

Developing Regional Value Chains in South Asian Leather Clusters: Issues, Options and an Indian Case

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Abstract The possibility of developing regional production networks in specific sectors between nations of South Asia has been explored in this paper. The case of the leather and leather goods cluster in Tamil Nadu in south India has been taken up to reflect upon range of issues that confront such initiatives. It is expected that firms participating in the regional production networks would benefit from shared technology, institutional support and wider market access. While the important dimensions appear to be domestic policy interventions to ensure adequate and timely loan finance, promoting economic infrastructure, and other business development services, exploring the nature and direction of collaboration among clusters between nations and other stakeholders including institutions of the state requires closer attention. However, the significant presence of informality in the production and labour processes requires to be addressed as a core concern of developing regional production networks in South Asia.

Key words global value chains, regional production networks, South Asia, leather, Tamil Nadu, trade

I. Introduction

Although the concept of regional production networks (RPNs) that would essentially draw upon regional value chains (RVCs) is of much recent origin, there is a possibility for these to improve trade and business ties between the constituent member nations. It is plausible that such regional trade blocks shall have a scope to reduce the heterogeneity in production and consumption patterns/processes that rise as a constraint in global production networks (GPNs) (Yeung, 2001; Tsui-Auch, 1999). Especially, in the context of South-South trade cooperation much has been discussed regarding the potential of growth through shared approaches to access a larger market space, both in the region and in the global sphere (UNCTAD-JETRO, 2008; Pradhan, 2009). The maturing of some of the sectors (as automobiles, pharmaceuticals, IT-ITES, agro-processing, garments, oil exploration, etc.) in many of the emerging economies (BRICS, prominently) as also a number of countries in Asia and Latin America, in particular, has enhanced chances of RPNs to emerge stronger to face up the challenge of competitiveness as the industrialised West (and Japan) could pose.

Amongst Asian nations, whereas ASEAN and ASEAN +6 groups have been a dynamic trading group both within and with other major trading blocks of the world, the South Asian nations are yet to build up a strong and operational trade and business networks as a regional collective (Dash, 2008; SDPI, 2014). There have been

well-known historical, political and territorial constraints between and amongst these countries, namely, India, Pakistan, Bangladesh, Nepal, Sri Lanka, Bhutan and Maldives. These also constitute some of world's poorest population raising challenges of national progress as well as regional cooperation towards economic development. Despite the known barriers to cooperation, efforts have been on-going to operationalise free trade agreements (FTAs) between the open up trade routes, reduce procedural bottlenecks in trading and to harmonize codes and standards (Bandara and Yu, 2003; Mukherji, 2004; Panagariya, 2007; Wilson and Ostuki, 2007; Dash, 2009; Kumar and Saini, 2009).

It needs to be pointed out that promoting RPNs is not being construed as an alternative or counter to participating in GPNs, rather the former has its own distinctive advantages. To the extent RPNs ensure transparency in contractual arrangements and contribute towards fostering mutual competitiveness such a business configuration could be beneficial. However, a major difference between the governance of GPNs and RPNs would entail a substantive role of the state in playing a vigilant role; the involvement of state institutions from the participating nations would be a distinct component in such international co-business development efforts.

In several ways promoting RPNs between developing nations pose intricate challenges as accessing greater global market share would involve the innovation capabilities of the participating firms. Such innovation is not

necessarily confined to the technological sphere *per se* but refers to institutional changes that could accommodate assured exchanges in knowledge, finance and scrutiny. Unlike in typical GPNs dominated and dictated by the interests of the private capital RPNs needs to be reflective of healthy trade relations between developing economies. This is a difficult proposition indeed as, unlike the TNCs, participant nations and firms would have the initial disadvantage of not possessing global sales network or advanced technology or even a prominent brand. In fact, as Banga has demonstrated, the dominant players in the global value chains (GVCs) have been the OECD countries and the developed nations and that developing economies including India have achieved little gain through the GVCs. “If creating more domestic value-added, output, incomes and jobs from exports are the development objectives of industrial and trade policies then country experiences show that these may not necessarily be achieved through linking into GVCs. Countries with high participation in GVCs have witnessed a fall in their exports to GDP ratios as well as domestic value-added content in their exports... Country experiences therefore show that linking into GVCs may not bring gains automatically. In fact, it makes aiming for trade-led growth more questionable!” (Banga, 2013, p. 32–33).

It is, hence, likely that firms in South Asia would be at odds competing with firms originating or operating from developed countries, especially, in the *high-end* market. The question, therefore, is if local firms of South Asia take initiatives to locate or develop new markets and commensurate technology?

Notwithstanding the rather difficult nature of political equations existing between some of the South Asian nations, there has been definitive expression of interest to trade and, if feasible, share business processes jointly. It is in here comes up the relevance of industrial clusters acting as conduits of multilateral trade agreements (Das, 2008, p. 1), whereby in commodities (processed or raw materials) in which these nations have a historical and geographical advantage in terms of sheer availability, mutually sup-

portive business arrangements between nations could be possible to negotiate in the spheres of joint processing, manufacturing, certifying and trading.

It would be important to develop RPNs in the leather sector across the South Asian nations by focusing on promotion of existing clusters in these countries. The first step must include mapping the various clusters in terms of their products, processes, level and nature of technology, existing and potential markets and access to certain basic business related physical and economic infrastructure as, for instance, electricity to the units, common facility centres, banks, roads, water and means of communication. As a next step, it would be useful to list and assess the nature of policy support received by these clusters through both national and local policies on sectoral and/or regional development.

With this broad backdrop that the paper makes an attempt to understand the experience of developing country firms engaged with global business typically through subcontracting. The case of the leather and leather goods cluster in Tamil Nadu in south India has been taken up here to reflect upon these issues through appreciating the functional dynamics of a sample of firms across size but largely engaged with the global business and subcontracting.

II. The Leather and Leather Products Sector in South Asia

Typically, collection of raw hides and skin, the tanning of leather, processing and manufacturing of various products from the finished leather involve certain standard stages an idea about which would help appreciate the sector and its activities better. Figure 1 depicts stages in leather processing from raw material to the finished products.

