study can be written and perceived differently than intended or what is the truth. Not many people in Eastern Kansas or in many areas of the country even know a farmer to ask about the truth... there are a lot of conspired ideas about farming popular in the media that are negative...it can be hurtful.” These discussions suggest that farmers may feel like an ‘underdog’ or misunderstood by ‘outsiders’ or those without agricultural knowledge or affinity for agricultural industries.

A farming couple describes that the perception of farmers in the media has changed the way their family members treat them. The farmer explains, “...well my sisters don’t like monocrop agriculture because it’s bad for the soil and they don’t like that I use pesticides for no

till because ‘it caused my father’s prostate cancer’ and they don’t like that I’m not just dryland.” His wife continues, “It doesn’t matter how efficient he is with water or the advantages of no-till, oh! And they hate GMO products and we raise GMO crops... but you know his sisters get good money from this farm too... it depresses [her husband] sometimes.” The farmer said woefully, “My sisters grew up on this farm...and now they treat me like the devil incarnate.” Another participant explains, “...people in Eastern Kansas don’t understand what’s going on here, they romanticize farming and underestimate what we do here.” Many participants explained frustrations they had with urban dwellers’ perceptions of farmers and how their farming practices harm consumers. One participant exclaims, “Why would we do anything to hurt our land or hurt consumers? If we hurt consumers we would be hurting ourselves... we are consumers just like them!” Many participants brought up things like, “There is no such thing as GMO wheat!” or “We don’t spray round up on wheat right before harvest!”

Summary of Findings

Participants are deeply connected to their ancestry, particularly as family tree related to farming and enduring conditions of the Dust Bowl. Participants explain that farming is a lifestyle that involves social, economic, historic and environmental circumstances. Participants explain that present day Haskell County provides a safe place for residents to raise their children in a setting in which good values can be instilled in their children. Children’s access to a farm and its accompanying values are important to participants. Participants who reside in Haskell County express many features of the community that they credit as important. Family values, small town life, low crime rates and proximity to a farm are features commonly identified. Participants expressed pride in farmers and pride in their farming community by explaining that Haskell County farming ‘feeds the world.’ Owning land was formerly a prestigious quality as

cited by previous authors. Yet, younger farmers explain that the prestige surrounding owning land may have become less important, socially speaking. More transplants have moved to Haskell County, which changes the profile of the community.

Participants explain that some residents may not return to Haskell County for a multitude of factors. They include uncomfortable weather conditions, lack of entertainment and convenience, an expensive and limited housing market, an unwilling spouse and lack of economic opportunities, including farming. Participants note that many participants leave and there are many former residents who want to return home, but cannot due to an issue listed above. A large number of farmers have moved from the homestead into town, leaving fewer farmers still residing in the country. Relationships within the community have changed as participants explain that community members are not as close knit as they once were. Neighbors continue to assist in times of need, but the interpersonal closeness between community members and members and their community may have deteriorated.

Farming continues to be patriarchal, although women's experiences are different based upon their age and respective generation. Female participants explain that farm wives from one generation earlier still suffer under patriarchal expectations and sexist stereotypes of the *farm wife*. Young farm wives are more likely to expect to be listed as a partner in a farm incorporation or as owners on a land deed. Based upon participants' discussions, Mexicans do not appear to be readily accepted in the Haskell County community, particularly those from the German Mexican Mennonite community. Participants relate largely negative connotations and experiences with this population, which likely indicates undertones of prejudice in this community.

Many participants in this study complained about the changing opinion of American farmers. Participants explain that this negative perception has been expressed by family members, people from urban areas, like Eastern Kansas and the media. Participants argue that farmers are criticized from a wide range of factors including, monocrop planting, pesticides, water use and GMO crops. Participants argue that these misperceptions have changed the way the American farmer is perceived. Some participants are more troubled by these perceptions than others. Generally, these misjudgments seem to have strengthened participants' feelings of 'us versus them' or 'farm town verses urban areas.' Farmers continue to defend their farming practices and their agrarian lifestyles that they associate with the old agrarian way of life

Chapter 6 - Conclusions

This study explores the relationship between social change, economic development and environmental change in Great Plains farming communities. I chose to study these three concepts because they offer the most explanatory power concerning the Southwest Kansas region. Farming communities across the Great Plains have experienced economic decline and population loss. The Southwest Kansas region has been able to avoid the typical fate-characteristics of farming communities- but, they have done so at great environmental cost. This study is significant because it illuminates the extent to which the social and economic fabric of these communities depends upon agriculture and environmental exploitation. To understand this relationship, I used the Capitals Framework to demonstrate the ways in which environmental, economic and social resources are created, used and reproduced in Haskell County, Kansas. The Capitals Framework also helps to illuminate the ways in which these resources are used to promote environmental, economic and social change.

