

**Trade Liberalization and the Restructuring of Tamil Nadu's Leather Sector: Coping with Liberalization's New Environmental Challenges and Lessons from Prior Episodes of Adjustment**

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## **Introduction**

The leather and leather goods industry worldwide has emerged as an unexpected site where complex battles over the apparent trade-offs between trade liberalization, economic growth and the environmental consequences of this growth have played out in the past decade. As an industry with production technologies that generate some of the most polluting chemical effluents, the leather sector has emerged as a battleground for current environmental debates. The challenge has been to find ways in which firms and governments can internalize the negative externalities generated by environmentally damaging effluents that have long polluted the groundwater, streams and rivers in sites where leather-processing is concentrated — and to do so without impeding the industry's growth or eliminating the jobs that it generates.

Two features of the global leather industry have influenced how this debate has played out on the ground. First, the policy structure and state of technology in the industry is increasingly bi-modal worldwide—with advanced industrial economies employing capital and chemically intensive tanning processes and technologies that require large minimum efficient scales to function effectively. By contrast, the defining feature of the industry in many developing countries (like India) is that it is dominated by small firms and has till recently been characterized by a range of labor-intensive technologies focused on the export of semi-finished leather, skins and hides.

The second key feature of the leather sector is the dramatic regulatory shifts in the industry. In the past fifteen years, even as demand for leather has increased, leather processing technologies have come under greater regulatory scrutiny by governments and consumer advocacy groups in industrial economies. Increasingly stringent restrictions on

polluting technologies and management of polluting effluents has pushed leather firms in industrial economies to shift the most polluting phases of the production process—wet processing—to developing countries where the policy environment has been far less regulated till now. At first the pressures that led leather processing firms to seek overseas capacity and locations led to rapid growth of tanning capacity in developing countries. But in recent years with the rise of new environmental practices such as eco-labeling and the ban by major leather importers of carcinogenic chemicals such as PCPs and azo dyes, developing countries have been forced to make costly changes to their production processes to meet stringent new quality standards. Firms in different developing countries have responded to these demands in a variety of ways. But one common theme that runs across the cases is that the policy pressure that this scrutiny has brought to bear on firms has pushed them toward more value-added segments of production, instead of focusing primarily on the export of semi-finished leather. A related pressure on firms is the rise of concern over labor standards. As we will see below, firms in India and Tamil Nadu are finding that this issue is forcing them to reorganize their work structure.

This paper examines how Tamil Nadu's leather industry—a leading producer of leather in India, and a major employer, has responded to these new challenges. The sector's recent troubles (slowdown of exports), as well as its achievements (its remarkably swift and broad-based adjustment to two recent crises—court mandated requirements to set up common or individual effluent treatment plants to mitigate hazardous waste disposal in the mid 1990s, and the abrupt ban by Germany, India's largest buyer of finished leather, on two commonly used dyes) illustrate important policy

lessons about the impact of recent policy and market shifts on firms, and what is working well in the leather sector, and what is not and why.

### **Institutional and Policy Legacies in the Leather Sector<sup>1</sup>**

The leather sector is India's sixth largest foreign exchange earner and a major employer. In 1999 India exported about \$1618 million worth of leather and leather goods (including footwear, footwear components, leather garments, handbags and other leather goods, and saddlery and harness),<sup>2</sup> and the sector employs about 2.5 million people nationwide --directly and indirectly (Ramasami interview, June 2001). The current global market share of India's leather industry as a whole is 4.5% (CLRI 1998). Within India, Tamil Nadu is the nation's premier leather producer, with 70% of the country's estimated leather tanning capacity of 225 million processed pieces annually (CII-PriceWaterhouse 2000), and a 66% share in the nation's total leather exports. Of all exports from Southern India, over 90% come from Tamil Nadu (Pillai, 2000).

The state has over 9000 registered small and medium firms in the leather sector ("from top to bottom"), about 70 large scale firms and about 40 composite firms (or firms that area vertically integrated with their own tanneries and finished goods production) [Council for Leather Exports, 2000]. Spatially, the industry is marked by distinct agglomerations near river basins—a feature that adds to the negative externalities associated with environmentally damaging effects of effluents generated by the industry

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<sup>1</sup> This section draws mainly on Pillai 2000, UNDP-Madras School of Economics 1999, Indian Leather 2010, and interviews conducted by the author in Chennai in March and October 2000 and by Jeff Goebel in May and June 2001.

<sup>2</sup> Federation of Indian Export Organizaions (Southern region), 2000, pp.43 reports the figure in Rupees as 69558 million in 1999. I have used US\$1 = Rs. 43; Tamil Nadu's total leather and leather goods exports were Rs. 27421 million, of which Rs. 20247 million were in leather goods and Rs. 7174 million in finished leather exports.

that contaminate local water-tables. In Tamil Nadu most of the tanneries (or firms that process leather and skins) are concentrated in a handful of locations dominated by the Palar valley in Vellore district and the Cauvery river basin.<sup>3</sup> Finished leather and leather goods production is centered in and around Chennai, the state's coastal capital.

In the past fifteen years, this industry has changed significantly, moving away from the production of semi-finished leather to the production and export of finished leather and value added leather products (we return to the policy drivers of this shift below). In 1999, of the US\$ 638 million worth of leather exported from Tamil Nadu, US\$ 471 million, -- 74% -- was in finished leather products, mainly footwear components, footwear, and leather garments. In this period, Tamil Nadu had a 42% share in India's leather footwear exports and a national share of 72% in the export of footwear components such as lasts and shoe-upper and so on. Tamil Nadu (mainly Chennai) also accounted for 31% of the nation's export of leather garments, and 15% of the country's export of leather goods such as wallets and bags (Council for Leather Exports, 2000).<sup>4</sup>

The leather industry has long roots in Tamil Nadu. It emerged in the mid-1800s in response to demand from the colonial government (Kennedy 1999), and was shaped in its early years by the British government's procurement policies—aimed at procuring cheap semi-tanned leather, skins and raw hides locally and shipping them to Europe for

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<sup>3</sup> Palar valley, in Vellore district, is located West of Chennai, and includes several clusters in the towns of Vaniyambadi, Ambur, Ranipet and others (Kennedy 1999).

<sup>4</sup> There are three primary leather producing centers in India---TN leads in the Southern region with a major focus on finished leather and footwear components; the Eastern region including Calcutta in West Bengal leads with a two-thirds share in the country's leather-goods exports (of items such as wallets and hadbags), and the Northern region (dominated by Agra and Kanpur) leads the nation in the export of leather garments, saddlery and harnesses and footwear (with a national export share in each of 47%, 41% and 22% respectively). [Council of Leather Exports, Chennai, 2000].

finishing, processing and conversion to leather products. Policy shifts over the years have influenced the growth of Tamil Nadu's industry in important ways.