With abundance of availability of grazing fields and fairly extensive vegetation and forests in the south Asian nations of India, Bangladesh, Nepal, Sri Lanka and Pakistan the bovine stock is still rich enough to act as a

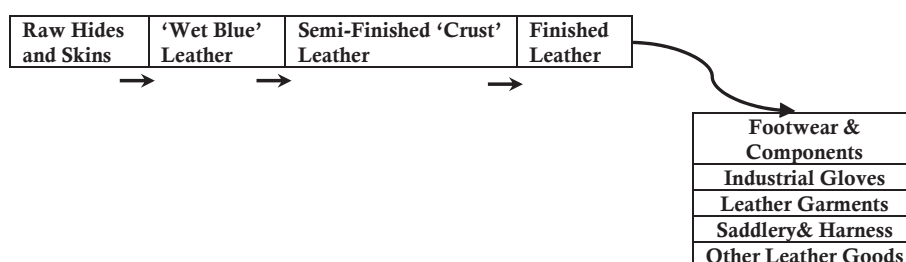


Figure 1. Leather processing and products

sustainable source of skins and hides. In fact, as indicated in Table 1, apart from India, which has a strong base in the sector, Pakistan, Sri Lanka, Nepal and Bangladesh also have their active clusters processing leather and producing a wide range of goods, which are exported.

South Asian countries, despite having a certain historical advantage in the processing of leather, have been unequally endowed with the basic raw material. As depicted in Figure 2, India has a leading position in terms of production accounting for over double that of the combined for Nepal, Bangladesh, Pakistan and Sri Lanka. Both India and Pakistan show a rising trend. The raw material advantage with India needs to be viewed in terms of application of modern processes of tanning that enhance the quality of finished leather and add substantial value to it as

a processed raw material. Compared with the developing countries' total and world total the share of South Asian production (2010–14) stands at about 15.4% and about 10.1%, respectively. In exports, during the same period, the respective shares remained a meager 0.6 per cent of the developing countries and 0.1% of the global total.

The trends in production of light leather from bovine animals during 1993–2014 have shown rising trends for both India and Pakistan although the difference between India and the other nations in terms of the volume of production is considerable (Figure 3). Again in this another case of processed leather, for the period 2010–14 the combined share of South Asian countries is 10.9% of that of the developing countries and 7.2% of the world production. Similarly, in the export sphere, the combined exports

Table 1. Products of and markets for leather clusters in India, Pakistan, Sri Lanka, Nepal and Bangladesh

Nation	Clusters, Products and Major Global Markets
India	<i>Clusters:</i> Chennai, Palar Valley, Agra, Kolkata, Kanpur, Mumbai, Aurangabad, Kolhapur, Dewas and Jalandhar <i>Products and Markets:</i> Semi-finished 'crust' leather, finished leather, footwear, jackets, saddler, harness, and industrial gloves. Important markets include Germany, UK, Italy, USA, France, Hong Kong and Spain, which account for about 70 per cent of recent exports worldwide.
Pakistan	<i>Clusters:</i> Karachi (Korangi), Kasur, Sialkot, Gujranwala, Faisalabad, Multan and Peshawar. <i>Products and Markets:</i> Traditionally, hides, semi-processed leather-pickled, 'wet blue' and 'crust' leather. Currently, diversified into finished leather, footwear, leather garments, gloves and a wide variety of leather goods (hand bags, purses, suitcases, key chain, wallets, etc). Markets include Europe, America, Canada, Japan, Saudi Arabia and the far eastern countries
Sri Lanka	<i>Clusters:</i> Colombo, Gampaha, Kilutara, Kandy and Galle. <i>Products and Markets:</i> Semi-finished leather and processed leather as also manufacture of leather garments, travel goods, and accessories as gloves, wallets, purses, belts, key tags etc. These are mostly exported to EU, USA and Australia.
Nepal	<i>Clusters:</i> Hetauda, Bhairahawa, Birgunj and Biratnager. <i>Products and Markets:</i> Major processing in goatskins although in some areas processing of buffalo and cow hides are also undertaken. 'Wet-blue' leather dominates the exports from this sector. While much of the production is exported, it is estimated that 70 per cent constitutes wet-blue leather, 20 per cent as crust leather and only 10 per cent as finished leather. Exports are targeted at India, Hong Kong, China, Thailand and Italy.
Bangladesh	<i>Clusters:</i> Hazaribagh, Savar, Chittagong, Brahmanbaria and Kishoreganj districts. <i>Products and Markets:</i> Leather footwear, leather goods and crust leather. Important markets are Asian, eg., Taiwan, Japan and Hong Kong.

Source: Das (2012)

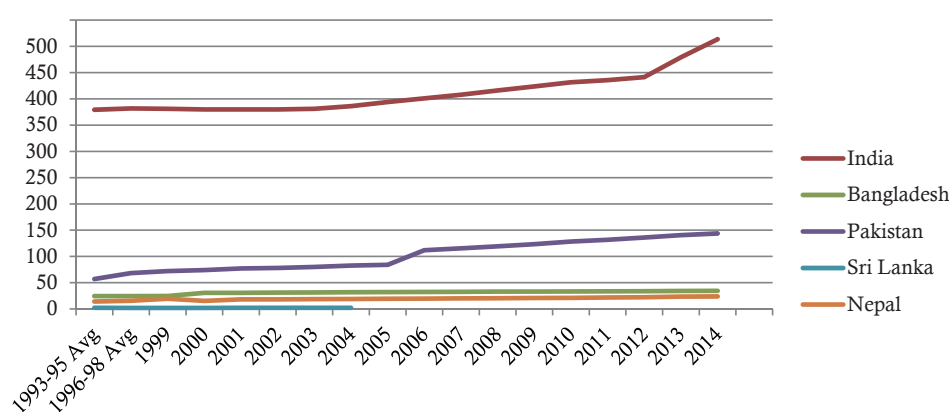


Figure 2. Production of bovine hides and skins-wet salted weight, in South Asian countries (in thousand tonnes)

Source: FAO (2013; 2016)