Ogallala Aquifer is a non-renewable common pool resource. Water tables are not static and farmers' pumping rates can impede other farmers' access to groundwater. This regional economic dependence on this type of natural capital or common pool resource is characteristic of the Tragedy of the Commons (Hardin 1968). Tragedy of the Commons can be understood as consumers exploiting and in this case, hyper- extracting a natural resource for individualized economic gain. Use of the resource is based upon economic incentive rather than conservation measures. The tragedy is that the limited resource causes an entrepreneurial strategy to get *what you can, when you can*. Farmers identified efficient irrigation systems as their method of groundwater conservation, yet they cannot take the economic risk to improve the irrigation

systems. Consequently, it is unlikely that the Ogallala Aquifer will avoid its inevitable fate: total depletion.

Water conservation in Haskell County is generally concerned with preserving farming practices in the future. Many participants cite gains in technology as the method for achieving future groundwater savings. Widely used irrigation technology like center pivot systems save much more water than previous systems. Participants argue that their present irrigation systems (center pivot technology) prevent considerable water waste. Participants' memories of water waste may promote the mentality that wasting *far less* water is actually a form of *water savings*. Farmers argue that their community almost exclusively uses center pivot systems and that hundreds of farmers practice no till farming. Water savings is often understood as *groundwater conservation*, so participants understand preventing water waste and moisture loss as improvements in groundwater conservation. Participants identify more efficient irrigation technology as achievements in groundwater conservation. Still more efficient irrigation systems like sub-drip technology are described as "...the next step of groundwater conservation..." Sub drip systems are desired by farmers because greater efficiency represents even more groundwater savings. Using sub drip systems and improvements in groundwater conservation are considered one in the same. Participants are most concerned about saturated thickness and groundwater conservation as it relates to future water use, for themselves and their children. Given that efficiency symbolizes conservation, we would expect to see more farmers in Haskell County with sub drip irrigation systems. If improved technology is farmers' solution to combat declining well depths, we would expect to see many farmers adopting the system. Yet, participants explain there are only around five farms that have sub drip systems in Haskell County.

There is an inconsistency between farmers' perception that groundwater conservation is achieved through efficient irrigation systems and their apprehension to adapt sub drip technology. More farmers do not have sub drip systems because the system is considered unaffordable or too risky to purchase. Many Haskell County farmers likely have existing equipment loans from center pivot technology have expensive land payments, which likely discourages interest in or ability to afford a sub drip system. Sub drip technology is not removable from the land and given the unknown and largely unpredictable well depths in Haskell County, farmers argue that the technology is not in their best interest to adopt. A farmer explained, "...sub drip technology is great...but it's risky to adopt... I have to have enough groundwater to pay off the equipment loan ...". Efficiency measures are pursued through systems that are economically feasible for farmers.

There is a discrepancy between farmers' desire for groundwater conservation and their limited financial incentive to purchase sub drip technology. Consequently, groundwater savings can be achieved through irrigation systems only to the extent that farmers are willing to take on financial risk for sub drip irrigation technology. Farmers' interpretation of groundwater conservation are different than say professors at Kansas State University. The amount of saturated thickness farmers are interested in conserving relates mostly to the amount of water their children need to farm the way they have. Farmers' perceptions of groundwater conservation are likely due to the economic environment in which they are expected to farm. To achieve economic gain or at least stay in the farming game, farmers have to pursue their individual interest and work towards economies of scale. Farmers' attitudes about groundwater conservation are different from conservation experts because farmers have need of the environmental resources to pursue their economic and social interests. Efficient irrigation

systems are not likely to increase saturated thickness, but they could slow the process of decline, which is most important to farmers and the Haskell County community. Farmers and community members see technological changes like no till farming, sub drip technology or drought resistant GMO seeds as methods to achieve groundwater conservation because these strategies save water and improve their economic interests. Strategies like 10 percent reduction in water applied to irrigated corn could likely conserve thickness. Yet, such measures interfere with farmers' economic interests and their social expectations to manage their own environmental resources.

