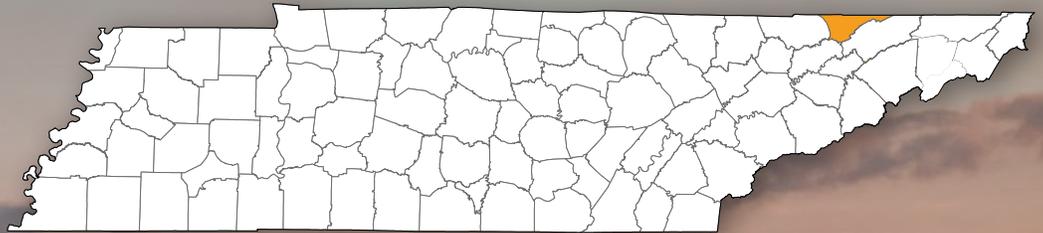


Mapping the Agricultural Assets of Hancock County Tennessee



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Introduction

Presented here is an agricultural asset mapping report for Hancock County, Tennessee. The report is based on a combination of focus group meetings with local agricultural leaders and secondary data. The primary goal is to help local leaders identify agricultural assets that could be used to support economic growth and development in Hancock County. A secondary goal is to increase the understanding of agriculture in the county. Finally, we feel that the approach discussed here could be replicated in other interested counties. Initially provided here is a discussion regarding general information about Hancock County, followed by information regarding the asset mapping exercise with local agribusiness leaders. The follow-up data-based analysis is then discussed including recommendations based on that analysis. Next we discuss the agribusiness targets that were identified by local leaders, followed by summary and conclusions.

Background on Hancock County

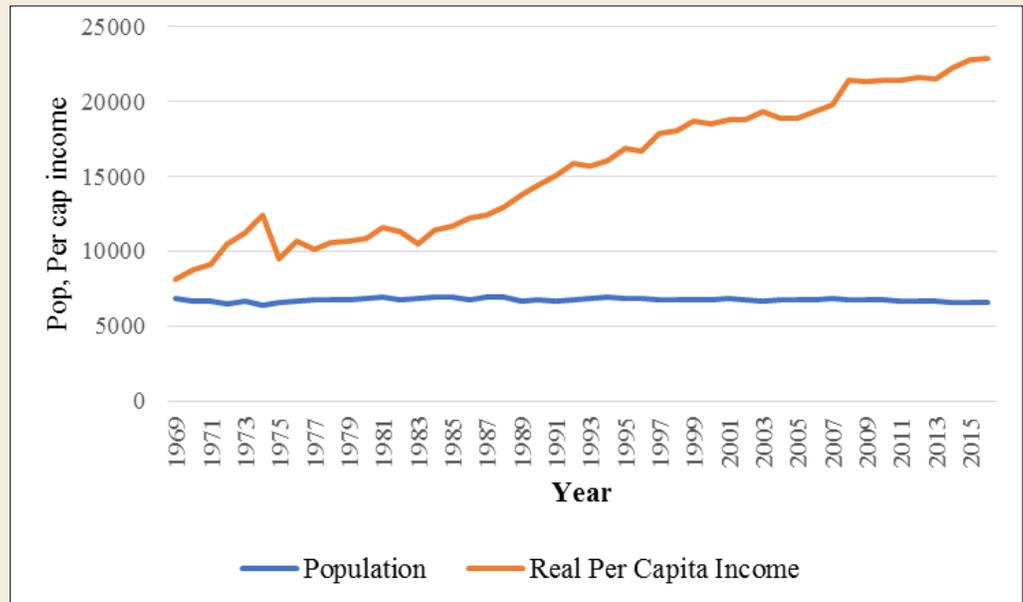
Rich in Melungeon and Appalachian history, Hancock County is in northeastern Tennessee, bordering Virginia. It is 223 square miles with highways 31, 33 and 68 crossing the county area. The town of Sneedville serves as the county seat and is the only incorporated town. Other significant communities include Kyles Ford, Mulberry Gap, Treadway, Thompson Mill and Vardy (Hancock County Government, 2018).

The mostly rural population of Hancock County in 2016 was 6,577. As of 2016, the U.S. Census Bureau reports there are 2,751 households with an average of 2.34 persons per household. The median household income is \$27,973 with 30.9 percent of Hancock County citizens below the poverty line (U.S. Census Bureau, 2012-2016 American Community Survey 5-Year Estimates). As shown in Figure 1, the population has declined slightly since 1969 (U.S. Bureau of Economic Analysis, 2016).



Figure 1. Hancock County Population and Per Capita Income, 1969-2016.

The mostly rural population of Hancock County in 2016 was 6,577.