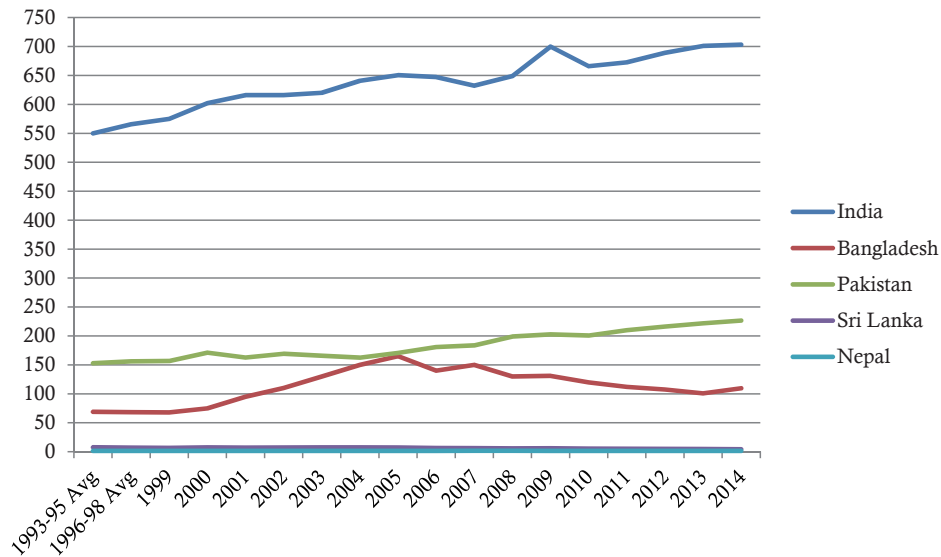


Figure 3. Production of light leather from bovine animals
(in million square feet)
Source: FAO (2013; 2016)

(with India, Pakistan and Bangladesh having the major presence) account for a 10.2% of that of the developing countries and about 6.0% of the global figure. The interesting aspect, however, is that in terms of average unit export values, India, Pakistan and Bangladesh have a major advantage as these are much above those for the global and total of developing countries. In fact, the average unit export values have risen for both India and Pakistan during almost the entire period up to 2014 (Figure 4).

The one form of processed leather that has an important presence in global exports is what is termed the light leather from sheep and goats. As Figure 5 suggests, India, Pakistan and Bangladesh are the major producers of this in South Asia, with Indian presence in terms of share has been notable at least since 2002. In terms of share in all developing countries' production during 2010–14 the South Asian countries account for 21.0% and its global share is 17.7%. Moreover, the export volume shares of the South Asian countries for the same 5-year period are impressive at 31.6% of developing countries total and 24.3% of global total. However, importantly, the average unit export values, as shown in Figure 6, do not appear to be attractive for both Bangladesh and Sri Lanka, where these remain lower than those values for the developing countries and the world. The average unit export values for India though had remained better than those for the global and developing countries totals till 2007 but have fluctuated and also, in fact, have declined since then, especially, with reference to world figures. The impressive rise in the same of Pakistan since 2008 is a pointer to a global recognition of the product quality.

The only manufactured leather product considered here is footwear which is the most prominent of all leather products made and traded across the globe. In terms of production quantity, Figure 7 shows the predominance of India over the other South Asian countries and the rise in the trend since 1998. It is understandable that India having an advantage in producing and processing leather and having severely restricted its export of these (at the raw material stage), the finished goods, notably, the footwear, export has been a growing business. Pakistan, although producing at about one-fourth the quantity as in India, has also been pursuing an increasing trend since 2002 onwards. Bangladesh, Nepal and Sri Lanka are yet to take off in this sphere of manufacturing.

However, taking South Asian shares for the period 2010–14 in production (7.5% of developing countries total and 5.8% of global total) and in exports (7.5% of developing countries total and 5.2% of the global figures) a major potential seems yet to be addressed. In fact, as depicted in Figure 8, the average unit export values at the global level have remained far ahead of those obtained by India or Pakistan; this calls for redoubled efforts at improving production facilities and quality management in a substantial manner so as to add value to the product. That would involve paying serious attention to issues in technology upgradation, improving raw material selection and processing and other strategies of enhancing labour productivity through skilling.

The trends in production and exports in leather have been quite distinct across the South Asian countries, with India's robust performance. As the remaining countries

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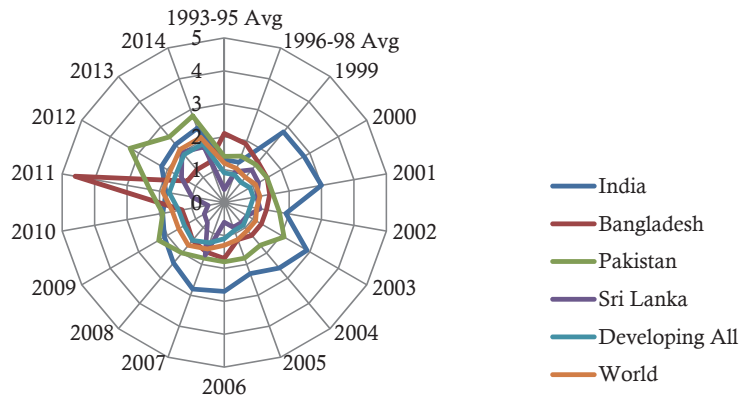


Figure 4. Average unit export value of light leather from bovine animals (USD per square feet)
Source: FAO (2013; 2016)

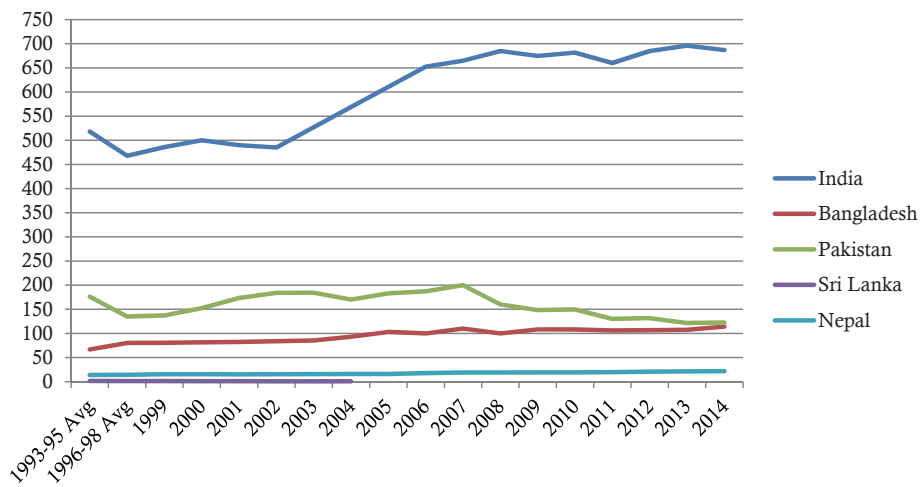


Figure 5. Production of light leather from sheep and goat (in million square feet)
Source: FAO (2013; 2016)