Changing the way farmers use their environmental resources can greatly influence their social realities and means of achieving economic development. Farming is understood as a *lifestyle* and consequently, social and economic conditions are inseparable. Changing the way farmers fulfill their economic interests changes the social conditions and expectations of farming. Social conditions attributable to farming often involve ancestral histories and traditions handed down through generations. Throughout history, individuals have been permitted to use natural resources for their personal economic ventures. Images like “creating your own destiny” or “taming the beast” are characteristic of the Golden Ages of farming. Natural resource management undermines farmers' ability to pursue their own economic interests and restricts social freedoms associated with being “a self-made man.” Farmers strive towards drought resistant seeds, no till farming and efficient irrigation technologies because they have economic incentive to make environmental changes. These strategies are likely perceived as the best methods of groundwater conservation because they do not restrict economic interest or influence social expectations for farming. Farmers and community members are concerned about

declining thickness, but not enough to make environmental changes that would ultimately transform the social and economic aspects of farming.

Southwest Kansas communities like Haskell County have been able to avoid the general decline of Great Plains farming communities mostly due to the High Plains Aquifer. Haskell County's population has not declined and the local economy has continued to grow. Participants are concerned about future social and economic changes associated with declining environmental resources. Farmers express concern for their individual family farms and all participants fear for their community's dependence upon a common pool resource. Participants are concerned about the next generation's water supply as it regards their children farming as they farmed. Farmers consider groundwater conservation strategies are critical for future dependency.

Current groundwater policies are not intended to control rates of extraction by irrigation farmers. In fact, they largely accomplish the opposite. Currently, conservation measures are developed and enforced at the local level. Participants are in favor of the state's decision to let local communities govern their own groundwater conservation strategies largely because of their knowledge about local water resources and because of diverse well depths. The state's decision to allow counties to govern their own water resources could empower a community to develop their best interest in groundwater policies. However, farmers' interest in farming is largely economic. They are responsible for managing environmental resources because they use the resource for their farm's capitalistic ventures. Farmers explain that 'they are stewards of their land'- which is certainly true. Yet, farmers are not environmental scientists, hydrologists or groundwater conservation experts. However, current policies expect the population which must exploit natural capital (groundwater) to create economic capital (farm income) to also act as stewards to the groundwater. The same population which is expected to exploit the resource is

also expected to conserve it. This expectation that farmers will act as groundwater stewards seems misguided as farmers often have to mitigate their personal financial risk by using more groundwater. For instance, farmers explained they may apply more water to raise larger corn yields or to compensate for minimal precipitation rates. Despite farmers' best intentions to improve water savings for future generations, water conservation and economic interest do not share the same goals.

Farmers cannot be expected to manage and conserve natural resources when development of social and economic capital depends upon hyper-extraction. Farmers are expected to protect natural capital largely at the expense of economic, social and human capital. When natural capital is protected to conserve the Ogallala Aquifer, farmers' skills in farming ventures, or human capital goes unutilized. Likewise, the tradition of family farming or social capital may become vulnerable as some farmers' economic capital cannot withstand less irrigation. Less natural capital will overtime make much of the built capital in Haskell County unserviceable to the community. Haskell County needs natural capital, but it also needs to *use* its natural capital to reproduce forms of human, social and cultural capitals important to the community. Conserving the Ogallala Aquifer is not only a question of environmental sustainability, but also of community sustainability. As farmers have been charged with conserving their own water resources, they will likely continue to make decisions about conservation that do not diminish one type of capital for another. Groundwater conservation policies have become a type of social capital in which farmers can protect their community and individual social and economic interests.

Path dependency is a grave concern for this community. The *treadmill of production* forces capitalist enterprises to perpetually strive for growth (Schnaiberg 1980). Participants

understand that natural capital is the foundation of their economic and social system and are concerned about the future of their community without extensive irrigated farming. Yet, if farmers in Haskell County continue to manage the Ogallala resources based on individual economic incentive the community will likely suffer. The community's expected path or trajectory is an inevitable unless the path is redirected. Less water intensive farming, like dryland is often predicted as a future solution. Re-rerouting Missouri flood waters to Southwest Kansas has been proposed. An immediate option is to expect groundwater conservation strategies from a party that does not have an economic incentive to over pump. Otherwise, farmers and community members will likely preserve their own social, cultural and economic capital and wait for a technological solution that may never come.

Haskell County, Kansas is an example of a hyper-extracting rural community that has a history of dependency on natural resources. The community's reliance on irrigated waters has created a type of trajectory, or path dependency that limits the community's present and future economic development and diversity. The community's economic activities continue to develop around and on top of the resource, intensifying the socioeconomic dependency on environmental resources. Social, economic and environmental changes in Haskell County are largely driven by use of the Ogallala Aquifer. The Ogallala Aquifer is a large resource and irrigation provides the socioeconomic foundation to many rural farming communities across the Great Plains.