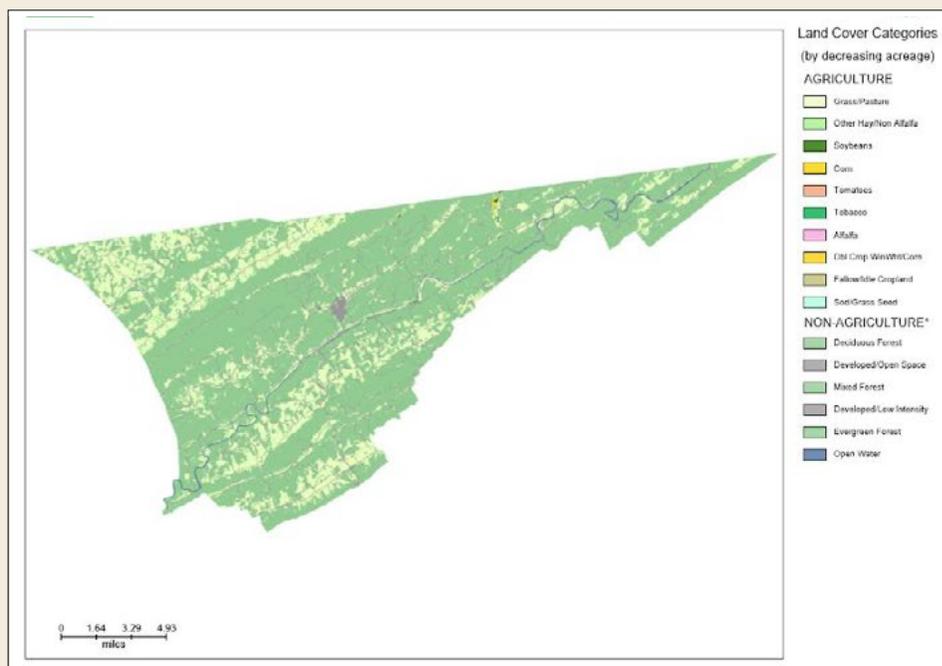
Source: Bureau of Economic Analysis, 2018.

Agriculture production in Hancock County makes a significant contribution to the county's economy. As of 2012, there were 457 farming operations with an average size of 141 acres (Census of Agriculture). Among the 64,395

acres devoted to agriculture, 39.5 percent was utilized as pasture, 33.2 percent was in woodland, and 24.2 percent was planted in crops. A Cropscape map (Figure 2) (U.S. Department of Agriculture, 2018) for 2017 indicates that these land use

patterns still hold. The top commodities for Hancock County include cattle and calves (with 14,330 head) and hay (with 10,784 acres). Hancock County was eighth among all Tennessee Counties in sheep and lamb production with 1,104 animals.

Figure 2. Hancock County Land Cover Map, 2017. (Source: U.S. Department of Agriculture)



The top commodities for Hancock County include cattle and calves (with 14,330 head) and hay (with 10,784 acres).

Based on data from an economic model of the county economy for 2015 (Minnesota IMPLAN Group, Inc. 2000), the beef cattle industry had a total revenue of \$5,670,830 and provided 173 jobs. Beef cattle had an employment-based location quotient (LQ) value of 14.6, meaning that beef cattle are almost 15 times more important to the local economy than to the United States economy.¹ All other crop farming (primarily hay production) accounted for 202 jobs, had total revenue of \$2,755,922 and an employment-based LQ value of 22.4. Greenhouses and nursery, and floriculture production is another agriculture sector of note with a LQ of 21.7 and \$1,761,408 in total revenue.

An economic impact analysis conducted for all agribusiness activity in Hancock County showed a total direct contribution of 415 jobs and \$17 million in output and total impact of \$20.7 million in output and 479 jobs (or 22.3 percent of all employment in the county) (Hughes et al. 2018).

Kiefer Aluminum Livestock and Horse Trailers is one of the county's largest employers with 35 employees and a 60,000-square-foot facility. Clear Creek Feed Mill and Circle V Farms are contributors

to the agriculture-based economy of Hancock County. While the county has a sawmill and a wood yard, the loss of a wood truss factory in 2016 has had a significant negative impact on the economy.

...agribusiness activity in Hancock County showed a total direct contribution of 415 jobs and \$17 million in output and total impact of \$20.7 million in output and 479 jobs (or 22.3 percent of all employment in the county).

Hancock County is currently a Tier Four Tennessee Economy Development County and an Appalachian Region Commission distressed county, meaning it ranks at or near the bottom of Tennessee counties in poverty rate, unemployment rate, per capita income, and other economic indicators (Tennessee Department of Economic and Community Development, 2018a).

Project 95

On a more positive note, under the leadership of the Tennessee Department of Economic and Community Development Project 95 combines resources from 14 federal partners and state agencies to establish a comprehensive program to encourage economic growth in Hancock County as a Tier Four community (Tennessee Department of Economic and Community Development, 2018b). This partnership offers tailored community and workforce assistance programs for the residents of Hancock County. A recent outcome of the Project 95 Initiative is Allied Dispatch Solutions, LLC's new micro call center that is expected to create more than 100 jobs. The 18,000-square-foot call center will be located in the Hancock County Industrial Park (Hancock County Government, 2018a). With headquarters in Johnson City, Tennessee, Allied Dispatch Solutions is one of the nation's leading roadside assistance companies. The company operates 24/7 and handles in excess of 3 million inbound and outbound calls per year.²

¹The Location quotient (LQ) is a way of quantifying how concentrated a particular industry, cluster, occupation, or demographic group is in a region as compared to the nation (Sentz, 2011). It is the industry in question's share of the local or regional economy versus its share of the national economy. In our analysis, we use output, number of establishments, jobs, and earned income to estimate LQs.

²The call center will also have counseling for substance abuse, a major problem in the area.