***Structural shifts in the 1970s: The twin, foreign exchange and employment, focus of***

***earlier episodes of modernization.*** More than any other, one policy has impacted the development of the Indian leather sector since independence in 1947: and that is the government's employment focus in devising promotional policies for this sector. Till independence in 1947 the leather sector was dominated by laissez faire colonial policies that led to the emergence of a haphazard "cottage industry" around leather processing. After independence, two factors defined government policy toward the sector: foreign exchange generation (in the 1940s), and employment creation. Throughout the 1950s and 60s the government's incentives, tax exemptions, licensing practices and reservation policies were aimed at actively promoting the development of tanneries in the small and medium sector. The government also reserved the production of leather goods, such as footwear, for small firms—a policy that was in effect till last year when the government began to allow large firms to enter this sector on the condition that they export three-quarters of their output.

This policy of reserving tanning and leather goods production in the small sector did encourage employment. In fact the early employment focus of the government's leather policies had a distinctly political purpose immediately after independence. It served in part, to "protect the employment of minority communities such as Muslims and scheduled castes who were traditionally involved in the recovery of hides and skins, leather tanning, and informal production and trade of leather and leather goods" (Indian

Leather 2010, 1994, cf. Pillai 2000:17). However, as the policy continued over the years, it also generated a set of institutional conditions--and constraints--that have shaped the impact of government policy on this sector throughout the past decades. As we will see below, the complex historical politics of viewing the leather sector through an employment lens continues to create unexpected side-effects—both good and bad—even today as the industry liberalizes and opens up to freer trade.

Critics of the government's reservation policy blame the sector's slow modernization and low productivity on the fragmentation of capacity that such a policy has apparently generated, arguing that reservation prevents the industry from exploiting the economies of scale inherent in modern tanning practices, such as chrome processing. Others view the policy in a political and historical context—as having unleashed a political process, a sometimes limiting perimeter, that has circumscribed government action in this sector. As one observer noted, “the politics [in the leather sector] are complicated.” “Initially, the central government pushed leather as a mechanism for gaining foreign exchange. Then, over time, they put pressure on the leather industry to employ more people. So now, India as a whole is somewhat trapped politically into maintaining high employment levels even though it prevents producers from really becoming profitable and globally competitive” (Ramasami interview, May 31 2001).

Still others point to the unforeseen and fortuitous ways in which this past, much criticized policy of the government, *actually helped* Tamil Nadu's leather industry come out of recent environmental crises when its major overseas buyers (mainly Germany) banned the use of two popularly used tanning chemicals [more on this below]. The industry adjusted surprisingly quickly, and Pillai (2000) who studied the process of

adjustment, noted that part of the reason why the entire industry regrouped quickly was that the leading exporters (who were not small firms), were compelled to cooperate with, and pull along, the small-scale tanneries that they relied on—many of which they also owned or had links to—through a process of “negotiated” collective action. The point here is not that the reservation policy is in and of itself good or bad, but that in this instance, it generated a set of institutional relationships between large and small firms that forced cooperation between the two. In the absence of these linkages, which made large exporters dependent on small tanners, it is likely that the response of the sector may have been more fragmented—with pockets of large and well capitalized tanneries adjusting quickly, and smaller tanneries, delinked from the major exporters, lagging behind. These institutional legacies are important to understand today as policy makers look for new ways to foster competitiveness among leather firms in the face of fierce overseas competition. There may be portions of, or outcomes of “failed” policies that are positive and could provide organizational linkages that would be worth building upon.

Perhaps the most interesting outcome of the government’s employment focus on the leather sector was that it indirectly put pressure on the industry to move from exporting raw hides and skins to exporting mainly value added items such as finished leather and products. The first turning point in this shift came in the early 1970s when the government constituted the Seetharamaih commission (in 1972) to examine ways to increase the productivity of the Indian leather sector. Because economies of scale through consolidation were ruled out by policy and politics, the commission recommended that the government ban the export of raw hides and skins, place a quota

restriction on the export of semi-finished or wet-blue leather, and encourage the manufacture and export of value added finished leather products (UNDP Study 1999, Pillai 2000).

The government adopted these recommendations and implemented a number of policies to move the industry toward the export of finished goods. For example, it imposed an export tax on the export of semi-finished leather. To get exporters to increase their capacity to produce finished leather and products, the government instituted in 1973, as part of the first stage of a modernization program that lasted up to the 1980s, numerous incentives and support programs. These included: (1) a cash compensatory scheme to compensate Indian exporters for the export disadvantages they faced vis-à-vis their competitors abroad (South Korea Taiwan, Latin America)—with respect to high interest rates, high income tax and taxes on imports. (2) The government also provided an air-freight subsidy of 15-22% on leather exports, excise duty exemption for exports of final products, and a duty drawback scheme that paid back firms excise and customs duties paid on the import of raw materials (such as components, packaging materials and so on) used in the manufacture and export of finished products (UNDP Study 1999).

(3) Simultaneously, in part to overcome the inability of small tanneries to derive scale economies, the government also adopted a licensing procedure that allowed large and medium sized tanneries to set up (and register with DGTD, a section of the ministry of industry) on the condition that they export 95% of their production of *finished* leather. Other firms registered as large exporting housing responsible for the export of leather products, but with ties to a network of small tanneries. And finally (4) to facilitate this modernization, the Indian government provided financial assistance (from banks) to the

leather industry, and allowed the import of chemicals, machinery and technology for the production of finished leather.

The 1970s and early 1980s was a period of rapid technological change in the Indian tanning sector. A number of modern tanning and finishing facilities were set up in India, with the encouragement of the government and active support of foreign buyers of leather (Indian Leather 2010, cf. Pillai 2000:19). At the same time, many tanneries in Tamil Nadu and elsewhere in India switched from vegetable tanning to chrome tanning—a process widely practiced in industrial countries that the Central Leather Research Institute, a government funded, autonomous R&D institute helped introduce in India at this time. This technical change reduced processing time from six weeks to one week and increased productivity considerably. These policy changes had a major impact on the growth of the sector and as is evident in Table 1, leather exports increased rapidly throughout this period. Until 1975 finished goods constituted less than 1% of total exports. As exports of semi-processed leather declined after the 1970s, they were initially replaced by finished leather exports, and then by finished leather products. In 1990, finished leather constituted 80% of exports; while in 1998, nearly 80% of export comprised of leather products (Pillai 2000).

Since many of these early changes in the industry (as it opened up to trade in the 1970s and 80s) predate as well as resemble the current restructuring that the leather industry is undergoing, it is important to ask: where did this earlier impetus for the government to help modernize the leather sector and nudge it toward finished leather exports come from? And what lessons might this offer about the role of the government in the current restructuring. A number of changes in the geography of leather production

globally, shifts in the nature of demand for leather and leather products worldwide, new export opportunities in this sector, and a growing transnational role of buyers seeking to source leather globally drove—or at least formed an important backdrop for this major policy shift in India at this point in time in favor of improving the productivity of the leather sector by pushing it toward finished product exports.