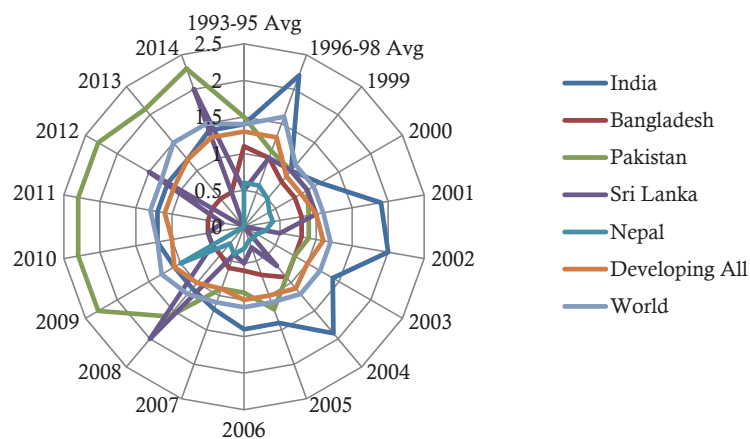


Figure 6. Average unit export value of light leather from sheep and goats (USD per square feet)
Source: FAO (2013; 2016)

also have a history of leather processing and production there is strong potential for building up an RPN in south Asia in this sector. Before addressing these issues, it would

be useful to look into the prospects and challenges that face the sector in South Asian nations.

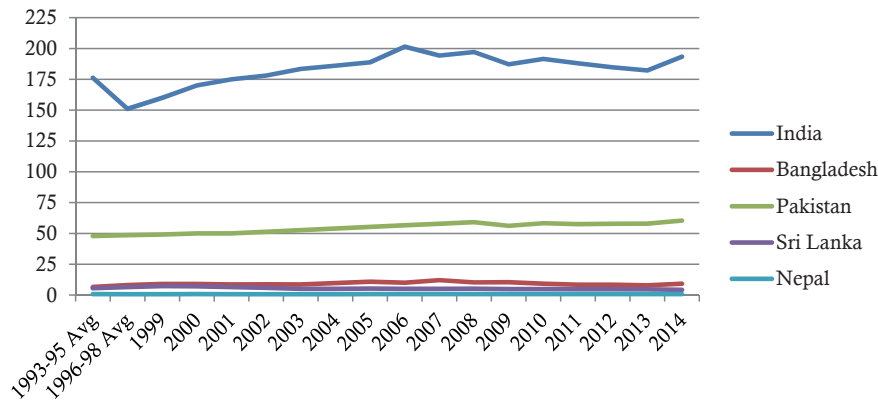


Figure 7. Production of leather shoes all types
(in million pairs)
Source: FAO (2013; 2016)

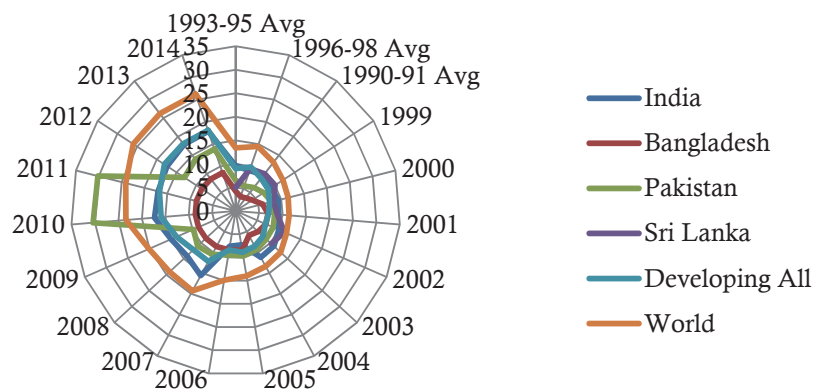


Figure 8. Average unit export value of leather footwear
(USD per pair)
Source: FAO (2013; 2016)

III. The Leather Industry in India

The organisation of production, conduct of business and institutional linkages of the Indian leather and leather products industry have had a distinctive history of external orientation. Receiving a fillip during the colonial era, the Indian foreign trade continued to have skins, hides and leather as important items of export, thus helping the domestic leather industry to grow. Over the last century or so, the contours of growth and diversification of this industry have been determined by not only the changing global pattern of demand for the finished products but also the gradual emergence of some of the poor and developing nations as important sources of the raw material and the site of certain forms of labour and production processes. The stages of tanning involving rigorous chemical treatment up to obtaining semi-finished and finished leather necessarily have been extremely polluting and would call for adhering to strict environmental standards. Similarly, the availability of inexpensive skilled labour to process skin and hides and make leather products or com-

ponents thereof is a major factor of location and growth of micro and small firms (MSEs), in particular. With the informal or unorganised sector characterising a huge proportion of the MSEs in India, it is natural that the leather industry (predominantly accounted for by large number of MSEs, often as household enterprises) has emerged a major activity in the country.

The progression of the leather industry during the post-independence period was also shaped by the support and direction provided through state policies to promote this sector with a clear focus on playing a role in the global sphere. The early emphasis on building up domestic technological capability through leather research and state efforts to encourage exports (as may be surmised through the establishment of the Central Leather Research Institutes and the Council for Leather Exports) also had important implications for the sector to remain prepared for engaging with foreign markets and changes in technology (Sinha and Sinha, 1992). In fact, during 1980–2009, the finished leather sector has witnessed major growth.

