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The Role of Manufacturing Clusters in the Pacific Northwest Forest Products Industry

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Executive Summary

Interest in manufacturing clusters has increased since the recognition that inter-firm cooperation has helped develop internationally competitive industries in several European countries. Manufacturing clusters, defined as groups of firms located within a defined geographic region that have developed cooperative links with each other, have been established successfully in industries ranging from textiles to robotics.

Manufacturing clusters can provide a region with the basis for economic diversification and competitive advantage even when that region at first glance might not appear competitive in a specific industry. The emergence of manufacturing clusters is not restricted to urban areas or technology-based industries. In fact, manufacturing clusters can provide a substantially greater contribution to the economic development of rural areas than urban areas.

Several rural value-added wood products manufacturing clusters have been identified in the Pacific Northwest, including the log home industry in western Montana, to moulding and millwork industry in Bend, Oregon, and the wooden boat building industry in Port Townsend on the Olympic Peninsula of Washington. These examples provide evidence that manufacturing clusters represent an opportunity to promote the economic development of rural areas in the Pacific Northwest. Rural locales, many of which are characterized by a high dependence on timber resources, have perhaps suffered the greatest economic hardship as a result of public policies that have slashed the volume of timber harvested from state and forests.

To date there appears to be little empirical research that assesses the emergence and development of value-added wood products manufacturing clusters. This project was designed to develop insights into factors that help clusters form and survive (i.e., geographic location, proximity to raw materials, availability of other resources, industry specialization, firm-specific competencies, and the availability of support services). The specific objectives of this project were to: identify clusters of value-added wood products manufacturers in the Pacific Northwest, develop a spatial map of these clusters based on their geographic location, identify factors that contribute to cluster development, determine how specific factors impact the development of a cluster, identify value-added services (i.e., marketing expertise, product design, or manufacturing technology) that support to manufacturing clusters, and provide a set of suggestions to assist local economic development groups to identify local clusters and assess their competitive advantages.

To better understand how rural manufacturing clusters originate and survive economic cycles and resource supply changes, three wood-based manufacturing clusters in three rural communities were examined. Local business people and industry experts were interviewed in order to assess: how each cluster originated, why each cluster was located in a particular location, what role government and industry associations played in the development of the cluster, and how the cluster survives in light of market fluctuations and supply changes. Opinions regarding interaction between firms and associations, the role of government, and recipes for individual firm success varied widely; however, many common elements were repeated during interviews.

While the manufacturing clusters presented in this report became established under different circumstances, each encountered common factors that were crucial to their success. An important point to consider is that these clusters did not develop overnight. Each existed for several years with a few small businesses earning moderate profits. As more individuals moved to the area, a cluster of businesses began to form. With the exception of the moulding and millwork industry in Bend, Oregon, the communities examined did not systematically set out to create an industry and the company founders do not appear to have been motivated by the prospect of making large profits.

The first common element observed between clusters was proximity and easy access to regional markets. The moulding and millwork industry in Bend, Oregon, originated as a group of mills located near railroad lines. The Bitterroot Valley in western Montana is not only located along interstate highways, but also in a region where log homes are a fashionable form of housing. Finally, Port Townsend's maritime industry capitalized on its proximity to Seattle, an established boating community, and the boating traffic that cruises among the San Juan Islands and the Straits of Juan de Fuca.

A second common element in firms' decisions to locate in their respective locations was the plentiful supply of raw materials and potential customers. While respondents commented that resources were plentiful when their respective clusters emerged, they all emphasized that there is now a shortage of available timber. Firms are forced to obtain materials from other regions or to develop other technologies for using the available resource. For example, the moulding and millwork industry incorporates medium density fiberboard, finger-jointed lumber, and veneer-overlaid lumber into the products it produces. Respondents also reported spending more time locating suppliers that can supply them with raw materials.

Third, skilled labor has been critical to the formation and survival of manufacturing clusters. In the cases of Bend and the Bitterroot Valley, skilled workers already resided in the area, employed either as loggers or sawmill workers. Port Townsend, a long-time port, had a mix of individuals employed in both the maritime and timber industries. The concentrated group of firms and the community's internationally renowned boat building school continue to draw of skilled workers to the area, which in turn helps the cluster thrive.