First, on the demand side, as Pillai (2000) reports in her study, many tanneries in industrialized countries began to close down in the 1970s “due to tightening environmental regulations, rising costs of pollution control (in leather processing), and the inability (of local firms) to stay competitive in the face of wage increases,” rising fuel costs and shifting demand. Several moved out their operations to developing countries (pp18). Two countries that benefited the most from this shift were South Korea and Taiwan. As Pillai notes, this is intriguing because neither country had a natural advantage in leather production nor had a well-developed leather-producing sector. In both countries the leather industry developed as a result of considerable external assistance from the US (Pillai 2000:18). Growing export opportunities led many developing countries, including India to increase local leather processing capacities.

Second, the oil shock of the early 1970s left many developing countries struggling with balance of payment problems. Many sought to boost foreign exchange by promoting exports. Leather exports were one of a handful of sectors that the Indian government identified as a source of foreign exchange. Since the government’s political commitment to maintaining the industry’s small-firm based structure precluded adopting policies based on exploiting scale economies to boost volumes, the government looked to increase export revenues by encouraging firms to move up the value added chain toward

manufactured products. Finally, this shift, and the technological move toward chrome processing came at a time when market demand in industrial countries shifted toward the softer and more supple chrome and semi-chrome processed leather (Hashim 1997, cf. Pillai: 19). This conjunctural dovetailing of changes on the demand and supply side led to the first major spurt of growth in the sector since independence. This growth was marked in the early 1980s by a diversification of the sector's product mix as well as a deepening of forward and backward linkages as we see below.

***Diversification:*** In 1979, in the second stage of this modernization movement, the government further liberalized the import of capital goods, components, chemicals and inputs needed for producing finished goods. Upon the recommendation of the Kaul Commission (in 1979), import duties on all tannery, finishing, footwear, and other leather goods machinery were lowered to a uniform rate of 25%. In the mid-1980s, upon the recommendation of another commission, the Pande Commission, the government removed all duties on the import of hides and skins, wet blue and crust leather (UNDP-MSE Study, 1999). It was during this period—the late 1970s and 1980s—that leather producers in Tamil Nadu developed strong forward and backward linkages and diversified into the manufacture of leather products such as jackets, garments, footwear and footwear components such as shoe uppers, shoe lasts and complete shoes (UNDP 1999, Pillai 2000:20). The government, and overseas buying agents played a key role in shaping the shift. It is striking that the government led three commissions on the leather sector between the early 1970s and late 1970s and adopted policies to explicitly promote the sector's diversification and growth. Similarly, a recent UNIDO study noted that

foreign buyers also played an important role in linking local firms to new markets – even in that prior episode of restructuring two decades before the current liberalization of trade in India. “The impetus for diversification came in significant measure from European buyers of Tamil Nadu’s finished leather who persuaded their suppliers to diversify into leather products... because many local leather product manufacturing firms had closed down or migrated abroad” (cf. Pillai 2000:20). Thus, far from adhoc growth, or market driven change in India’s leather sector, these first episodes of export and diversification this sector were driven in large part by agency and policy.

This policy- and foreign-buyer-led diversification of the 1970s took a specific form which defines the character of manufactured leather exports from India even today. Most of the firms that diversified into finished goods in the 1970s and 1980s were—and many remained—small in scale. And rather than diversifying into finished goods—such as shoes—most firms (especially in Southern India) diversified into footwear components rather than complete shoes because they lacked an adequate marketing infrastructure. Over the 1980s and 1990s, footwear component exports from India increased significantly, and Tamil Nadu’s share within India’s exports grew most dramatically. Tamil Nadu’s share of leather exports from India rose from 49% in 1992 to over 77% of the country’s share (of leather exports) in 1996-97 (Council for Leather Exports, Chennai).

By the late 1990s, the region’s—and India’s – leather sector had made the transition away from semi-processed leather almost completely (See Table 1). In 1975 semi-finished leather was the region’s primary export, and leather products in total exports were less than 1%. The share of leather products in total leather exports at the all-

India level increased to 37% in 1981-82, and rose to 76% in 1990-91 (when semi-finished leather exports were banned by the government), and in 1996-7 (before the environmental crises lowered exports slightly) exports of leather products reached a high of 80% of all leather exports (see Table 2).

The policies of 1973 and beyond clearly led to a shift in the export composition in this sector, and with a rise in the unit value of exports, foreign exchange increased (UNDP 1999).<sup>5</sup> They also laid the organizational basis of the country's leather export sector. Most of the firms that produced for export were small or medium, and most manufactured exports were of the intermediates variety – footwear components – rather than final goods like the complete shoes and other goods that countries like Brazil, China, Taiwan and South Korea exported. How lasting were these changes, and how have they contribute to the global competitiveness of this sector? The answer to this lies in part in the institutional legacies that the government's early leather policies generated over time.

***Institutional Legacies.*** A key set of legacies that these past policies of the government have generated in the leather sector relate to the large number public and private sector associations both at the state and national levels, that have been critical at each turning point in the sector's evolution. Important national level organizations that are headquartered in Chennai include the Central Leather Research Institution (CLRI), the Council of Leather Exports (CLE), and the National Environmental Engineering Institute (NEERI). A powerful industry association that is very active in Tamil Nadu is the All India Skin and Hide Tanners & Merchants Association (AISHTMA), that works closely

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<sup>5</sup> For raw hides and skins worth Rs. 100, the average value addition for finished leather is estimated to be about Rs. 86, and for finished products, the amount is Rs. 345 (UNDP, 1999:24). The

with the South India Tanners and Dealer Association, a regional organization, the Shoe Federation, and the Finished Leather Manufacturers Association. Each of these organizations has long roots in the country—and region. Just as they have played an active and central role in earlier shifts in the structure of the region’s leather industry, they are all key players in current efforts by the industry to reorient itself toward a more environmentally compliant path, as we will see later.

CLRI was established by the Indian government in 1948 as a constituent member of a network of national laboratories (in various sectors) under the Council of Scientific and Industrial Research (CSIR). Headquartered in Tamil Nadu, and funded largely by the national government, CLRI has been at the forefront of leather-related research, dissemination of new practices—including the spread of chrome tanning technologies in the region in the mid 1970s—and training. According to one CLRI scientist, “about 60% of the tanning industry is manned by CLRI-trained students” (Sundar Rao, cf. Pillai 2000:24). Apart from providing policy advice to the government and diffusing information to the industry, one of the most important roles of CLRI is to provide testing, and certification facilities to firms. This role was critical in the industry’s successful recent response to the German ban on PCPs and Azo dyes in the mid-1990s.