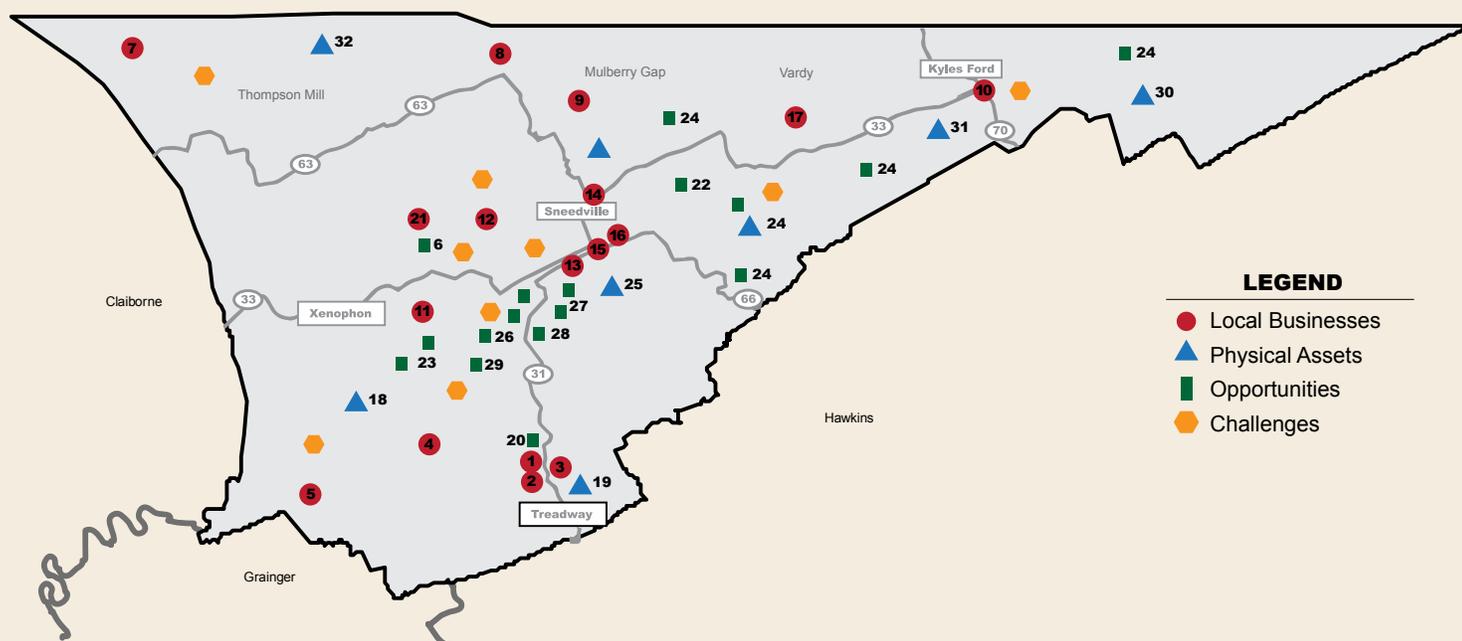
Asset Mapping Exercise

An agricultural asset mapping exercise was held with county agricultural leaders on April 10, 2018. Participants were asked to think about opportunities for the county such as local and regional markets and target

areas as they pertain to local agriculture or agribusiness. The participants were recruited by Jacob Boone, University of Tennessee Extension agent and county director, and represented agricultural leadership in Hancock County. Participants were given dots to place where local businesses (red), physical

assets (blue), challenges (yellow), and possible opportunities (green) are available throughout the county (Figure 3). We present the challenges and the opportunities offered by the participants in the following sections.

Figure 3. Map of Local Businesses, Assets, Opportunities and Challenges as Identified by Local Hancock County Agricultural Leaders (Asset Mapping Exercise).



LEGEND

- Local Businesses
- ▲ Physical Assets
- Opportunities
- ⬡ Challenges

LEDGER

- | | | | |
|---|---|---|---|
| 1. Cabins | 9. Mahalia Mullins' Cabin/Moonshine history | 15. Hancock County Government Offices | 23. Berries and Nuts |
| 2. Bed & Breakfast | 10. River Place on the Clinch | 16. Hancock County Hospital | 24. Fishing-based, other nature, heritage tourism |
| 3. Apple Orchard and Cidery | 11. Mary Seal Logging and Sawmill | 17. Historical Vardy School | 25. Farmers Market |
| 4. Hay Production | 12. Project 95- Micro Call Center | 18. Xenophon | 26. Using Wood Wastes |
| 5. Hippie Joe's Vegetables | 13. Hancock Farmers' Co-operative | 19. Elrod Falls | 27. Fertilizer Mixing Plant |
| 6. Kiefer Aluminum Livestock and Horse Trailers | 14. Greene's Tractor Company, LLC. | 20. Livestock Slaughter | 28. Winery |
| 7. Clear Creek Feed Mill | | 21. Farm Input Manufacturer | 29. Sheep |
| 8. Circle V Farms | | 22. County Agricultural Fair and Festival | 30. Talley Bridge |
| | | | 31. Clinch River |
| | | | 32. Powell River |



Challenges

Hancock County faces several challenges that were identified by meeting participants, particularly isolation and lack of connectivity. Hence, road improvement and telecommunication infrastructure are major needs. Access into the county is limited as well as broadband internet access. Parts of the county are served by high-speed broadband internet, but 50 percent of the county lacks such connectivity.

