Exploring Barriers to a Sustainable and Regional Fibershed in the Central Plains of the United States

Melody L. A. LeHew, Kim Y. Hiller, & Kelsie Doty | Kansas State University

In the quest to transform the unsustainable fashion system, one emerging approach is establishing regional fiber, textile, and clothing (FTC) systems called fibersheds. The premise is to meet local needs through regional and regenerative processes, and manufacturing FTC – emphasizing circular (soil-to-soil) production and consumption. Soil-to-soil (Burgess & White, 2019) is a concept that relies on McDonough and Braungart’s (2010) idea of cradle-to-cradle, where manufacturers produce objects that, after use, can fully decompose and become part of the nutrient cycle.

The term fibershed is based on the concept of a watershed or foodshed, a geographic area where water or food is sourced (Burgess & White, 2019). The concept was started by Rebecca Burgess in 2009 when she challenged her own dependence on fossil carbons, wanting to create a soil-to-soil wardrobe, by committing to a year of sourcing all her clothing from a 150-mile radius (Burgess & White, 2019). Spurring a grassroots movement in other regions of the United States, Fibershed supports the transition of the FTC industry through programming and education. The success stories from Fibershed.org have sparked interest by academic researchers as well, exploring the feasibility of localized garment production and slow fashion system on the East Coast (Trejo et al., 2019) and West Coast (Bieg et al., 2014; Fibershed, 2016). However, upon reviewing the affiliate Fibershed networks, it was evident there has been less development within the Midwest and Great Plains states (https://fibershed.org/affiliate-directory/).

Upon noticing the lack of robust Fibershed Affiliates in the central U.S. region, an exploratory qualitative study was conducted to understand potential reasons why a local and regenerative FTC system grassroots movement has not begun in this area. The primary research objective was to understand key challenges experienced by sheep farmers located in a Central Plains state. A secondary project objective was to reveal structural or knowledge gaps where higher education institutions and academic researchers may be able to assist the development of a Fibershed grassroots movement in the Great Plains states, enhancing the feasibility of regional FTC systems.

The Great Plains "stretches westward from the Missouri River at Omaha and Kansas City to the Rocky Mountains, and northward from the Texas Panhandle into the Canadian Prairie Provinces” (Center for Great Plains, n.d., para. 2). The geographical and climate characteristics of this region are conducive to a wide range of plant and animal fiber – the fundamental elements necessary for a future fibershed. Currently, within the region the primary fibers produced are sheep wool and cotton. However, the potential expansion of producing greater quantity of other fibers such as flax and hemp as well as specialty animal fibers such as alpaca and cashmere represent additional opportunities. Before these potentials can be realized, it was important to determine underlying barriers to fiber production. Wool fiber was the foundation for the original Fibershed developed on the West Coast and was the focus of this study. Therefore, the research questions qualitatively explored in this study were:

1. Do local farmers primarily raise food or wool breeds of sheep?
2. What specific challenges do local sheep farmers experience?
3. What must be present for a thriving natural fiber economy in this state?

This was an exploratory study, intended to form a guide for future research. As an initial step to better understand the current state of wool fiber production, a small group of local sheep farmers from one Great Plains state were interviewed. Data were collected using a semi-structured interviewing technique – an open-ended question interview guide directed the interviews. However, interviewers also remain flexible to pursue additional questions, as determined by the conversation of each interview. Local sheep farmers were identified using the membership directory of the state’s Sheep Association. Letters requesting participation to nearby farmers were sent, yielding five local family farm operations agreeing to be interviewed. Interviews were recorded, transcribed and analyzed by the researchers for common themes.

Several relevant issues emerged. According to the participating farmers, sheep are primarily raised for meat, but several recognize the potential of fiber as another economic product. However, high-quality meat and high-quality wool are traits typically found in different sheep breeds. Some of the farmers interviewed would include a portion of finer wool sheep in their herds, but there appears to be less incentive to do so in this local region. For those that do raise wool sheep, they experience challenges finding shearers and transporting their wool to market. The long distance to the nearest market reduces the economic value of the wool. Even with these challenges, many of the farmers see the region as a perfect landscape for raising sheep and see potential for future growth. Development of greater fiber infrastructure (e.g., woolen mills, yarn production, weaving facilities, and fiber artisans), a regional fibershed, would support this growth opportunity.

These findings support the potential for developing a fibershed in the Great Plains region of the United States. However, they also revealed the lack of necessary infrastructure, a challenge that will be difficult to overcome without future investment in the region. Another implication from this study is the importance of place-based sustainability research. Through this study it became evident that a model for fostering a regional, regenerative fibershed in one area of the U.S. may not work in another region. The unique characteristics, challenges, and opportunities of each place must guide the path forward.

Recognizing the sample size limitations of the current study, future research plans include interviewing fiber-related extension specialists from several states of the Great Plains (e.g., Montana, Wyoming, North Dakota, South Dakota, Nebraska, Kansas, Colorado, New Mexico, Oklahoma, and Texas). Extension Specialists are faculty from land-grant universities tasked with conducting research and coordinating public outreach and welfare activities related to a variety of disciplines – including agriculture. These specialists are appropriate informants for the next phase of research because of their outreach with farmers and ranchers throughout each state. This will support the long-term objective: to identify the inflection points where academia can best support the transition to a regional, regenerative and thriving fiber, textile, and clothing economy.

**References**

Bieg, A., Burgess, R., Kahn, D., Axlerod, E., Kassan, J., DeLonge, M., & Wendt, L. (2014). *Fibershed feasibility study for a California wool mill. San Geronimo, CA: Fibershed*. http://www.fibershed.com/wp-content/uploads/2014/01/Wool-Mill-Feasibility-Study-Feb2014.pdf

Burgess, R., & White, C. (2019). *Fibershed: Growing a movement of farmers, fashion activists, and makers for a new textile economy*. Chelsea Green Publishing.

Center for Great Plains (n.d). *About the Center.* Center for Great

 Plains. https://www.unl.edu/plains/about/about.shtml

Fletcher, K. (2018). The fashion land ethic: Localism, clothing activity, and Macclesfield. *Fashion Practice*, *10*(2), 139-159. https://doi.org/10.1080/17569370.2018.1458495

Fibershed. (2016). *Wool & fine fiber book: Tactile perspectives from our land (1st ed.*). Fibershed. <http://www.fibershed.com/wp-content/uploads/2015/11/wool-book-1st-edition.pdf>

McDonough, W., & Braungart, M. (2010). *Cradle to cradle: Remaking the way we make things*. North Point Press.

Trejo, H. X., Smith, H. A., Trejo, N. K., & Lewis, T. L. (2019). Made in New York: A collaborative model to encourage slow fashion. *Clothing and Textiles Research Journal, 37*(3), 139–154. <https://doi.org/10.1177/0887302X19838331>