CLE was established in the 1960s to promote leather exports. Its role is to gather and disseminate market information to the industry and to control the quality of products that are shipped out (Pillai 2000). CLE leads trade delegations abroad, and runs a well-subscribed trade journal called “Leathers.” CLE has strong links to the Ministry of Commerce. It also has strong – and direct – ties to local industry. An important feature

of its organizational structure is that it is chaired by a representative from the industry, and managed by a managing director appointed by the Ministry of Commerce. These institutionally built-in industry-government ties have led to a system of feedback and dialogue that is quite pragmatic. The government appointed managing director rarely acts unilaterally or without consultation with the industry. For example, joint meetings with outsiders (they public or anyone outside CLE), and a group of local member firms is an important part of the agency's protocol. It is an internal mechanism for CLE to present an open/transparent front to its members---to keep industry involved in the information they disseminate about the sector. However, the leading members of CLE are almost all large and medium firms. Small tanners argue that this dominance by large exporters excludes them from trade delegations and that "as an exporter you can benefit a lot if you are part of the inner circle, but not if you are outside it" (Pillai interviews, 2000:25). Yet, as Kennedy shows in her study (1999) on the relatively successful effort around establishing common effluent treatment plants in Tamil Nadu, under some circumstances that affect all firms in the leather sector, such as the recently mandated court orders to drastically reduce untreated effluents in the region's leather sector as a whole, CLE's large and medium firms have often *had to* come together with smaller firms. Despite deep seated divisions, smaller firms have benefited most from the common treatment plants that are jointly owned by a group of small and large firms, but are run mainly on the basis of the critical mass of effluent generated by the larger firms that allow "effluent shares" to be swapped between members and keep the plant running despite the fluctuating and changing circumstances of less stable members (Kennedy 1999).

The industry association AISTHMA was incorporated in 1917 and formally registered in 1971 around the time that important changes were taking place in the Indian leather sector. In recent years the association has been involved in implementing common and individual effluent treatment plants as well other devices for the treatment of tanning waste. A key feature of the associations in the leather cluster, as one study noted (Pillai 2000), is “interlocking directorates.” Members often belong to overlapping professional groups and maintain multifaceted business and social relationships (Pillai 2000 and Kennedy 1999). For example, the program coordinator of UNIDO’s regional program for the tanning industry in South Asia was previously the director of CLE, the current president of AISTHMA is also the chairman of a new nonprofit organization, the Indian Leather Industry Foundation (ILIFO) that emerged in the wake of new issues such as providing effluent treatment and environmental protection in the industry (Pillai 2000).

These interlocking ties between local firm and associations have been crucial to the sector’s ability to adjust to outside crises, as we will see below. But their presence does not mean that all there is no conflict or disharmony in the Tamil Nadu leather sector. Nor does it mean that associations have equal clout or reach. Local associations that deal with wage and dispute resolution issues, for example, rarely have the ability to influence national or local policy in the industry. Neither does it imply that the networks are rooted in ethnic or social homogeneity among the groups involved in the production of leather and leather products. While it is true that a bulk of Tamil Nadu’s leather firm owners belong to the state’s Muslim community<sup>6</sup> and participate in common social institutions, many of the workers in the tanneries as well as exporters are Hindus. The industry and

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<sup>6</sup> Even though Muslims form less than 6% of the state’s population, they dominate the industry [Kennedy 1999].

its institutions operate as tightly interlinked networks not because they are homogeneous in a narrow ethnic or kinship sense, but because they share multiple relationships that enable conflicts to be brought to the table to be resolved.<sup>7</sup>

The intermeshed membership of these various associations, the active role of regional R&D institutions such as CLRI, as well as the government's attempt to keep small firms as central players in the tanning sector has led to impressive amounts of technical learning in the sector. This is especially evident in how Tamil Nadu's leather firms responded to the changes instituted by the government in the early 1970s (discussed above), and the recent response of the industry to its environmental crises. As one observer noted, "it appears that lead firms played a decisive role in opening the way for others, first into finishing leather and then into manufacturing of leather products" (Ramasami 1992 cf. Kennedy 1999:1678). Tamil Nadu's leather producers routinely win national quality awards in all-India contests in finished leather, leather garments, leather uppers and footwear. As one producers noted, this is reflected in the higher unit rates that Tamil Nadu's leather products fetch in overseas markets relative to leather producers in other parts of the country. For example in the US market, a pair of men's shoes manufactured in Tamil Nadu fetches at minimum US\$ 20/pair compared to \$10/pair for shoes made in Agra, an important Northern shoe producing center. In European markets, high-end Tamil Nadu shoes fetch as high as \$60-70 per pair (Interview, Kathiresan and CLE firm members, April 2000). Europe is currently Tamil Nadu's main market, though the US rapidly growing in importance.

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<sup>7</sup> Moreover, the "clout" of the various institutions that dominate the industry is subject to change over time and in response to changing conditions of competition. For example, the recent emergence of common effluent treatment plants (and the organizations that manage them) as important institutions in the leather sector have diminished the power of the older tanner's associations, as Kennedy (1999) points out. Their

If public policy, and the structure of production of the industry were important catalysts for upgrading and modernization of Tamil Nadu's leather sector in previous episodes of adjustment, how is the sector positioned today to cope with competition from abroad, and the new environmental challenges that the industry faces after liberalization in 1991? In the next section we examine two "crises" that struck the industry in 1994-1996: the pollution crisis in 1995 and the imposition of tough environmental standards by Germany on finished goods in 1994 and 1996. For factual material here I draw on two studies that examined these crises in detail—Lorraine Kennedy's examination of the former (1999) and my student, Poonam Pillai's account of the latter (2000).

### **Adjusting to liberalization's new environmental challenges**

In 1995, adjudicating on complaints brought by farmers about groundwater polluted by tannery effluents, the Supreme Court of India ordered the closure of tanneries in Tamil Nadu that were not treating their effluents in accordance with pollution control regulations. In Tamil Nadu's Palar valley alone over 200 tanneries were forced to close down unless they complied with effluent treatment laws within six months. Firms faced immediate problems of how to operate, meet their export orders, and yet comply with the Court order in such a short period of time. All firms—large and small faced the same dilemma. Firms essentially had three options—either to shut down; build their own Effluent treatment plant (ETP) or join a group of firms in building a Common Effluent Treatment Plant (CETP). Location and financial capability influenced how firms made their choices—only the largest firms could afford individual ETPs; and some of the

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legitimacy diminished in part because they failed to anticipate the pollution crisis (Kennedy 1999, Pillai 2000).

smallest firms closed down. But as Kennedy (1999) points out, despite the short window of time available to firms, about 400 firms, or 80% of the Valley's tanneries, chose to join seven Common Effluent Treatment Plants which became functional in a reasonably short period of three years. Although exports were disrupted, and some firms went out of business, and five years later, exports are not yet back at pre-crisis levels, Kennedy documents how collective action by small *and* large tanneries, and the active involvement of local public sector agencies led to a relatively successful response to an unforeseen crisis.