Extraction dependency is a type of economic development that many resource rich rural communities utilize across the United States. Some of these communities have benefitted from path trajectories focused on resource extraction and some of them have suffered. In the 1980s, there was an oil and gas boom which resulted in long-term specialization of oil and gas production in rural communities across the American West. There have been studies which

evaluate the relationships between specializing in oil and gas and the socioeconomic well-being of extracting communities. A particular study evaluated the statistical relationship between economic development in oil and gas production and social and economic characteristics of county populations from 1980 to 2011 in six major oil and gas producing states: Colorado, Montana, New Mexico, North Dakota, Utah and Wyoming (Haggerty et al. 2013). The study used eleven measures of economic growth and quality of life in counties with an oil and gas specialization and found several social, economic and environmental changes in some communities (Haggerty et al. 2013). The shale oil and gas boom introduced various types of extractive community development in these counties, but production has shifted to more concentrated development dominated by either short or long-term intensity within shale oil and gas production.

This study, like many (Brown 2014; Brown et al. 2005; Haggerty et al. 2013) demonstrates the mistaken assumption of long term oil and gas development as a definite advantage for hosting communities. This notion is probably due to the fact that participation in 1980's shale oil and gas boom was positively associated with "change in per capital income" (Haggerty et al. 2013 p.15). Yet, the "positive effect decreases the longer counties remain specialized in oil and gas" (Haggerty et al. 2013 p.15). In fact, long term specialization in oil and gas production has negatively affected per capita income and rates of crime and college graduates (Haggerty et al. 2013). Many scholars explain that counties with oil and gas production, like many types of extractive industries have burdened rural counties with the "resource curse" (Brown 2014; Brown et al. 2005; Haggerty et al. 2013). However, Haggerty and other researchers found that short-term development within shale oil and gas production can be a more productive form of community development. Specifically, a "short lived surge of

energy development appears to deliver” superior income benefits as an isolated event opposed to a perpetual focus on energy development. As discussed, long term oil and gas production specialization have been found to have negative effects on crime rates, the number of college graduates, and per capita income. Yet, these rates are only significant for counties with high levels of participation in the early 1980s oil and gas boom (Haggerty et al. 2013). In fact, the positive effect of participation in the early 80s boom (on changes in per capita income) decreases the longer counties remain specialized in oil and gas. This suggests that being exposed to above average oil and gas production levels is predicted to actually lower per capita incomes. Initially, there are gains in income from oil and gas production, but generally these gains deteriorate and become negative overtime.

Counties in western states across the United States that have developed shale oil and gas production from the early 1980s to 2011 have experienced diverse social, economic and environmental changes. Dependency on an extractive industry has led some communities to experience a ‘boom’ and a ‘bust’ period. While others have suffered through an initial boom and then a slow degradation of socioeconomic characteristics like per capita income, rates of crime and college graduates. But, many counties experienced a short, highly intensive period of oil and gas development and have economically diversified. These communities are in a better socioeconomic position than those communities dependent upon the oil and gas industry from the early 80s to 2011. This research demonstrates that while natural resource extraction permits positive community development initially, long term decline is associated with long standing dependency on resource extraction.

What does this discussion mean for Haskell County? Haskell County’s dependency is on irrigated waters, but the Ogallala groundwater resource is finite, like sources of shale oil and gas.

The groundwater dependency in Southwest Kansas has created long term dependency on this resource and economic development will continue to surround extracting industries. If the groundwater goes ‘bust’ in places like Haskell County or becomes too expensive for many users to extract, we can expect gradual socioeconomic decline. Long-term resource dependency has negatively impacted counties in the western part of the United States and Southwest Kansas should prepare for the same possibility.

Economic development in Haskell County continues to be predominately invested in agriculture as described by Bell, Mays and Bloomquist and Williams. Farming continues to be an important tradition noted by previous authors, but it has become more capitalized. Participants cited farming as a lifestyle, but farming was recurrently described a business. This could point to the changing nature of farming and how farmers are expected to create calculated and strategic business plans to achieve economies of scale. Farming has become an industry that pushes out smaller farms. For this reason, farm sizes have increases and the number of farmers decreased. Less farmers can actually practice farming in present day agricultural communities. The agricultural industry in Haskell County has diversified somewhat. Participants describe the growing number of businesses which service farmers and meatpacking plants. Many services like crop cutting, harvesting, pesticide sprayers, or companies that travel with large combines across state lines to till farm land. Crop consultants and agricultural loan officers have become highly specialized wage work that involves agriculture. Likewise, cattle conditioning and feed yards have increased and have provided space for local entrepreneurs. Transport for harvest and particularly cattle have changed Haskell County from a “...quiet rural farming community...” to a more economically diverse agricultural economy.