Highways 31, 33 and 63 go through the county and Highway 70 intersects the northern part of the county, but the road system is also a challenge. Motorists typically do not drive through Hancock County to go to another destination. The mountainous terrain does not allow for easily accessible roads. The roads are narrow and curvy in many places making interaction within the county and with other areas more difficult. However, motorcycle riders do like to ride on the curvy roads in the county.

More educated young people leaving the county for better opportunities elsewhere remains a major issue.

In general, participants want to recruit county-wide industries, particularly those with at least some well-paying jobs.

50 percent of county lacks high speed broadband Internet.

Opportunities

Workshop participants identified several opportunities for development including utilizing wood waste, a livestock slaughter (processing) facility, and a fertilizer plant (Figure 3). Participants also identified aquaculture and fishing, a county fair, various types of agritourism, and tourism in general as ways to facilitate growth.

Wood Waste

Commercial logging occurs in the county and there is also a sawmill (Marty Seal Logging and Sawmill Company in Sneedville) and a wood yard (Seal Wood Yard also in Sneedville). Participants believed there could be a way to capture a market for the wood waste generated by these activities.

Slaughterhouse/Processing Facility

Hancock County is a significant beef-producing county. The closest slaughter facility is in Bean Station (Grainger County), but its future is in doubt (Knox News, 2018). There are also two slaughter facilities in Greeneville (Greene County), roughly 60 miles from Sneedville. Hence, participants thought that a slaughterhouse could be a possible venture. They felt the facility could be located on Highway 31 between Treadway and Sneedville or at Thompson Mill.



Fertilizer Plant

Hancock County participants expressed an interest in and need for a fertilizer plant. The fertilizer plant could be a blending facility for chemicals, mulch, stone and other products for use on pastures and lawns. The plant could be housed with the Hancock Farmers Co-Op. Rogersville (Hawkins County) has a bulk fertilizer plant as part of the Hawkins Farmers Co-Op.

Aquaculture and Fishing

With the abundance of water natural resources, Hancock County is interested in increasing fishing and aquaculture. The county has several creeks as well as the Powell and Clinch Rivers. There is also Tennessee Wildlife Resources Agency (TWRA) land in the county on the Clinch River at Kyles Ford (Nature Conservancy, 2018).

Agritourism

Wineries, Pick-Your-Own Locations and Lodging

Sneedville, Treadway, Mulberry and other parts of the county have tourism and agritourism assets that could be developed in a sustainable manner. Agritourism possibilities discussed by meeting participants included a winery, lodging facilities, farm-to-table restaurants and pick-your-own farms. The county has an established winery in the K-Springs area with interests in expansion. In the Rebel Hollow area, Jodie Moore Farms is a pick-your-own berry farm and has plans to open a farm-to-table restaurant. A cabin development is in the early stages for lodging in the Mulberry community, and cabins are also available at Kyles Ford.

Farmers Market

With the growing demand for locally produced products, an area farmers market could be used to develop local agriculture and stimulate the local economy. As discussed in the initial Hancock County meeting, officials and agriculture industry representatives are interested in starting a farmers market for Sneedville and surrounding area residents.

County Fair

Meeting participants, including Hancock County officials, want to consider developing an annual county fair. Establishing a county fair would raise awareness of the agriculture assets of Hancock County and increase opportunities for agritourism across the region.

Downtown Restaurant

Sneedville/Hancock County does not have a fine-dining, steakhouse-type restaurant. County officials and meeting participants would like to see one open so that tourists do not have to leave the county to have a “sit-down” meal. The restaurant could feature locally produced and raised products in the historic downtown area, possibly using the Made in Appalachia Products logo.

General Tourism

Terrain, Trails, Natural Resources and Historical Heritage

Working in conjunction with the Tennessee Department of Tourism, Hancock County is developing a Spider route motorcycle map (Hancock County Government, 2018a). A discussed transportation improvement was re-surfacing the Vardy-Blackwater Road to ease travel in that part of the county and, thereby, encourage tourism.

Rugged terrain also lends itself for expanded all-terrain/off-road vehicle trail promotion. All-terrain vehicles could be employed on a system of developed trails.

Built in 1928, the Edward R. Talley Bridge is a Warren Truss bridge (with latticework, a typical subdivided design, and an “X” railing constructed for low speed resistance). Replacing a toll ferry, the bridge now serves as a walking bridge (Hancock County Government, 2018b).

Hancock County
shares a \$1.3 million
Tennessee Broadband
Accessibility grant with
Claiborne County.

Other Opportunities

Solar Energy

Several businesses and the schools in Sneedville have solar panels through Aries Energy, which is based in Knoxville. The town of Sneedville has an average annual solar radiation value of 4.57 kilowatt hours per square meter per day (kWh/m²/day) (Hancock County Government, 2018a). There are opportunities for expansion and community members are interested.

Internet Connectivity/ Mobile Hotspots

Broadband internet access is needed. Parts of the county are served by high-speed broadband internet, but 50 percent of the county lacks internet connectivity. Hancock County shares a \$1.3 million Tennessee Broadband Accessibility grant with Claiborne County under the Tennessee Broadband Accessibility Act (TBBA) of 2017. The grant is designed to offset the capital expenses in the deployment of broadband in unserved areas (Hancock County Government, 2018a). Hancock County leadership is seeking further funding under this Act. The public library system of Hancock County is also participating in a University of Tennessee Extension program to increase web access for local businesses where mobile hotspots are available to residents at no cost. Residents in good standing may check out a mobile hot spot for two to three days on a first-come-first-served basis (Hancock County Government, 2018a). The Appalachian Regional Commission’s downtown wifi program is an opportunity that Hancock needs to take advantage of (Tennessee Department of Agriculture, 2018c).