Each cluster originated with a few firms led by energetic owners. While, these individuals did not set out to create a cluster of similar businesses, they did recognize the advantages of having related companies locate in the same area. They were also generally civic minded and open to working with other firms, either through joint marketing, sourcing materials from neighboring firms, or referring customers to other businesses in the area. For example, the Port Townsend and the Bitterroot Valley clusters started with a few individuals who enjoyed living in their respective area and were looking for a way to earn a living. Because these communities were small, people knew each other socially and in the business arena, and recognized that it was in their best interest to work together. In Port Townsend, business owners worked together to gain city government support and draw more businesses and workers to the area. In the Bitterroot Valley, cooperation took the form of purchasing specially milled logs from neighboring firms and exchanging workers in times of boom and bust among firms. The business environment in all three clusters extends beyond depending upon each other for survival. While businesses are still in competition, it was reported that there is an open exchange of advice, referrals between businesses, and at times, equipment is even loaned. As more companies move to the area, the cluster benefits from its reputation as a regional center for a specific product or service.

Another key component in the emergence of these clusters appears to be low levels of competition initially. Each cluster was the first in their respective region to provide their particular good or service. An important point to note is that as the cluster grows, new businesses identify unique niches with either a slightly different product or an entirely new product that complements existing products. While there is some overlap in product offering between firms, it appears that business owners attempt to compete with each other by offering unique products and services. For example, the major log home builders in the Bitterroot Valley specialize in different construction style or log type. For example, one company specializes in large-diameter logs which no other firm in the area uses and concentrates on building high-end log homes or

lodges. Another company has developed a planer that enables its workers to process long logs. Other businesses in the area specialize in hand-hewn logs.

Respondents in Port Townsend and Bend also indicate that innovation is vital to the success of their clusters. Port Townsend business owners report that spin-off ventures by former employees are not uncommon. It is rare that these new firms are direct competitors of the original company. Rather, the new entrepreneur often identifies a product or service that does not exist. Similarly, innovation in the millwork industry maintain a comparative advantage by developing innovative products such as finger-jointed door jambs that utilize lumber manufactured from small diameter logs.

Each cluster's relatively small size and relationships within the local business community help it adapt to industry changes. Employees working in local businesses are more adept at identifying an industry need and creating a business to fill that need. Spin-off ventures appear to be important to a cluster's ability to adapt to market fluctuations and regulatory changes. Owners of fledgling businesses in each of these clusters have identified gaps or shortcomings in the industry and work to supply the industry with missing products or services. For example,

Edensaw Woods in Port Townsend supplies regional boat builders and woodworkers with hard-to-find, high-quality or exotic wood and veneer. As changes in fishing regulations required commercial fishermen to fish off-shore, other companies that build refrigeration systems or lengthen boats emerged. Similarly, there are several small businesses located in the Bitterroot Valley that specialize in supplying complementary products to the log home industry, such as furniture and cabinets.

Unlike the boat building and log home clusters, the millwork industry was developed and nurtured by government. Local government developed the business infrastructure and promoted the millwork industry. While the boat building industry in the Port Townsend cluster originated independently of local government assistance, it now receives below market-value rental space at the Port, community education programs in marine trades, and the town's Economic Development Council offers business advice and works to draw visitors to the area. The log home industry appears to be the most self-sufficient of the clusters with member firms reporting little government assistance.

While government may have helped the clusters in some respects, respondents were quick to point out instances of government interference which they feel restricts their operations. The boat building industry maintains an ongoing debate with local government over issues such as pollution cleanup and abatement costs, potential funding for a large vessel crane, and what industry views as city government's promotion of the tourist industry at the expense of the maritime trade. Business owners both in Port Townsend and Montana reported that the costs imposed by the state for workman's compensation are excessively high and represent an industry impediment. Respondents in all industries note that federal and state timber harvest restrictions adversely impact their competitiveness.

Industry associations, on the other hand, tend to be viewed more positively, possibly because of the voluntary nature of membership. Associations help establish and maintain contacts within the industry and lobby for the industries at state and federal levels. The Marine Trades Association organizes an annual boat show and makes booths available only to members. Other associations have helped set industry standards and promote their members' products both nationally and internationally. Cluster members also appear to benefit from nonmembership organizations. Port Townsend's business owners benefit from the independently-run, non-profit Wooden Boat Foundation, which promotes the area's industry through an annual Wooden Boat Festival. Members of Montana's log home industry reported that they receive free advertising from log home magazines that often feature their homes in their articles.

The results of this exploratory project indicate that manufacturing clusters have been important to the economic development of rural communities in the PNW. Further, a range of factors that have helped in the development of local manufacturing clusters were identified and discussed. This information should prove helpful in providing economic development groups in rural timber-dependent communities with a

framework for identifying and assessing the potential of promoting the development of manufacturing clusters in other rural areas. In addition, this research should be useful in helping public policymakers interested in promoting the economic development of rural communities adversely impacted by timber harvest restricted by providing guidance in identifying communities where economic and development assistance have the greatest chance of supporting the development of a competitive industry cluster.

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