Even as activities concerning leather existed in several

Table 2. Export of leather and leather products from India, 2000–2014

(Value in Million US\$; Years relate to April–March)

Category	2000–01	2001–02	2002–03	2003–04	2004–05	2005–06	2006–07	2007–08	2008–09	2009–10	2010–11	2011–12	2012–13	2013–14
Finished Leather	381.49	459.25	508.83	555.71	607.73	636.27	688.05	807.19	673.37	625.54	841.13	1,023.21	1,093.73	1,284.57
Leather Footwear	381.37	395.39	423.30	553.04	657.78	807.81	950.90	1,174.03	1,243.78	1,254.37	1,470.87	1,715.17	1,693.89	2,011.38
Footwear Components	238.09	233.94	175.07	161.27	179.21	182.58	212.65	269.30	246.35	209.13	229.87	281.83	245.86	316.20
Leather Garments	460.45	378.75	272.08	301.08	329.44	333.30	308.98	345.34	426.15	428.52	425.04	572.54	563.54	596.16
Leather Goods	440.37	407.16	425.39	539.21	585.72	660.17	690.66	800.46	873.30	756.02	855.78	1,088.09	1,180.82	1,351.50
Saddlery & Harness	42.66	35.64	43.66	52.71	61.71	77.52	81.85	106.18	92.15	83.39	87.92	107.60	110.41	145.54
Non-Leather Footwear	19.11	26.02	26.88	53.42	73.78	54.85	48.69	46.02	43.53	44.01	57.93	80.27	127.16	203.46
Total	1,963.60	1,936.14	1,875.21	2,216.45	2,495.37	2,752.50	2,981.79	3,548.51	3,598.64	3,400.97	3,968.54	4,868.71	5,015.41	5,908.82

Source: Council of Leather Exports (n.d.)

parts of India, during the last century or so, the major tanning industry has been concentrated in a few urban centres or industrial clusters as Chennai, Kanpur and Kolkata whereas the leather products manufacturing is spread beyond these three cities and found notably in Agra, Mumbai, Aurangabad, Kolhapur, Dewas and Jalandhar. Of these the Chennai cluster (including a few neighbouring areas as well) has been the most dynamic, produces quality leather and has a strong presence in the export market (Damodaran and Mansingh, 2008, p. 6).

Interface with global markets

The exports of leather and leather goods from India have risen steadily during the last decade (Table 2) and have remained one of the top ten items in the export basket. The seven major countries importing Indian leather products include Germany, UK, Italy, USA, France, Hong Kong and Spain; these account for 70% of total exports. The consistent rise also suggests a growing global acceptance of both the products and skill involved.

The impressive export performance of the leather and leather goods sector has been possible due to a number of favourable policy steps taken by the government from time to time. While till the beginning of the 1970s Indian export was almost entirely in raw skins and hides or wet blue semi-processed leather, the manufacturing of high value-added leather products, especially, footwear and bags, had hardly attained a semblance of global quality and also the production was largely confined to the MSEs including household level enterprises. In 1973, the Seetharamiah Committee came up with ‘radical’ recommendations that restricted, for a decade, the export of raw

skins and hides and the wet blue leather to a level of 25% of that in 1971–72, and actively promoted exports of finished products.

This significant policy move streamlined government efforts to provide adequate support both in terms of expanding the export activities and focusing on quality of products by adopting and developing new technology. The emphasis on the markets beyond the domestic brought about a paradigm shift in the business strategies of the industry, which developed close interaction with the specialised state sponsored institutes for training, research and marketing support. The efforts were also consciously directed towards building up both domestic capabilities in the sector as well as rendering it a major source of generation of jobs.

The Government of India has listed leather sector as one of the ‘Focus Sectors’ under Foreign Trade Policy, 2004–2009 in recognition of this sector’s immense potential in export growth and employment creation.¹

Notes on the leather industry in South Asian countries during recent years

Pakistan:² Being the second largest foreign exchange earner, the leather industry has a significant position in the industrial economy of Pakistan. The current annual contribution of this sector is around \$712.55 million, although it has the potential to multiply the export volume with improvements in quality and product diversification, particularly in garments and footwear products. The major importers include Germany, USA, France, Spain and UK. With a strong tanning segment and a global presence in leather garments and gloves, the several

clusters (in Karachi, Lahore, Hyderabad, Kasur, Sialkot, Multan, Sahiwal and Gujranwala) contribute to the dynamism of this sector.

Despite excellent prospects of this industry to take off in the global arena, the major constraints facing the sector include absence of advanced technology, skilled workers, working capital and high cost of doing business. However, efforts have been made to build up technological capability of the industry through the Pakistan Initiative for Strategy Development and Competitiveness (PISDAC) that now includes leather and sports goods activities. In addition to training workers towards achieving higher skills, policy emphasis has been placed on using advanced technology, ensuring product quality through improved designs as also certification that would help realise the potential of this important industry.

Bangladesh: As may be surmised from interesting accounts in (Alam, n.d.; Ahmed and Bakht, 2010) on the problems and prospects of the development of the leather industry in Bangladesh, characterized predominantly by microenterprises in the informal sector, by late 2007, hectic activity was on to enhance the sector's global presence as its export performance had been encouraging and also greater willingness by foreign companies (particularly from Taiwan, Japan, South Korea and Hong Kong) had been expressed to base their operations in the country as joint ventures or as cent per cent foreign investment. Excessive dependence on imports of raw material as well as chemicals for tanning and processing and poor supply raw skin and hides having pushed up prices of the raw material had rendered the huge number of tanneries idle and an ardent case was made for reducing tariffs on imports of the raw material to provide the much needed fillip to the industry.

Another constraint for the industry had been investment finance for building up common effluent treatment plants (CETPs) in the modern leather complex at Savar. The fact that at the Bangladesh College of Leather Technology, Hazaribagh a leather testing laboratory was being set up and industry leaders felt the need for product certification, the nation's keenness to develop a globally competitive leather sector was obvious. Since 2006, the Bangladesh Leather Service Centre, in the lines of a Common Facility Centre (CFC) has been granted with financial support from the Italian government and implementation by the International Trade Centre. The plea by leather clusters across the country, including from Chittagong, Brahmanbaria, and Kishoreganj to facilitate their access to working capital and imported raw material indicated the sector's potential to contribute to the global

demand for leather goods.