Haskell County has been an agriculturally dominant community since the area was settled after the Homestead Act in the 1900s. Haskell escaped the typical decline of Great Plains farming communities, so the tradition of agriculture has changed, but it has persisted. Economic changes have stimulated pursuit of capitalistic farming and economies of scale. These economic changes triggered social changes such as fewer farmers in the community and more residents out-migrating for economic opportunity. The types of agriculture pursued in the community have diversified to include more than farming, but the agricultural tradition has continued. Much economic development in the county has occurred within feedlots because of proximity to meatpacking plants. Although many residents can no longer be farmers, they are able to pursue other agricultural occupations that service farmers and meatpacking plants. In this way, economic changes have led to creative social solutions that allow many residents to remain in agricultural occupations.

However, the much economic development that has been achieved outside of farming, like feed lots and meatpacking plants require large amounts of groundwater. Growing industries in Haskell County intensifies the community's dependency upon natural capital and may endanger the economic security of more residents. Agricultural industries continue to develop based on a resource that will likely be depleted in 100 years. Haskell County's saturated thickness could fall below the point of feasible extraction in a much shorter time frame given the level of hyper extraction. Despite future changes with natural capital, the social, economic and cultural capital surrounding farming in Haskell County is agriculturally dominant. Despite likely changes to come in farm practices and groundwater use, residents argue that Haskell County will continue to be a farming community.

Farming requires pursuing economies of scale, which ultimately may require more than one farm manager. As participants argued, large irrigated farms require even more management. Haskell County has seen a new trend occurring among their county's farmers: younger farmers (sons or nephews) returning home to co-manage their father's farm. This trend appears to be largely motivated by necessity, but is also likely a method to achieve greater economies of scale. Additional skilled labor and supervision capacity may reduce risk and permit more land acquisition. Younger farmers in Haskell County are given the opportunity to manage and invest in their family farm in their 20s instead of their 50s. Participants argue this is a trend unique to Haskell County.

As economies of scale are pursued by farmers across the Great Plains, it is surprising to uncover that this trend may be unique to Haskell County. Participants were unsure about why this trend is only found in Haskell County, yet they most often cite growing labor and supervision needs on large irrigation farms. Speculations can be made, like perhaps Haskell County farmers found economic or social incentives in establishing a slow, deliberate transition between farming generations. Farms in which both father and son are concurrent business partners ensures that the family farm will be successfully inherited and well managed in the future. Perhaps farmers recruit their sons home early to achieve economies of scale and buy and work more land together. When sons return home to farm with their father, the family farm must support two families; so enough land must be owned or acquired. Participants identified around 30 young farmers in Haskell County that returned to their family farm between the ages of 25 and 35. This change in farming tradition is likely occurring for social motivations relating to producing an heir or economic incentive. Farms have likely grown too large to manage alone

or the farmer brings his son home in his 20's because he may be more likely to farm for life, thereby establishing the farm heir.

One of the most detrimental concerns of present day farming families is the ability to produce an heir. Family farms can be understood as a type of economic and cultural capital that represent socioeconomic status, family history and rootedness to a particular place. Farmland is a type of natural capital that can typically produce economic capital or income. Farmers pass on human capital by way of farm knowledge to succeeding generations that involve types of social capital like family farm values and social status as landowners. Cultural capital is gained from knowledge of family ancestry and an agrarian 'way of life' or the farm lifestyle. Passing the farm down to the next generation is an important type of cultural capital in farming. When the farm inheritor denies the inheritance these economic, social and cultural capitals are broken. Participants' sentiments express that when a farm inheritance is denied, the inheritor has deprived future generations of human capital, like farm knowledge and forms of cultural capital like participating in multi-generational family farming. The absence of farm heirs will be discussed because it represents an important type of loss between economic and cultural capital in farm families and the community.

Producing an heir is complicated for two reasons. First, traditional farming culture expects the heir to leave behind careers and residences established during the years waiting to inherit the farm. Secondly, farming is a laborious and risky occupation compared to wage work that also has more economic opportunities. When numerous farming families are unable to produce an heir the community may lose economic, human and cultural capital. When farms go unworked the community loses revenue. Less farmers reduce the amount of human capital or farm knowledge within the community. Fewer farmers in Haskell County could gradually

transform the farming or agricultural identity of the community; this represents a loss of community cultural capital. Economic change like diverse economic opportunities outside the farm have promoted social changes like outmigration from one's hometown.

