Leather Industry in Chennai

The leather team examined environmental management practices in the leather tanning and manufacturing sector in Tamil Nadu using material flow accounting tools. They visited the Central Leather Research Institute in Chennai and several tanning operations, leather manufacturing facilities and treatment plants in the industrial areas outside of Chennai. The team documented the history and environmental characteristics of leather manufacturing activities in this region and highlighted the success of collaborative efforts in shared wastewater treatment.

The Indian leather sector is a large player on the global scale, and a major source of foreign exchange revenues. India is the third largest leather producer in the world, behind China and Italy. In 2005, leather exports from India were valued at US$2.5 billion. Approximately 50 percent of all the leather production in India takes place in Tamil Nadu, although there are other large industrial clusters in Kanpur and Calcutta, as well as cottage industries throughout the country. The industry employs over 2.5 million people, most of whom are involved in primary processing and flaying—the gathering of hides and consolidation into larger batches for sale to the tanneries. Hides are either sold directly to tannery agents, or sold at local markets, where they are purchased either by tannery agents or by middlemen who aggregate hides and resell to tanneries. A large number of hides are also shipped directly from larger slaughterhouses. This contrasts with the fact that there are only a small number of leather goods producers who export these goods to foreign markets. Beneath them sit numerous smaller leather goods producers, large and small semi-finished to finished leather factories (some of which are vertically integrated with the leather goods producers), and thousands of large, small and micro tanneries (raw to semi-finish, or raw to finish).

The leather industry is clustered in a few districts within the Palar River valley, from Erode in the west to the outskirts of Chennai in the east. The river flows from Karnataka state in the west, through Tamil Nadu to the Indian Ocean. While, the first leather factories were set up in the 19th century in response to British demand, the real explosion of growth came in the last few decades. Environmental conditions in the region changed

during this period as the state of Karnataka built a series of dams along the Palar river that significantly reduced the flow of water through the valley. In addition, the industry heavily polluted its water source by discharging their untreated effluent directly to the river and surrounding land. This increased groundwater salinity to levels where factories could not use groundwater to soak hides, nor could it be used for most types of agriculture.

State regulations to limit salinity effluent, concerns with water availability and changing consumer demands from European markets for more environmentally-benign goods led to changes in the environmental performance of production practices in the local industry. Beginning in1996 the majority of the tanneries began treating their effluent either on site or shared central treatment plants (CETPs), and many are now using reverse osmosis to treat their input water. The Tamil Nadu Pollution Control Board (TNPCB) has taken on an active role in regulating the industry and monitoring its environmental performance. There is also a great deal of self-regulation and voluntary initiative, drawing on the existing cooperative networks. For example, factories in the Ambur region established a Waste Minimization Circle where leather industry representatives gather and share ideas on how to conserve resources and minimize waste (particularly energy efficiency). In addition, the Central Leather Research Institute (CLRI) in Chennai has played a pivotal role in providing technical assistance to local factories to devise innovative solutions to production efficiency and pollution management problems. Some of the current CLRI projects include research into creating biodegradable leather products, uses for non-leather products from carcasses, and reducing the use of salt in production processes.

The team found that while environmental improvements were significant, occupational health and safety conditions presented opportunities for improvement. They suggest that the production conditions of Indian industry, and the general aim of industrial ecology to achieve sustainable development requires more attention to be paid to these matters.

The next step for the project is to incorporate and develop this preliminary research into a journal article with the assistance of Yale F&ES Professor Marian Chertow aimed at wide dissemination through web and print channels.