Follow-up Analysis and Discussion

A subsequent meeting was held with Hancock County agricultural leaders on September 27, 2018. The discussion centered on assessing the agricultural assets discussed in the prior meeting and on the results of our data analysis.

Wood Waste

Three sawmills and five timber operations were identified in the regional data analysis (Hancock County plus neighboring Tennessee counties). These operations generate a considerable amount of wood waste. Businesses that utilize wood waste were, therefore, identified as a possible growth opportunity. Such businesses fall into the Recyclable Materials Merchants (423930) in the industry classification system. Nationally from 2007 to 2017, the number of establishments in this industry grew by 6.3 percent but employment declined by 10.4 percent. In the region, the number of establishments doubled from three to six, and the number of jobs increased from two to 39. An example of one of these operations is charcoal producers, such as Royal Oak, that use hardwood scraps as their major raw input. Royal Oak recently announced a \$15 million project in Hardeman

County, Tennessee, that will generate 12 jobs initially and possibly up to 70 jobs ultimately (Bolivar Bulletin Times, 2018). Royal Oak is the number one hardwood lump charcoal producer in the United States. Meeting participants were asked to consider investigating such a business as a recruitment target. Participants expressed concerns about possible environmental impacts. This should be a strong consideration if the community decides to move forward with the project.

A farmers market can make Hancock County a more attractive place to live and work, as local consumers benefit and local social ties may also be strengthened.

Livestock Slaughter Facility

According to Census of Agriculture data, 73,304 cattle and calves were sold from Hancock County and the four surrounding counties in 2012, a decrease of 15.5 percent from 86,791 in 2007. For Hancock County, 9,684 cattle were sold in 2007 and 6,734 were sold in 2012, a decline of 30.5 percent. Over the same

period, the nominal value of cattle sales increased from \$50 million to \$55.4 million for the region but declined in Hancock County from \$5.9 million to \$4.7 million. While the cattle sold from the county and the region are primarily six to nine-month-old calves from cow-calf operations, there is some interest in finishing cattle. This interest is based on the growing interest in local foods and to a lesser degree in pasture-raised cattle. Other livestock operators (sheep and goats) are also interested in the local foods market. Hughes et al. (2017) indicate that a United States Department of Agriculture approved custom livestock slaughter facility could be profitable under the right conditions. Accordingly, such a facility was also mentioned as a potential target for development.

Fertilizer Plant

A fertilizer blending operation was also mentioned by meeting participants as a local opportunity. The Hawkins Farmers' Co-Operative has a bulk fertilizer blending plant in Rogersville. Such a plant could be operated by the Hancock Farmers' Co-Operative. Nationally, the number of such fertilizer mixing grew by 5.4 percent from 2007-2017 with growth in employment of 4.8 percent and real (inflation adjusted) pay of 29.5 percent.



Annual County Agricultural Fair and Farmers Market

An annual agricultural fair in the county would raise awareness of local agriculture assets and increase the opportunities for local agritourism by drawing outside visitors. County government leadership has also expressed interest in developing such a fair. As shown in Figure 4, Claiborne County is the only neighboring Tennessee county with an annual agricultural fair. Similarly, a local farmers market would also raise awareness of local agriculture assets, increase the opportunities for local agritourism, and also has local political support.

Farmers markets also increase farm incomes, the retention of local dollars, and can bring dollars in from elsewhere. A farmers market can make Hancock County a more attractive place to live and work, as local consumers benefit and local social ties may also be strengthened.

recently developed several successful wineries.

The area is probably well-suited to growing certain wine grapes such as Chambourcin (a red grape variety). A new regional resource is the Appalachian Region Wine Producers Association that is in the process of developing an American Viticulture Area for the region (Nine Lakes Wine Country) and is responsible for two wine trails (2018). The University of Tennessee also has experts available to assist in developing a winery.

A farm-to-table restaurant is another potential local asset that could be developed. Resources that could support the development of such a resource include the Pick TN Farm and Restaurant Alliance (Tennessee Department of Agriculture, 2018b), which provides a farm-to-restaurant guide with a restaurant list on the Pick TN Products website and mobile app. Both food service members and farm members can apply for the program online.

Agritourism

Several agritourism type opportunities identified by meeting participants included a winery, a farm-to-table restaurant, and a pick-your-own farm. Apple Hill Orchard in Treadway was identified as one current pick-your-own farm for apples. A resource for County U-Pick operations includes the Northeast Tennessee U-Pick Farms Group (2018).

Friendly Farm is a dairy goat operation that provides a variety of agritourism activities including baby cuddling day and other family-oriented activities (2018).

A potential asset would be the development of a winery in the county as nearby areas have

Figure 4. 2017 Tennessee Agriculture Fairs





Finally, a related topic is lodging in the county. In our 2015 model of the county economy, no lodging is listed. However, cabins are available at the Clinch River Conservation Center and Retreat (2018) in Kyles Ford as discussed in the general tourism section. The model does estimate that local restaurants provided 20 jobs and had \$1.4 million in sales in 2015.