Another notable trend discovered is the changing relationship between farmers without a farm and farming families that cannot produce an heir. Farming families lacking an heir have created innovative strategies in which they sponsor a young entrepreneurial farmer. This newfound strategy was noted by multiple participants. This trend represents creative solutions farmers are developing to compensate for breakdowns in the traditional farming system. Farming families lacking an heir provide economic capital to young farming entrepreneurs who possess human and social capital required to manage a farm. A new type of cultural capital is produced by this mutually beneficial relationship. In Great Plains farming communities, including Haskell, farms have been exclusively inherited through family membership. As one participant explains, "...if inheriting parties don't live here they just rent out the land to another farmer..." This new type of cultural capital breaks down traditional barriers of farm ownership and allows two parties to further their individual economic incentive. Cultural capital has been reimagined to include family friends' children into their own farming families. Participants strongly expressed desires for land to be locally owned. In this new cultural capital paradigm, local farmers still farm, but the qualities of the farm heir have changed. It is unclear if this type of relationship between young farmers and family's without an heir exists elsewhere in the Southwest Kansas region or the Great Plains. This relationship is a mutually beneficial financial arrangement, which could be a useful strategy for other farming communities.

Participants frequently discussed aspects of their rootedness or attachment to Haskell County. Rootedness can be found in participants' ancestry as it relates to farming, sustained

expectations for Haskell County family values and aspects of small town life. Participants' recollections of their families' farming history, desire for strong agrarian values and small town life attest to participants' attachment to the Haskell County community. Participants compare current economic and social conditions to the *golden age of farming* or their memories growing up in Haskell County. Participants express a loss of social capital in that the relationship between community members is less tight knit than in years past. Types of social and cultural capital in the community were exchanged when residents intermingled in community activities. Social changes have likely accompanied changes in farming. There are less farmers in the community and higher levels of outmigration. The Haskell County population has not decreased, so newcomers have replaced outmigration. These changes have promoted the term 'transplant' and likely influenced the decline of interpersonal connection that participants described. Many farming families have moved off the homestead and into town, which likely decreases dependency neighbors once had for each other's assistance in isolated countryside.

Levels of place attachment appear to be relatively high for individuals who are interested or involved in agriculture, appreciate small town life and want to raise their children with 'farm values.' Participants explain that when residents are interested in agriculture they often return home after college or stay in Haskell County altogether. The predominance of agriculture in Haskell County can be understood as a form of cultural capital that motivates some members to return home and some to leave right after high school. Agriculture undeniably creates cultural capital, but only a specific kind, which may not be desired by all members. Economic capital, in the form of available agricultural occupations (in Haskell County) combined with feelings of place attachment may motivate members to return home or establish permanent residency. More young people returning home contributes to community social and economic capital through

more working age members. Levels of place attachment in Haskell County are high, but that is not unexpected given that many residents have left. Residents who were born and raised in Haskell County are likely residing in their home town because they want to. However, many young farmers do not have the opportunity to farm, which contributes to the number of Haskell County residents that migrate from the community.

Haskell County residents are highly aware of their community's limitations with regards to commercial and entertainment activities, economic opportunities and affordable and available housing. Lack of affordable and available housing is a loss of built capital and may adversely affect population growth in Haskell County. Limitations of built capital are similar in adjacent farming communities, but nonetheless, problematic. Haskell County is centrally located between more urban areas and is 30 minutes from Garden City. Proximity to urban areas may be a type of economic capital that increases the community's ability to attract *transplants*.

Despite residents' poor perceptions of Mexican German Mennonites, residents maintain that their community is safe and crime free, which is an important type of social capital to residents. Women's experiences are changing in Haskell County largely based upon the woman's age and respective generation. Social expectations of 'farm wives' are perpetuated in Haskell County culture, but they are not reproduced in subsequent generations. This is likely attributable to wider social changes that impact local expectations of economic capital. Younger women expect to be a beneficiary of economic capital and insist on being a 'partner' in their husband's farm corporation or listed on land deeds. This speaks to younger women achieving a level of social capital not afforded to older women.

Farmers discuss their role as fallen heroes concerns the growing divide between experiences in farming and outsiders' perspectives of farming. Participants explain many

inaccuracies and exaggerations they see have seen in the media or experienced through their relatives' judgements. Ultimately, existing divisions between liberal verses conservative ideologies, urban verses rural dwellers and non-farming verses farming communities are exaggerated when these misjudgments transpire. Explanations like, "...my sisters used to see me as a hero...now they see me as the devil..." demonstrate the intensity of farmers' frustrations with media misrepresentations of farming practices. This could represent a breakdown of community capital as farmers are forced to reconsider forms of human capital like strategic and calculated farm decisions. The changing role from hero to villain likely perpetuates divisions between 'us' verses 'them' in present day farm culture. Farmers' social capital may be afflicted in that the status of 'farmer,' which once earned them many forms of capital has been reduced and disparaged. On the other hand, this division may strengthen cultural capital among members as the community entrenches itself against condemnations.