This success was predicated on the creation of new institutions—CETPs which are jointly owned by a group of member firms and run by a professional manager the firms hire. Large firms, and their financial clout carries the entire group in a CETP—so large firms play an important leading role, but because of the functional interlinkages between small, medium and larger firms Palar valley's leather cluster, small firms form an important part of the new institutions. Although the severity of the Court order, the short time-frame of adjustment, and self-interest were main drivers of collective action, the more salient point that Kennedy notes is that rather than expecting government agencies to impose a solution to upgrade pollution control mechanisms in leather clusters, local firms themselves are a crucial source of innovative initiatives. The government plays a role in this process, in Kennedy's view, but of a responsive supporter, and facilitator, rather than an initiator. "Local leaders have emerged, and with the consent of their peers, put in place mechanisms for monitoring and for penalizing 'defectors' [non-compliant firms]. The role of the state has been more to enable and assist, rather than to initiate and lead" (Kennedy 1999:1684). Most importantly, in successful CETPS, an old

institutional feature of the industry—namely, the overlapping directorates that we noted before—aided in crucial ways the ability of local leaders to manage a complicated group-compliance process. “CETP directors have become the main interlocutors of decision makers in regional level professional bodies and also in government and research institutions” (Kennedy 1999). The Indian Leather Industry Foundation, which arose in part to help the leather industry adopt more effective pollution control practices in the mid-1990s is a major point of reference for many CETP leaders.

But even in Kennedy’s account of overall success in the Palar Valley, there are instances of ‘collective failure,’ and the free-rider problem. Even though such instances appear to be associated with places where the local community lacked a prior history of cooperation, conditions that lead to cooperation in some places (and not in others) are not hard-wired into the shared histories of regions where cooperation does occur. They are the result of institutional relationships that change over time, and are not necessarily bereft of conflict, but instead where mechanisms have emerged or been put in place by agency and choice that allow conflicts to be mitigated and resolved. In these circumstances, where cooperation is rarely ever guaranteed by past histories, can the government play a role in helping put in place circumstances that will generate these conflict-resolution mechanisms, or pressure on firms to come together around commonly shared problems such as pollution control, even if they do not cooperate around other issues as a matter of course? How might the government do so?

There is at least one obvious way in which the state can help quite directly. Since geography (and spatial proximity) is an important factor in determining the feasibility of collective solutions such as CETPS, the government could aid the process by creating

functionally specialized industrial parks geared around the leather sector. Some Indian states like Punjab have recently established such parks with a great deal of success, and have been eroding Tamil Nadu's market share in exports and as well as domestic production of leather products (CLE interview, April 2000). Similarly, regional governments in countries like China have made huge investments in creating water and waste treatment facilities in designated sites which have in turn attracted large amounts of investment by US and European firms and have led to the transfer of wet-processing technologies [in both leather and textiles] to these regions [from developed countries] (Brigitte Interview, March 2001).

A second example of what the state could do to create the conditions for firms to come together to solve joint problems pertains to standard setting, training, intermediation, and shared monitoring. This is illustrated by the successful response of Tamil Nadu's leather firms to their "second crisis" of the 1990s: the ban by Germany, the region's largest trading partner on the import of leather dyed with Azo dyes and benzidine in 1994. Once again, local firms succeeded in making organizational changes in their structure of production and modifying their inputs and dyeing processes to comply with the German ban in less than two years. We turn to a brief account of this experience (drawn from Pillai's study) next.

In 1989/1990, the German government banned the import of leather items containing more than 5mg/kg of Pentachlorophenol (PCP); The industry had barely adjusted to this shift, when this ban was followed by another in 1994 when Germany banned the import of leather (and textiles) treated azo dyes (benzidine). Soon after these announcements, Germany rejected several shipments of leather and leather products from

India, threatening to cut off the leather sector from its largest market. The challenge of adapting to these bans was complicated by the fact that over 90% of Tamil Nadu's leather processing is done by small firms—just the firms that are viewed in the literature as being most vulnerable to a disruption of revenues, and lacking the resources to invest in costly technical or organizational changes to meet stringent environmental standards—the old growth vs. environment debate. Moreover, how does one get such large numbers of decentralized small firms to comply with the new regulations, and how does one monitor that compliance?

Pillai found that despite these challenges, Tamil Nadu's leather sector adjusted to the new environmental standards imposed by Germany relatively quickly and in a sustained way. Within three years of the first (PCP) ban, only 7% of all leather samples tested more than 5mg/kg levels of PCPs compared to 46% in 1990, right after the ban. And in 1998, three years after the second ban was imposed, only 1 in 129 samples tested failed the azo-dye test compared to nearly all in 1994 (CLRI cf. Pillai 2000). What explains this success?

Several factors that helped Tamil Nadu's leather firms successfully resolve the crisis provoked by these bans relate back to old, often discredited policies of the government. One key factor was the central role of quasi-public sector (or public sector supported) institutions such as CLRI and CLE in standard setting and monitoring. Both these national-level organizations were set up by the central government in the 1940s and 1960s respectively, and are headquartered in Tamil Nadu as we saw previously. Both these agencies played a key role in setting new standards, testing, and certifying and disseminating new information about the German standards. The key feature that gave

these institutions' clout was their 'interlocking directorates' – i.e., their strong links both to government and industry (one of CLE's co-chairmen is appointed by the Ministry of Commerce and the other by AISHTMA, the local leather manufacturer's association). These government-industry ties helped establish trust at a time of disruption, and helped the industry move from top-down "regulation" to public-private cooperation (Tendler 2001, Pillai 2000).

The second key factor that helped the leather sector adjust was the government's much criticized policy of reserving the "primary" phase of leather processing for small firms. The impact of this policy after the German bans, Pillai reports, was that small firms involved in the primary phase of tanning had to be included by the leading leather exporters in finding ways to comply with the bans. Rather than resort to vertical integration, as large firms threatened by quality control issues are wont to do, the government's old reservation policy forced the larger firms to help upgrade smaller ones (Pillai 2000).