Aquaculture and fishing were also identified as possible assets for further development. Aquaculture belongs to the Finfish Farming and Fish Hatcheries industry classification. No private employment was reported for that sector in Tennessee in 2017. Nationally from 2007 to 2017, the number of establishments in the sector declined by 8.4 percent, while total employment dropped by -17.5 percent and total real (inflation adjusted) payroll declined by 2.0 percent.

Fishing-based or other tourism could be developed based on the several creeks and the two rivers (the Powell and the Clinch) in the county. The Richardson "Byrd" Creek is stocked by the Tennessee Wildlife Resources Areas (TWRA) on an annual basis (2018). Kyles Ford is an 850-acre Tennessee Wildlife Management Area on the Clinch River. According to the Nature Conservancy (2018), its shallow shoals are home to 35 species of mussels, more than any other place on earth. A related asset is lodging for one large or several small groups at the Clinch River Conservation Center and Retreat (Clinch-Powell Resource Conservation and Development Council, 2018). Businesses that could be developed based on these resources include guided river float trips, especially on the Clinch River, or guided fly

fishing. An example of a guided fishing business can be found for the Elk River in West Virginia (Elk Springs, 2018).

Other Nature-Based, Heritage, General Tourism

Other tourism assets include the Spider route motorcycle map that has been developed by local county leadership (Motorcycle Roads.com, 2018). The area already has some notoriety among motorcycle enthusiasts and the new map should attract additional riders. As ridership grows, the opportunity may arise to develop a formal trail similar to the wine trail concept. Adopting that idea, the spider trail could be used to link local hospitality-oriented businesses and other tourism assets that are connected by this roadway in a geographically defined area in a manner very similar



to a wine trail (Wargenau and Che, 2006). Official state highway signage could be used to promote the trail and related businesses and other tourism assets (White, 1993).

Other tourism assets include Elrod Falls, only a 10-minute drive from Sneedville, consisting of three cascading falls totaling more than 100 feet and seen as one of the most gorgeous waterfalls in East Tennessee. There are also two hiking trails available of various lengths at Kyles Ford. One is the moderately difficult Cabin Loop Trail located behind The River Place cabin rentals. The second is the Kyles Ford Falls Trail that gives hikers two options for different difficulty and lengths (Northeast Tennessee Waterfalls, 2018) (Hancock County Government, 2018b). Electricity and improved lighting sources are

included in the tourism park renovations provided through the Local Parks and Recreational Fund (LPRF) grant (Tennessee Department of Environment and Conservation, 2018). The grant is funded by the Tennessee Department of Environment and Conservation and administered by the Recreation Educational Services division. The LPRF program provides state funding that maybe used for trail development and capital projects in parks, natural areas and greenways.

Heritage tourism assets include the Appalachian Quilt Trail, where wooden quilt squares hanging on various barns and structures seen in some counties in West Tennessee, many counties in Middle Tennessee, Hancock County, and most other counties in East Tennessee and Southwestern Virginia. Nearly 800 sites are

featured by the Appalachian Quilt Trail (2018) including many agritourism venues (Hancock County Government, 2018b).

Hancock County is “Home of the Melungeons,” thought to be a tri-racial group of people with European, Native American and African ancestry who settled the area in the late 1700s. This group is rooted in moonshine history and Appalachian folklore. Several books have been written regarding the Melungeons and the Vardy Community School is a heritage tourism site tied to the education of that community (Hancock County Government, 2018b) (Wikipedia, 2018). The Appalachian Quilt Trail and Vardy Community School represent assets that could be used in developing heritage tourism-based businesses.



Targeted Industry Economic Cluster Approach

We used a targeted industry approach to identify industries as possible assets. In some cases, our analysis dovetails with the assets identified by local agricultural leaders. Based on secondary data sources, we examined industries based on number of establishments, concentration (location quotients greater than 1.5 for establishments, jobs and pay), and regional growth and U.S. for 2007 versus 2017 (for establishments, jobs and pay).³

Eighteen wood and paper product manufacturing establishments in the region reported a total of 884 jobs and \$43.3 million in salary and wages.

Agricultural Processing and Input Providers

Based on the three criteria, we evaluated relevant food processing, wood product, paper product and furniture manufacturing sectors for further development. We also evaluated the providers of major inputs including agricultural services providers, agricultural chemical producers and agricultural machinery producers.

Wood Products, Paper Products and Furniture Manufacture

Nationally, wood products manufacturing, paper products manufacturing and furniture manufacturing overall experienced large declines in number of establishments, employment and wages. Among specific sectors, only All Other Miscellaneous Wood Product Manufacture in terms of wages, sanitary paper product manufacturers (number of establishments), and customer architectural workwood and milwork manufacturing (in terms of establishments, jobs and wages) experienced growth among these industries.

Regionally, 18 wood and paper product manufacturing establishments (1,133, 321 and 322) in the region reported a total of 884 jobs and \$43.3 million in salary and wages (Table 1). While the regional industry suffered a marked decline in the number of establishments (21.7 percent from 23 to 18), employment only declined slightly (from 896 to 884 or 1.7 percent and real wages rose by 47.4 percent. The decline in establishments was concentrated in the number of logging operations, which dropped from eight to five. Employment (207.7 percent) and wage (349.2 percent) growth was concentrated in sawmills. The small cut stock, resawing lumber, and planning sector also experienced growth in jobs (144.2 percent) and wages (228.8 percent).