This study demonstrates that the relationship between environmental, economic and social change is largely contingent on natural capital resources. The Haskell County economy is dependent on the environment and social change is largely consequential of changing economic conditions. The social experiences are produced based upon the economic opportunities, which are largely agricultural. The community continues to be largely agricultural and in support of small town life and farm values, because that is the dominant economic system in Haskell County. Changes in the environment like shrinking saturated thickness and declining well depths have increased the amount of risk associated with farming. Farming has become an occupation that is socioeconomically exclusive than it was in the past. This has motivated more economic development in the community, although it continues to revolve around agricultural ventures. Large, local irrigated farms, the community's proximity to meatpacking plants and

community members' interest in agriculture encourages this kind economic development. Farming has been described as a lifestyle; farming lifestyles involve environmental, economic and social conditions that afford the lifestyle. Non-farming residents of Haskell County may have developed a similar attachment to a lifestyle dependent upon a farming economy and preservation of small town, farm values.

The connection between environmental change, economic development and social change is that each type of capital makes the other possible. Natural capital, like the Ogallala Aquifer is needed for economic development in agricultural industries. Reducing use of natural capital may impede cultural capital. Community identity, or cultural capital, in Haskell County largely revolves around farming lifestyles. Without abundant natural capital, less members can be involved in agricultural ventures which transforms cultural capital in the community. Social and human capital like farm knowledge and inherited family land are typically required to generate economic capital. Economic development is achieved through social changes like farmers attaining college degrees to prepare for farming or young farmers returning home decades earlier than typical farm traditions in the Great Plains. Economic development impacts environmental change through economies of scale, which results in declining well depths and shrinking saturated thickness. These environmental changes may impact social changes now, in which potential heirs do not fulfill their role because of impending environmental challenges. Mounting environmental change of the Ogallala could encourage social change in the future as Haskell County transforms from a traditional agrarian economy to a post agrarian community.

The connection between environmental change, economic development and social change in Haskell County and farming communities across the Great Plains is often exploitative and dependent. Changing use of the environment has improved economic development in

Haskell County but it may ultimately lead to the demise of the community. Social changes are contingent on changes in economic development. Using the environment for individual economic interest has become a social tradition characteristic of Haskell County and other farming communities. Farmers and community members expect to achieve economic development through environmental exploitation. Use of the environment has become a social expectation in Haskell County as members expect to reproduce the farming lifestyle and agricultural occupations in their community. Environmental change largely influences economic and social possibilities conceivable in hyper-extractive farming communities. In the event that the Ogallala Aquifer shrinks beyond profitable extraction, these communities will have to reimagine economic and social conditions in the future to achieve population permanence.

The Ogallala Aquifer is the only substantial water resource of this region and Southwest Kansas farming communities require this groundwater resource to maintain their social and economic traditions. Future groundwater policies must regard the social and economic conditions dependent on environmental resources. Yet, Southwest Kansas communities must reimagine future economic development and submit to a changing social fabric if this region can no longer be predominately agricultural. Future research should concern the trend of young farmers returning home to fulfill or promote economies of scale in hyper extracting farm communities of Southwest Kansas. The changing relationship between farmers without a farm and farming families without an heir should be explored in other Great Plains communities. The relatively new population of Mexican German Mennonites and their social position within Haskell County should be further explored.

There is also reason to investigate the ways in which agriculture is a part of the Haskell County residents' lives beyond fulfilling the socioeconomic role of 'farmer.' Haskell County has

not escaped the trend of ‘increasing economies of scale’ that has transformed the traditions of agrarian communities across the Great Plains. Family farming continues to be critical to the socioeconomic fabric of Haskell County, but many of the participants expressed that they are unable to be farmers due to lack of available family land. Haskell County residents’ social and economic interest in agriculture persists, yet few residents are able to be farmers anymore. I argue that while capitalistic farming and pursuing economies of scale has reduced the number of members who can reach the role of ‘farmer.’ This transformation has created other roles in agriculture that were not previously available. For instance, many participants explained the ways in which they participated in agriculture that fall outside the role of ‘farmer.’ Participants explained the numerous occupations in Haskell County that service farmers or meatpacking plants. Haskell County residents have started new businesses in a range of agricultural ventures or produce value added agricultural products.