The third critical factor in getting leather firms to comply successfully with the German bans was the action of the central government itself. Instead of relying on a policy of monitoring individual firms to ensure compliance—a task inordinately difficult in the context of a small firm-dominated sector, the government *banned the production (rather than use)* of PCPs and azo dyes. In other words, the government targeted the input suppliers—the large chemical companies that manufactured the dye, rather than small (leather) firms that used them. CLE, with its political links to government and to leading leather exporters, lobbied the government hard for this decision. Unexpectedly, this targeting to input producers unleashed a process of innovation in the chemical

industry as firms experimented with new, PCP-free dyes (in consultation with their customers, the leather exporters). Once alternative dyes were developed, it was the chemical companies who wanted to sell their product, and not the state or local associations, that pushed to diffuse the new dyes as widely as possible among their potential clients—small and large leather processing firms. To get firms to adopt their products, the chemical companies also offered technical assistance to small firms. The combined effect of these policies was to ensure that small tanneries were able to comply quickly and widely, with the German regulations. The Indian bans on the production of the chemicals “reinforced pre-existing cooperative ties between small tanners and chemical and dye manufacturers and led them to a greater degree of collaboration” and helped minimize the cost to small tanneries of switching to the new dyes (Pillai 2000). Finally, this process led CLRI, a supply-side agency conducting R&D and training for the leather sector to “upgrade” itself, in response to requests from leading exporters, to act in a more demand-driven way and develop customized certification and testing procedures for PCPs and azo dyes. To do so, CLRI upgraded its own technical facilities and developed a collaborative relationship with a German research institute to establish mutually acceptable testing procedures.

Thus, a set of prior institutional relationships put in place by older policies (e.g. of reservation, and of establishing institutions like CLRI), turned an exogenous crisis of trade-related environmental standards into a process of institutional upgrading of firms as well as their related support networks. It also created the conditions for a large and decentralized industry to adjust surprisingly quickly and sustainably to stringent new

environmental standards—demonstrating that environmental compliance in the leather sector in developing countries need not come at the cost of growth.

### **Comparisons with other competitors and the high-end vs. low end, high volume dilemma**

This finally brings us to the discussion of a dilemma that the leather industry has increasingly faced since the country liberalized trade in 1991: intensified competition from other countries such as China, East Asia, and Latin America and the debate about choice of strategy. Should government policy encourage Indian leather firms to compete with China in high volume sectors, or should it encourage firms to enter more demanding, value added markets. At one level, this is a false debate—success at one level need not come at the expense of the other or preclude the other path. And as we saw, since the 1970s, India has gradually but steadily moved in the direction of more value added, finished goods production in the leather sector. However, given the clamor over de-regulation and de-reservation in the leather sector, the issue is worth examining closely.

Just as the leather industry in South Korea and Taiwan developed virtually from scratch in the 1970s as a result of favorable government policies and the support of buyers from the US, the 1990s has witnessed the rise of leather production and exports from China, Brazil, Indonesia, Thailand and the Philippines. Indian trade journals of the leather industry point out how Chinese exports dominate the world market in several categories (See table below). The currency devaluation in China in 1992, and East Asia in

1996-7, further led to an upsurge of exports from these countries, at the same time that it made Indian exports relatively more expensive.

**International Comparison of Major Exports of Selected Items in US\$ million: 1998**

Leather		Leather Footwear		Footwear Components	
Italy	5857	Italy	5701	Italy	928
S. Korea	2328	China	3768	China	335
Argentina	1534	Spain	1769	S. Korea	330
USA	1590	Portugal	1499	USA	299
Brazil	1307	Brazil	1200	<b>India</b>	<b>244</b>
China	669	Germany	994	Romania	231
Australia	566	Indonesia	867	Portugal	118
<b>India</b>	<b>265</b>	<b>India</b>	<b>290</b>		

Source: Leather Age, April 2001:21

As in several other sectors, the Chinese advantage is in scale. Government-encouraged investments in mass-produced, standardized leather processing and manufacturing capacity has attracted input suppliers from the US and Europe to invest in creating a major wet-processing (dyeing, finishing) center in China. This has made final goods cheaper to manufacture in China, and has reduced lead times significantly. As many critics of India’s reservation and employment-focused leather policy have contended, does this mean Indian leather firms—and Indian leather policy—should learn from China and turn toward scale economies? A second issue that trade associations repeatedly focus on when making international comparisons is the wage question and India’s lack of an exit policy. Most firms are still focused on the issue of labor and wages, arguing that it is India’s rigid

labor laws hamper productivity. Is this really the main story with respect to productivity?

Some analysts, as we see below offer an interesting and different view.

In a recent interview<sup>8</sup> Mr. Ramasami, the current director of CLRI offered a much more nuanced view. While agreeing that “global trends call for larger firms with economies of scale,” he argued that a second path for the Indian leather industry was to take advantage of the investments they have made in the past to move toward value added production, as well as the investments they are now being forced to make to meet new environmental and pollution control standards, to capture the higher-end leather market. In this view, rather than compete with mass producers such as China, Indian firms “should leave [the mass] market to the Chinese, and target high end niche markets.” They should “focus on economies of scope,” just as Italy has consistently broadened its repertoire and moved upmarket to beat its competition (Interview, Chennai, May 2001).

Indeed, there is considerable debate within the industry and in policy circles about how the Indian leather industry can turn “clean tanning into a comparative advantage” (Kennedy 1999: 1685, CLE interview, April 2000). Discussions are underway to develop “eco-labeling” and niche markets for specialized products produced in Tamil Nadu—specifically the revival of East India tanned leather that is a specialty of this region. East India leather is a special kind of semi-finished leather that is processed using vegetable tannins that are less polluting and can be preserved for a long period of time. Because this leather is harder, firms are trying to adapt it to the production of luggage, handbags and related items. Firms believe that they can “create a niche demand for [such products] in the name of ‘pollution-free, chemicals-free’ products.” (CLE interview, April 2000).

Local firms also argue that government agencies and industry associations could help firms form consortia and help firms learn how to “proactively market their product in high end export markets” (Ramasami interview, 2001). Just as in the case of CETPs, lead firms again have an important tutelege role to play in helping the industry as a whole upgrade its marketing capabilities. In some cases overseas buyers are helping establish these ties through establishing their own training centers in Tamil Nadu. For example, Ecco of Denmark recently set up a training center in Vellore, with CAD facilities, lecture rooms and a ‘pilot’ plant. The goal was to “raise the competence of suppliers in production as well as management aspects” (Leathers, 1999, vol. 15, No. 8).

There is plenty of evidence that the existing structure of export production, which is dominated currently by large firms (approximately 35 leather firms that are capable of producing high quality leather account for 60% of the country’s leather export base) can become powerful sources of upgrading for smaller firms under transformed relations of production. But as these arrangements currently stand, the ties between large and small firms are often functional and add little new knowledge to either partner. Some argue that this old-fashioned arrangement is “leading costs of production to increase and it is lowering productivity” (Ramasami interview, 2001). But again, alternative examples come from some of the successful experiments already underway in Southern India and elsewhere, where some firms have initiated long-term subcontracting relations with smaller firms that have led to rapid technical learning and high productivity on the part of both the lead firm and its suppliers. A striking example comes from the story of the Tata group and its involvement in the leather sector—a story that harks back to the

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<sup>8</sup> Interview conducted by research assistant Jefferey Goebel, May 31, 2001.

employment and foreign exchange focus of the government's leather policy. The Tata group, known for its engineering and related businesses, was not originally involved in leather. As part of the government's policy to find appropriate sources of employment creation, a former president "urged" the Tata group to get into leather to contribute to job generation, "even if at a loss" (Ramasami interview, May 2001). The Tata group did enter the industry, but sought different ways of doing business so as to not operate at a loss.