Sri Lanka: With the Sri Lankan leather industry improving its performance during the recent years in the growth of both the footwear and other leather products, it has been keen to enhance its potential in the sector with Indian assistance in upgrading product design as well as quality. The tie-up with the Footwear Design and Development Institute, Noida, India has been an important step in this direction. This would improve their chances to operate in the global market with greater value addition. As a recent initiative to infuse competitiveness the government has been setting up an institute for training skills in footwear and leather products in collaboration with the Sri Lanka Institute of Textile and Apparel. Even academic support in terms of design improvement has been forthcoming from the Moratuwa University (Jayasuriya, 2012). Part of a larger programme by the Ministry of Technology and Research to advance the country's scientific and technological levels, include enhancing environmental performance of the leather goods sector as well (MTR, 2010, p. 26).

Sri Lankan leather products have an edge in manufacturing footwear with rubber and canvas as inputs. Global buyers such as Marks and Spencer, Bata France, H.H. Browns, Clarks, Aerosols and Nike have been sourcing from the local industry. As a protection measure to the local industry, recently, while the tariff on imported shoes has been raised, the raw material, components and machinery used were rendered duty free.³

Nepal:⁴ The leather sector in Nepal requires major initiatives to build up processes in value addition rather than the current pattern of exporting major share of its production in semi-processed form (70% as we-blue leather and 20% as 'crust' leather), mainly to India, Hong Kong, China and Thailand. Amongst the major challenges facing this sector, poor physical and business infrastructure and technological obsolescence may be noted as the most important ones. Lack of vigilance and developed institutions for monitoring quality standards has rendered the huge potential of this industry remaining grossly underutilised. As indicated in the SWOT analysis (ITC, 2007, p. 65), the industry is in need of major inputs in capital, technology and marketing to take advantage of the growing global demand for leather and leather products.

IV. Challenges Facing the Leather Clusters in South Asia and Possibilities for RPN

Table 3 presents, briefly though, constraints faced by the leather sector in the four south Asian countries, namely,

Table 3. Constraints facing the leather sector in Pakistan, Sri Lanka, Nepal and Bangladesh

Nation	Constraints
Pakistan	<ul style="list-style-type: none"> • Shortage Lack of hides and skins has increased reliance on import. • Adequate and timely financial support is unavailable. • Load shedding and high tariffs for electricity at the units add to cost of production. Further, electricity problems have affected communication with business partners within and outside the country. • Factory locations and surroundings are typically unclean and unhygienic. • Disposal of effluents, especially, solid wastes is an area of concern. • Need to develop domestic capability in manufacturing leather related machines, which the entrepreneurs are forced to import at high costs. • Low level of modernization and limited use of advanced technology have adversely affected productivity. • Facilities towards skill formation through relevant training is essential to address shortage of skilled labour and also low labour productivity. • Market information for SMEs remains limited as such business support services are developed inadequately.
Sri Lanka	<ul style="list-style-type: none"> • Inability to comply with the Central Environmental Authority's standards for effluent discharge from tanneries. • Growing price competition due to intense inter-firm rivalry has affected both production and export of good quality products from the industry. • The technology used in the local tanneries is obsolete and no investment is being made towards upgrading as there exists fear of closure of units due to strictness in compliance of environmental norms. • Need for improvement of products and quality management strongly felt to survive in the export market. • Tanneries need to be modernized as importing of raw material is not viewed as a viable option. • Need to address issues in training and skill development, developing production management systems and better organizational practices. Information on markets, technology and designs essential for developing competitiveness.
Nepal	<ul style="list-style-type: none"> • The central problem is unavailability of raw material, whether skin and hides or semi-processed leather. • Infrastructure is inadequate to support livestock growth. • Increased dependence on imported leather (often from India) raises cost of production. • No quality standards are set or observed in the sector. • The supply chain needs to be better organized. • Low-cost finance remains a major problem for enterprises to function. • Development of organised marketing support, especially for the export purpose, is yet to be realised. • Government policies including fiscal measures remain unhelpful for the sector. • The leather industry has negative environmental impact, especially, in causing water pollution.
Bangladesh	<ul style="list-style-type: none"> • Price of locally available raw hides and skins being very high over 50 per cent of tanneries fail to utilize available capacity. • Inadequate financial as well as bureaucratic support have impeded construction of a CETP. • Lack of supportive industrial policy especially focusing on export promotion has affected business promotion. • Political turmoil (in 2005) had affected the exports and production. • Many tanneries in Hazaribagh reported to have exported only 'crust' leather and, hence, could not earn expected profits through value addition in processing. • Constraints exist on imports of raw hides.

Sources: SMEDA (2011); The Daily FT (2010); ITC (2007); Ahmed and Bakht (2010); Alam (n.d.)

Pakistan, Sri Lanka, Nepal and Bangladesh. While these constraints remain, there has been some favourable state support for the industry. For instance, in Pakistan, liberal policies in the import of hides and skins have helped moving from the semi-processed leather to processed leather products which could be exported. In Bangladesh, cheap manpower and availability of plentiful raw materials are said to be the main incentives for the international joint ventures.

In a recent important initiative to strengthen competitiveness of the South Asian leather sector, the UNCTAD-ADB-Commonwealth Secretariat, in September 2012 in Chennai, held a regional consultation bringing together high level government officials, heads of leather associations, academics and other stakeholders from the region. With a focus on promoting intra-regional trade and cooperation in the leather sector, an UNCTAD study has attempted to identify potential regional supply chains for the industry in the region. As the announcement brochure describes, "For each country three lists have been estab-

lished: List 1 identifies finished leather products for potential exports to the region and the world; List 2 identifies inputs of finished leather products which can be sourced from within the region at a lower cost but are currently being sourced globally; and List 3 identifies potential investment sectors where the country may benefit from inward FDI. These are areas where the country has export competitiveness but lacks supply capacity. Those products are also identified where the country can undertake intra-regional investments. The study estimates intra-regional trade potential in leather industry to be around three times higher than the existing trade with the existing tariffs but ten times higher if the tariffs are removed. Implications of lowering tariffs in leather and leather products for the region on trade and employment in all countries have also been estimated.²⁵

The event has proposed to register the Leather Industry Association of South Asia (LIASA) that would engage attention in joint business and trade promotion measures including regional branding and establishment of com-

mon design institutions.