Participants saw the dominance of agriculture in their communities because the majority of people they know work in agricultural fields. Working in agriculture increases participants’ social and cultural capitals because knowledge of agriculture is an important source of interest within the community. Participants’ interest in agriculture may exaggerate their perception of the number of people working in agriculture because their social capital is largely produced and reproduced through dealings in agriculture. Nevertheless, participants frequently noted something like, “...most people here work in agriculture...” or “...there isn’t much here besides agriculture...” Finally, participants explained that members interested in agriculture often return to Haskell County because their hometown has opportunities within this profession. The predominance of agriculture in Haskell County has intensified because members uninterested in agriculture likely migrate out due to the limited economic opportunities available to them. We

can speculate that the predominance of agriculture can increase feelings of ‘place attachment’ among members employed in agriculturally related fields, which may encourage lifelong residency. Places like Haskell County are no longer agrarian communities and farming is no longer an occupation available to many residents, but the importance of agriculture persists in this community. With that said, I argue that the socioeconomic values associated with ‘farm life’ or the identity of ‘someone working in agriculture’ has been reshaped and extended to include agriculturally related professions beyond farming. There may be two explanations. First, many people in agricultural fields have worked on farms or have specialized agricultural knowledge. Farm knowledge is a type of human capital that many residents possess, which also makes it an important type of cultural capital. Secondly, the number of farmers has decreased and consequently, so has the social circle or social sphere of ‘farmers’ has grown smaller. The socioeconomic identity as ‘someone in agriculture’ has had to become flexible enough to include many identities that extend beyond ‘being a farmer’ because the socioeconomic reality of farming communities has drastically changed.

The importance of farming and the socioeconomic values associated with agriculture have extended to those in agriculturally related fields. Examples participants have provided to support this point will be deliberated. Interviewees discuss ways in which agricultural knowledge has provided them with the necessary cultural capital to gain acceptance into the community. For instance, four participants discussed examples of themselves or their spouse who are ‘transplants,’ but were able to create attachments within in the community quickly. This is surprising given the general disinterest these communities have in those who cannot trace their ancestral roots to the community. We would assume that ‘transplants’ would have a relatively difficult time feeling like ‘a member of the community.’ Yet, in all four stories, participants said

they felt like they were able to create attachments in their community through their interest and work in agriculture. Due to their knowledge of farming and work in agriculturally related fields, these participants were able to be accepted into the Haskell County community, despite general disregard for outsiders.

Farmers are no longer one of the only occupations within agriculture and in fact, farming is quickly becoming a minority profession in agriculture. One explanation for this change is that opportunities are available for residents to work in agriculture without the cultural capital requirement of available family farm land. One particular industry of agricultural growth in Haskell County has been the cattle industry. In addition, residents have developed businesses in farm services like crop cutting, combine work, harvesting, and pesticide spraying and so on. Likewise, many residents have created transportation companies that service feedlots or transport crops from farmer to buyer.

There are many residents who possess specialized agricultural knowledge like crop consultants or agricultural loan officers and accountants. Participants explained crop consultants' knowledge of agronomy is critical for maximizing productivity, while agricultural loan officers and accountants are essential for maximizing profitability. There are government positions within agriculture at the county level as well as management positions within large feedlots and meatpacking plants. Driving trucks or managing transactions at feedlots may not appear to constitute an agricultural job, yet these professions involve agricultural knowledge and residents have contact with crops or cattle and farmers or ranchers. Residents described jobs like these as types of agricultural jobs. Haskell County likely sees jobs like these as 'working in agriculture' because many Haskell County residents possess mostly affectionate memories for farming and have high levels of interest in agriculture. But many have had to settle for

occupations off the farm or have found preferable ways to participate in agriculture. Haskell County has lost farmers, but has gained an increasing number of residents who have agriculturally related jobs. As the community of farmers shrinks, the sphere of agricultural workers grows. The Haskell County community likely has evolved from ‘farmers’ and ‘non-farmers’ to ‘agricultural workers’ and ‘those outside of agriculture.’

Changes in farming traditions have likely supported the growing identity of ‘working in agriculture.’ Large incorporated family farms, farmers without farms, younger farming farmers and new arrangements between entrepreneurial farmers and heirless family farms have all broken the boundaries of traditional agrarian societies and extended the range of socioeconomic experiences of farming residents. Changing farming traditions may create space for new socioeconomic experiences within this farming community. These changes may push the boundaries of the ‘agricultural identity’ to include those beyond family farming. The Haskell County community’s identity as a ‘farming community’ may now include members beyond those who farm.

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