The group entered into long-term sub-contracting ties with smaller firms to undertake major aspects of the production process – cutting, stitching, and assembly. To ensure quality, the Tata group sent a representative to the supplier who worked with them on-site to supervise the job, and train the supplier firm. If the small firm lacks capacity in specific areas, Tata provides—or arranges for expert consultation. If the firm lacks capital to upgrade or suffers cash flow problems, again, the Tata group provides favorable loans. This has allowed the firm to form a network of highly capable small producers whom it can rely on for high quality work. As in several other sectors such as apparel, auto-components and electronics, when these long-term relational ties work well—as they have in the Tata Leather case, they succeed in 'professionalizing the smaller leather firms through "coaching and mentoring." Eventually, the Tata supervisor leaves, but the small supplier is expected to—and is able to—meet all the quotas that the Tata group requires (Ramasami interview, April 2001).

As we saw earlier, in the discussion about the Palar valley, long-standing collaborative ties have long existed in some segments of the leather industry. The above example illustrates an ongoing professionalization and modernization of this relationship.

The growing trend toward dedicated long-term supplier relations—rather than capacity subcontracting or mere job work relations has the potential to upgrade a whole segment of the small firm sector, as the industry copes with intensified competition overseas.

**Conclusion:**

The leather industry in Tamil Nadu and India is at a turning point. As the country opens up to greater trade, and as overseas competition intensifies, it is imperative that the industry improve its technological, organizational capabilities, and improve productivity to achieve deeper market penetration at home and abroad. Two of the most critical challenges facing the leather sector nationally are the growing emphasis on environmental and pollution control standards, and greater scrutiny over labor practices of local firms. Government policy and collective efforts of industry clearly need to be aimed at helping local firms, especially smaller firms meet these challenges.

The government of India's "employment" and "foreign exchange"-driven priorities for the leather sector have created complicated politics around this industry's ongoing restructuring. On the face of it, global trends seem to indicate that economies of scale are key to improving the industry's productivity, but at the same time, recent experiences by firms like the Tata group, and others point to other options. They have succeed in achieving profitability and increasing productivity despite the government's employment focus by adopting innovative practices that involve the upgrading and close mentoring of small suppliers by large firms. Others have improved productivity by nurturing high end niches and the production of finished leather products. Nonetheless,

India's overall share in the global market for leather and leather products remains a mere 4.5%.

Yet, there is a lot of past success on which to build. The institutional structure of the industry and the government's own past policies provide important legacies from which to draw lessons as the industry transforms. Despite the clamor of criticism over the state's small-scale reservation policy, the government's attempts in the 1970s and 1980s to move the Indian leather industry from one oriented toward the export raw hides and to one that today exports mainly finished leather and value added leather products is a major success story. Indeed, many of the challenges facing the industry today, were reflected in that prior period. Many of the key institutional changes—and significant shifts in the industry—thus predate current liberalization

An important legacy of this older period is the creation of a set of institutions in the public and private sector such as CLE, CLRI and AISTHMA that have played a critical role at each turning point in the industry. The roles of these institutions—as well as their importance and prestige have not remained static, but have evolved over time. But an important feature of their success lies in their intermeshing and overlapping membership and cross-fertilization of leaders. It is often said that “trust” is a result of locally based relationships. What the history of these institutions also demonstrates is that relationships that create links between local institutions as well and national and regional institutions, as well as between public and private sectors not only “ground” trust, but also make its sources less isolated and insular. These cross-functional ties no doubt breed conflict, but also provide the range and breadth of scope that may create the conditions for the progressive resolution of conflict and crises.

Two recent success stories that illustrate the significance both of local history, as well as of national clout and reach relate to the successful adjustment of Tamil Nadu's leather sector to two environmental crises. In both cases, an experimental approach was necessary.<sup>9</sup> In both cases, linkages with the wider market through buyers or overseas standards as well as national institutions (including the courts, as well as international R&D institutions) was critical. In both cases strong exogenous crises created "windows" within which new and quite radical changes became possible to carry out. In both processes, politics—micropolitics as well as marco politics was central to the implementation of successful outcomes. Both cases showed that collective action was possible even in situations of conflict, and that the state has an important role to play in creating the conditions for collective action, oversight and joint action. Embedded in these examples of success are areas of weakness, and potential struggle. Much of the debate on the part of firms still centers on complaints about labor costs, wages, and poor infrastructure. While it is true that improved infrastructure is critical to increasing the sector's productivity, improved infrastructure—nor low wages—are sufficient for the sector's long term competitiveness. As both the cases showed, adopting higher environmental standards, cleaner technologies, as well as good labor practices is not a tradeoff with growth, but a critical component of it.

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Figure 1: Different Stages of leather processing, from raw to finished.