Wood products manufacturing was important to the regional economy as measured by location quotients. The employment and wage location quotient for wood product manufacturing (321) was 11.46 and 16.43. Paper products had smaller employment (1.38) and wage (2.32) location quotients. No furniture and related products manufacturing was identified in the region.

³The justification for our approach is provided in the companion document "Examining Industry Targeting for Agriculture in Rural Counties."



Table 1. Regional Wood and Paper Products in Hancock County Region.

Naics Code, Title	Regional Levels 2017			Location Quotients			Regional Growth, 2007-2017			US Growth, 2007-2017		
	Establishments	Jobs	Wages	Establishments	Jobs	Wages	Establishments	Jobs	Wages*	Establishments	Jobs	Wages*
1133 Logging	5	11	182,948	4.22	1.29	0.69	-37.5%	-67.1%	-81.2%	-19.0%	-18.0%	-10.9%
321 Wood product manufacturing	12	876	35,985,599	5.72	11.46	16.43	-20.0%	-9.0%	26.8%	-16.0%	-22.9%	-16.7%
321113 Sawmills	3	105	3,809,602	6.60	7.36	8.04	-25.0%	207.7%	349.1%	-17.1%	-17.4%	-9.6%
3212 Plywood, engineered wood product	1	11	211,076	4.32	0.79	0.45	0.0%	-53.3%	-62.2%	-25.9%	-27.8%	-21.1%
321214 Truss manufacturing	1	11	211,076	8.53	2.11	1.38	0.0%	-53.3%	-62.2%	-30.0%	-26.9%	-26.9%
3219 Other wood product manufacturing	8	670	31,964,921	5.94	17.13	27.01	-20.0%	-16.9%	18.5%	-13.8%	-23.3%	-18.7%
32191 Milwork	1	12	486,237	2.05	0.69	0.86	0.0%	144.1%	228.8%	-26.0%	-30.3%	-26.2%
321912 Cut stock, resawing lumber, planing	1	12	486,237	13.03	5.24	7.44	0.0%	144.1%	228.8%	-21.4%	-21.7%	-14.0%
321192 Wood container and pallet	2	43	1,427,030	4.81	4.17	5.18	-33.3%	-29.3%	-11.6%	-8.9%	1.5%	13.4%
32199 All other wood product	5	615	30,051,654	11.28	55.38	88.27	-16.7%	-16.9%	19.2%	-28.1%	-22.9%	-22.9%
321991 Manufactured home, mobile home	4	602	29,524,850	92.50	137.32	217.38	-20.0%	-18.4%	17.4%	-36.2%	-31.7%	-31.7%
321992 Prefabricated wood buildings	1	13	526,804	9.59	5.28	6.64	U/D**	U/D	U/D	-40.2%	-36.9%	-36.9%
322 Paper Manufacturing	1	87	7,088,940	1.29	1.38	2.32	U/D	U/D	U/D	-14.3%	-19.5%	-15.7%
3222 Converted paper product	1	87	7,088,940	1.51	1.38	3.48	U/D	U/D	U/D	-14.5%	-17.0%	-12.2%

*Growth is based on real (i.e., inflation adjusted) values.

** U/D is undefined.

Table 2. Regional Food Processing and Agricultural Input Providers in Hancock County Region.

Naics Code, Title	Regional Levels 2017			Location Quotients			Regional Growth, 2007-2017			US Growth, 2007-2017		
	Establishments	Jobs	Wages	Establishments	Jobs	Wages	Establishments	Jobs	Wages*	Establishments	Jobs	Wages*
311 Food manufacturing	2	38	2,096,007	0.42	0.14	0.22	200.0%	1268.7%	1268.7%	17.3%	7.7%	16.1%
311611 Animal, except poultry, slaughtering	2	38	2,096,007	9.29	1.58	2.75	200.0%	1268.7%	1268.7%	-11.6%	-4.7%	10.5%
1152 Support activities for animal production	3	8	242,824	3.75	1.59	1.77	-25.0%	-17.7%	-30.5%	11.4%	6.2%	12.2%
3331 Agriculture, construction, mining machinery	2	31	1,684,210	3.34	0.87	0.90	0.0%	9.1%	128.4%	17.7%	11.4%	-7.2%
336214 Travel trailer and camper manufacturing	4	84	4,144,414	36.33	10.80	13.82	33.3%	48.6%	88.9%	-13.7%	1.3%	24.3%

*Growth is based on real (i.e., inflation adjusted) values

Food Processing and Input Providers

Nationally, food processing (311) showed fairly strong growth from 2007 to 2017 with an increase of 17.3 percent in number of establishments, 7.7 percent in number of jobs, and 16.1 percent in wages (Table 2). Two food processing establishments in the region, both animal except poultry, slaughtering (311611) reported a total of 38 jobs and \$2.1 million in salary and wages. This sector had a job location quotient of 1.58 and a wages location quotient of 2.57 and had some growth from a very low level in 2007. Three establishments provided support activities for animal production (1152) with eight workers. Travel trailer

and camper manufacturing (336214) showed a strong presence in the region with four establishments, a job-based LQ of 10.80, and strong regional growth of 48.6 percent in jobs from 2007 to 2017.