Based on the foregoing discussions on the nature, characteristics and performance (especially, in the global market) of the leather industry in the South Asian countries, it appears that any initiative at promoting RPNs must engage serious attention in infusing an innovative ethos in the sector. That would imply introducing innovations not only in the conventional technological sense, but also in a broader institutional manner. While participating in the RPN *per se* would be falling far short of developing competitiveness in the various processes and activities of the sector and also networking between constituent South Asian countries in a mutually beneficial manner. Industrial clusters could be construed as important focal entities through which the local and national governments and other parastatal bodies including industry associations can channelize various support measures; these could be the dynamic 'workshops' for cross-learning between the sector stakeholders from the South Asian countries. A number of collaborative initiatives, whether in the field of sharing professional and technical knowledge, information on markets both in the region as also globally, exchange of raw materials including semi-processed leather for improved processing possibilities, setting of prices and trade conditions could be mediated through the so-called cluster stakeholders in close consultation with the local and national state authorities as also research organisations, whether specialised leather centres or university departments.

However, it is important to note that no RPN initiative through clusters would be effective in the absence of a proper understanding of the functional dynamics of the clusters including the advantages and constraints associated with these. While clusters do differ across locations and nations (as influenced by varying policy regimes), the South Asian countries with mostly low levels of capital and technology and a predominant informal sector in such activities, do share a certain degree of common concerns. To appreciate these specific characteristics, strengths and weaknesses in South Asia must be an important basic step in envisioning RPN arrangements for the sector. The typical 'textbook' model of clustering, that generated extensive interest in routing RPNs/GPNs through them, is often a rare phenomenon in developing and poor countries, where substantive technological, financial and institutional inputs are essential for their competitiveness building on a global scale.

It is with this concern for a realistic assessment of clustering in South Asian countries that a case study of leather clusters in the south Indian state of Tamil Nadu has been

presented here. It may be observed that these are not the most representative of leather clusters in South Asia, but nevertheless would indicate the nature of complexities in the production and labour processes as exists in deeply informal spaces of production organisation.

V. Dynamics of Production and Subcontracting in an Indian Leather Cluster

In order to appreciate the functional dynamics of leather clusters, as these operate on ground, the state of Tamil Nadu was chosen as this state remains an important region for the industry with a number of leather tanning, processing and leather goods manufacturing clusters based in several parts of the state and actively engaged in exports. The state accounts for about 40 per cent of India's exports in leather and leather goods and about 60 per cent of tanning capacity (IICCI, 2008, p. 3). The state also houses the Central Leather Research Institute (CLRI) headquarters as well as the Council of Leather Exports (CLE), both established centres of repute serving the industry retaining its competitiveness through various value added services including product and process research, promoting exports, imparting training in skill formation and providing guidance and consultations in the sector's interface with the global market.

The two districts of Tamil Nadu selected for an intensive study of leather clusters are Chennai (Tambaram, Chrompet, Pallavaram and Periyamedu) and Vellore (mainly, Ambur, in the Palar valley region, which is over 180 km from Chennai). Both these locations have a long history of leather tanning, processing and manufacturing various leather products.

Figure 9 provides the various product and market linkages operating in these clusters. It is clear that subcontracting and jobwork prevails as a dominant form of production arrangement and the micro and small units play an important role in these clusters. The markets exist at different layers, the domestic market *per se* being huge and calibrated.

A survey of 31 firms in these clusters has been conducted to understand the nature of business, production organization as also constraints faced by these units. A list of these enterprises and relevant details has been provided in Appendix 1. These units were engaged in tanning, producing finished leather, soles and uppers of shoes, shoes, leather bags, gloves, jackets and wallets. The respondents included the owners of tanneries and manufacturing units, managers, marketing executives and key functionaries of the enterprises.

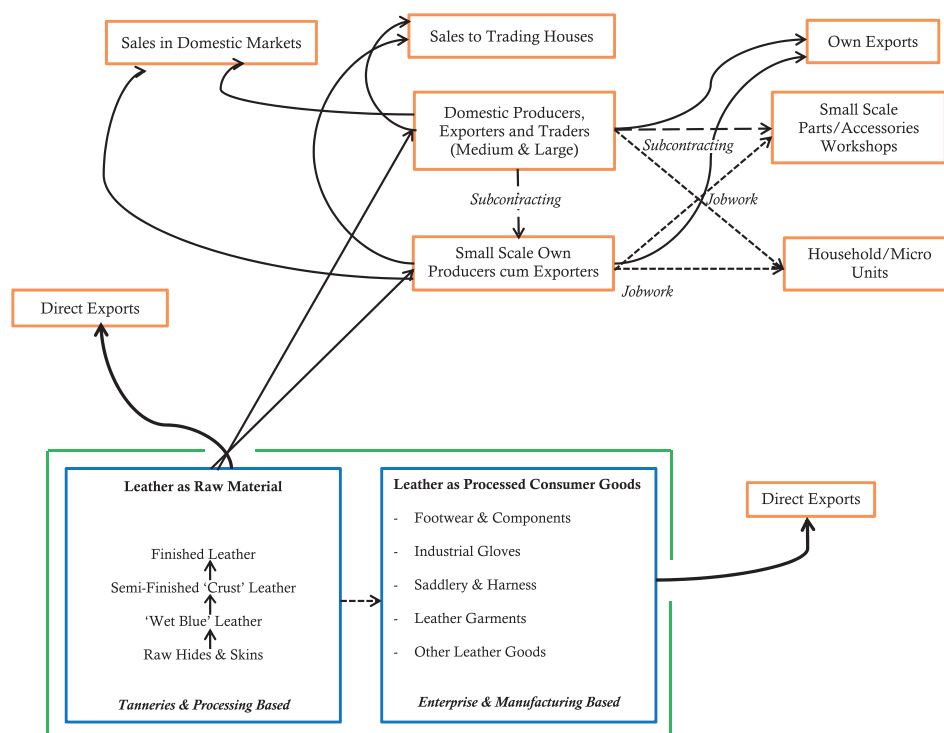


Figure 9. Product and market linkages in the leather clusters of Tamil Nadu, India
 Source: Field Survey, April–May, 2011

Discussions on main reasons for joining this business and continuing with it led to the concurrence of the majority of sample entrepreneurs that excellent business prospects and scope to earn higher profits (mainly due to the possibility of moving into high-end markets, especially, globally) had attracted entrepreneurs to engage in this field. Similarly, many agreed that the turnover had risen during the last five years. While the reasons given for such good performance related to an increase in demand in both global as well as domestic markets a few indicated orders rose as they could improve quality of their products and designs through both improved machines and skilled workers. Those who suffered a decline in turnover mentioned constraints such as electricity problems, high production costs mainly due to high raw material prices and an inability to develop facilities to cater to better quality production. They also received lower prices for their products and overproduced.