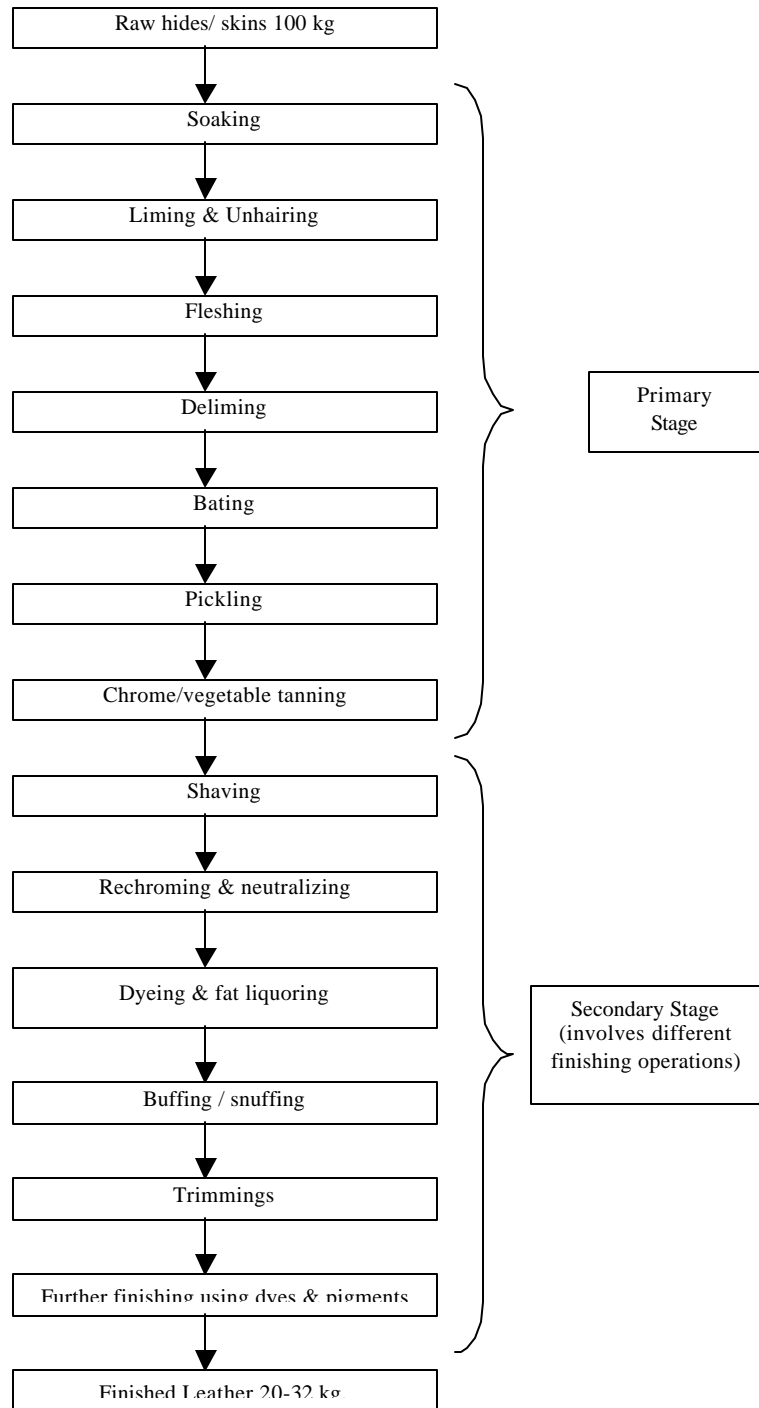


Figure 1

India's Export Performance of Leather and Leather Products (1975-76 to 97-98). In Millions US \$.

Year	Semi-Finished Leather	Finished Leather	Leather Footwear	Footwear components	Leather goods	Leather Garments	Leather Manufactures	Sports Goods	Total
75-76	360	137.5	47.5	2.5	20	2.5	4.5	6	580
76-77	375	262.5	65	15	25	7.5	6.5	15.25	772.5
77-78	305	270	47.5	37.5	27.5	15	8.5	17.5	730
78-79	277.5	480	57.5	45	47.5	20	12	26.75	967.5
79-80	282.5	802.5	75	92.5	52.5	20	34.5	23	1382.5
80-81	127.5	567.5	85	112.5	62.5	12.5	34.5	25.5	1027.5
81-82	135	565	75	192.5	72.5	17.5	30	21.75	1110
82-83	115	525	72.5	217.5	65	25	41	24	1085
83-84	130	587.5	77.5	305	80	30	48.75	18.75	1277.5
84-85	162.5	902.5	112.5	437.5	122.5	55	61	16.5	1870
85-86	170	835	102.5	560	147.5	70	50.75	12.75	1947.5
86-87	147.5	1020	172.5	572.5	177.5	172.5	83.5	12.5	2357.5
87-88	140	1345	307.5	737.5	270	300	108.75	13.25	3222.5
88-89	75	1625	350	952.5	325	455	155.75	10.75	3950
89-90	40	1822.5	497.5	1097.5	487.5	902.5	233.25	17.5	5097.5
90-91	32.5	1997.5	757.5	1432.5	632.5	1392.5	294	24.25	6562.5
91-92	27.5	1792.5	1062.5	1750	977.5	1902.5	399.75	20.75	7932.5
92-93	-	2017.5	1387.5	1505	1387.5	2610	464	23.5	9395
93-94	-	1882.5	2007.5	1647.5	1485	2522.5	417.75	32	9995
94-95	-	3002.5	2500	1630	1857.5	3060	657.25	74.75	12782.5
95-96	-	3102.5	2757.5	2035	2532.5	3467.5	803.5	120.25	14820
96-97	-	2670	2925	1965	2227.5	3777.5	756.75	179.25	14500
97-98	-	2662.5	2655	2132.5	3445	3867.5	@	@	14762.5

Monthly Statistics of the Foreign Trade of India-Volume I-Exports and Re-exports-March issues of 1976 to 1997. Published by DGIS, Calcutta. (Compiled by CLRI, Chennai). Rs.40 = \$1 (US); Source: Pillai 2000

Table 2: Exports of Leather and Leather Products: Tamil Nadu .

Item	1992-1993	1993-1994	1994-1995	1995-1996	1996-1997
	Percentage Shares				
Finished leather	40.51	31.99	37.93	34.05	29.65
Leather footwear	13.28	14.42	12.96	14.57	16.94
Footwear components	20.78	22.56	20.28	22.36	23.79
Leather garments	18.84	22.95	21.33	21.54	20.97
Leather goods	6.59	8.06	7.50	7.48	8.64
Total (US\$ million)	420.8	514	609.8	687.9	644.4
Tamil Nadu's Shares in India' Exports					
Finished leather	83.89	77.57	77.02	75.44	71.59
Leather footwear	47.01	46.29	33.33	35.21	35.87
Footwear components	49.09	58.36	63.72	75.69	76.88
Leather garments	33.63	43.95	42.86	42.83	35.89
Leather goods	14.68	23.06	19.96	16.03	22.94
Total	45.50	50.43	48.24	46.95	46.36

Source: Central Leather Research Institute, cf. Pillai 2000

Table 3: Statistical Data of PCP Content in Leather Samples

Period	1990 Jun-Dec	1991 Jan-June	1991 July-Dec	1992 Jan-Dec	1993 Jan-May
No of Samples	310	483	169	745	232
% samples with more than 5 mg/kg of PCP	46	42	20	15	7

Source: Murlidharan et al. (1993) cf. Pillai 2000

Table 4: Trend analysis for azo dyes

Period	Azo dyes	
	Total number of tests conducted	Number of Samples that failed the test
Jan (1997)	67	4
Feb	46	5
March	92	11
April	75	4
May	57	8
June	40	7
July	45	7
Aug	31	4
Sept	44	7
Oct	47	3
Nov	40	1
Dec	17	0
Jan (1998)	14	0
Feb	26	4
March	34	2
April	28	1
May	35	0
June	39	5
July	28	4
Aug	91	4
Sept	78	4
Oct	92	5
Nov	113	2
December	129	1

Source: Central Leather Research Institute: Expertise Center for Eco-Testing cf. Pillai 2000