Analysis of Specific Sectors

The sectors with the most promise for growth across all agricultural processing and input industries based on our data analysis are shown in Table 3. The regional input-output model was used to assess the strength of linkages with other agribusiness industries. Sectors with average linkages purchased at least 9 percent of inputs from other regional agribusiness sectors

while those with stronger linkages purchased at least 14 percent of their inputs from other regional agribusiness sectors. For financial analysis, sectors with average values realized at least 40 percent for an average of both returns and did not fall below 33 percent for at least of the other two measures (that is, the rate of return for the sector ranked at least 30 percent as compared to all industries, and the loan failure rate was at or better than 30 percent of the average across all industries) (Industriuscfo, 2018). Sectors with a good rating for financial analysis had an average of 60 percent across the two measures and did not fall below 40 percent for one of the measures.

Table 3. Hancock Regional Agribusiness Sectors with Promise for Growth Based on Data Analysis.

Sector, Number of Check Marks	Number Establishments	Location Quotients	Regional Growth	US Growth	Linkages	Financial Analysis
Animal, except poultry, slaughtering (4)		x	x	x	x Good	Average Minus
Sawmills (3)	x	x		x	x Average	Below Average
Cut stock, resawing lumber and planning (5)		x	x	x	x Average	x Good
Manufactured home, mobile home manufacturing (3)	x	x			Below Average	x Average
Support activities for animal production (3)	x	x			Below Average	x Good
Support activities for animal production (3)	x	x	x	x	Below Average	Well Below Average
Travel trailer and camper manufacturing (4)						

Table 4. Hancock Regional Farming Sectors with Promise for Growth Based on Data Analysis.

Sector, Number of Check Marks	US Production	TN Production	Local Output	Financial	Other
Berries (4)	x	x	?	x	x Recent growth; Local market
Sheep (3)		x	x	N/A	√ Regional Market
Greenhouse and Nursery (2)			x	Below Average	√ Recent growth; Nearby Urban Areas Key
Vegetables (3)	x		x	Below Average	√ Local/Regional Market
Fruits-Nuts (3)	x	x	?	Below Average	√ Wine and Cider Industries

Table 5. Rank of Targets Identified by Hancock County Agricultural Leaders

A farmers market can make Hancock County a more attractive place to live and work as local consumers benefit and local social ties may also be strengthened.

Potential Target	Target Votes
Livestock Slaughter	9
Farm Input Manufacturer (e.g., trailers)	9
Fishing-based, Other Nature, Heritage Tourism	5
County Agricultural Fair and Festivals	2
Farmers Market 2	2
Using Wood Waste	1
Fertilizer Mixing Plant	1
Winery	1
Berries, Fruits, and Nuts	1
Sheep	1

Recommendations Based on Data Analysis

Looking at the six potential target sectors (Table 3), cut stock, resaw lumber and planing is the most promising sector in that it meets five of the listed six criteria. Sawmills, manufactured homes including mobile home manufacturing, and support activities for animal production all met three of the criteria. Both animal, except poultry, slaughter, and travel trailer and camper manufacturing had at least three check marks. Hence, based on the data analysis, the three sectors cut (stock, resaw lumber and planing, animal, except poultry, slaughter, and travel trailer and camper manufacturing) are the best candidates to consider in terms of targeting local business recruiting efforts.

Farming

We examined the prospects for growth of farming in Hancock County and all neighboring counties (Tennessee and Virginia) based on data from the 2007 and 2012 Census of Agriculture supplemented by more recent data from the National Agricultural Statistical Service (2018). We examined 14 crop and livestock sectors based on local, state and national trends. Farming sectors that showed at least some promise are shown in Table 4.

Targets Identified by Local Agricultural Leaders

The group of Hancock County agricultural leaders reconvened on September 27, 2018. A presentation was made regarding the information that had been ascertained regarding their suggestions and our secondary data analysis. Participants were asked to think about opportunities for the county such as local and regional markets and target areas as they pertain to local agriculture or agribusiness. Based on our presentations and discussions, the leadership group was asked to indicate the activities that had the greatest potential for helping to grow the local economy. Each individual was provided with three dots and told to distribute the dots as they wished. A ranking of the various potential targets based on the vote of these local leaders is provided in Table 5.

Based on the number of votes, the decision was made to investigate a USDA custom livestock slaughter facility, farm input manufacturer, and tourism development as ways to further grow the local economy. It is recommended that local subcommittees be formed to further investigate the possibility of moving forward with on-the-ground projects in each of these three areas.

Summary and Conclusions

Provided here are the results of an agricultural mapping exercise conducted with local agricultural leaders in Hancock County, Tennessee, in cooperation with the University of Tennessee County Extension Office. Results were based on a combination of our analysis of secondary data and primary data provided by the local leaders. The result is a set of recommendations to pursue three possible avenues of further growth including a USDA custom livestock slaughter facility, farm input manufacturer and tourism development as ways to further grow the local economy.

A slaughter facility would take advantage of the extensive cattle and other livestock in the county and the region. A farm input manufacturer could be based on the success of the current trailer producer in the county. Tourism development would take advantage of the abundant natural resources and heritage of the county. These efforts could take advantage of state tax credits through the Tennessee Department of Economic and Community Development or the Tennessee Department of Agriculture, Agriculture Enterprise Fund (2018c).

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