Specific questions concerning dealing with the exports, the principal channel identified was direct exports with own LC indicating familiarity with procedures in dealing with foreign buyers; while about 81 per cent responses related to own LCs the rest indicated mediating through export agents or trading houses. The respondents indicated a variety of business strategies which would help increase export performance. The dominant issues in competition, eventually, included enhancing the product

Table 4. Strategies to improve exports

Details	Frequency (%)
Improve quality	17 (37.8)
Lower costs	15 (33.3)
Tie up with export houses	8 (17.8)
Tie up with foreign groups/MNCs	3 (6.7)
Introduce specifications of foreign products	1 (2.2)
Invest to increase scale of output	1 (2.2)
Total	45 (100)

Source: Field Survey, April-May, 2011
 Note: Multiple responses.

quality and reducing costs of production accounting for over 70% of responses (Table 4). The next major steps considered were to have tie-ups with export houses and even MNCs to ensure a better link with the global market.

Subcontracting practices

The survey also indicated a strong preference for subcontracting practices amongst the entrepreneurs. What this, however, does not reveal is the nature and extent of subcontracting to the lower stages of enterprises as the micro and small enterprises (MSEs) in the informal sector. That the information on buyers, producers and jobworkers is typically unavailable even when the production is part of a global business deal remains a serious dimension

Table 5. Nature of subcontracting arrangements

Mode of Provision/ Assistance	Out-Contracting			In-Contracting		
	Often	Sometimes	Never	Often	Sometimes	Never
Advance money	3 (33.3)	5 (55.6)	1 (11.1)	3 (37.5)	2 (25.0)	3 (37.5)
Production management	1 (25.0)	1 (25.0)	2 (50.0)	3 (33.3)	4 (44.4)	2 (22.2)
Machine repairing	—	1 (33.3)	2 (66.7)	2 (40.0)	1 (20.0)	2 (40.0)
Training to workers	—	2 (50.0)	2 (50.0)	2 (40.0)	1 (20.0)	2 (40.0)
Transport of materials	—	6 (75.0)	2 (25.0)	4 (33.3)	7 (58.3)	1 (8.3)
Provide raw material	—	1 (50.0)	1 (50.0)	—	—	—

Source: Field Survey, April–May, 2011

Note: Row percentages, by group.

Table 6. Follow-up on non-compliance of a contract

Response to Non-compliance of Contract	In-Contracting (%)	Out-Contracting (%)
Request for the job to be redone	4 (23.5)	3 (20.0)
Deduction in payment	1 (5.9)	4 (26.7)
Delayed payment	7 (41.2)	5 (33.3)
Do not get orders in future	5 (29.4)	3 (20.0)
Return bad quality material	—	—
All	17 (100)	15 (100)

Source: Field Survey, April–May, 2011

Table 7. Advantages and disadvantages of subcontracting

Item	In-Contracting (%)	Out-Contracting (%)
Advantages		
Higher profit	1 (4.2)	1 (6.3)
Work organization gets simplified	3 (12.5)	2 (12.5)
Improves product knowledge	1 (4.2)	
Saves time	1 (4.2)	5 (31.3)
Get lot of jobwork	5 (20.8)	
Increase in production	1 (4.2)	
Better quality of work	1 (4.2)	
New technology	2 (8.3)	
Cost effective	1 (4.2)	1 (6.3)
Disadvantages		
Delays in payment	3 (12.5)	2 (12.5)
Lack of coordination	1 (4.2)	2 (12.5)
Delays in delivery	2 (8.3)	3 (18.8)
Labour problem	1 (4.2)	
Lack of raw material	1 (4.2)	
Total	24 (100)	16 (100)

Source: Field Survey, April–May, 2011

Table 8. Agencies taking up sales from the enterprises

Agency	Frequency (%)
Subcontractor	1 (2.6)
Trader	18 (46.1)
Exporter	20 (51.3)
All	39 (100)

Source: Field Survey, April–May, 2011

Note: Multiple responses

Table 9. Critical issues in competition in the cluster

Factors	Frequency (%)
Price	24 (32.4)
Variety of product design	15 (20.3)
Technology	13 (17.6)
Skilled workers	13 (17.6)
Sales promotion	4 (5.4)
Volume of production	2 (2.7)
Locational advantage	2 (2.7)
Speed of delivery	1 (1.4)
All	74 (100)

Source: Field Survey, April–May, 2011

Note: Multiple responses

Table 10. Practices reflecting inter-firm rivalry in the cluster

Nature of Practices	Frequency (%)
Attracting customers to their shops	11 (32.4)
Negative information on competitor's product to traders/customers/agents	1 (2.9)
Creating hurdles in work	5 (14.7)
'Poaching' skilled workers	2 (5.9)
Copying trademark	2 (5.9)
Copying designs	13 (38.2)
All	34 (100)

Source: Field Survey, April–May, 2011

Note: Multiple responses.

of GPNs/RPNs not discussed at length. It is interesting to note that even as a number of respondents would not reveal the source of information about potential buyers, the local business associations have been playing a crucial role in providing information on buyers to subcontractors (and *vice versa*); the industry association may be recognized as a key institution in the RPN efforts.

Table 5 offers a glimpse into the nature of subcontracting by looking into the terms of contract; it appears that there is no dominant mode of providing assistance as these vary widely whether advance payment is made or certain production support is provided. Even as most such subcontracting arrangements are informal in nature, defaults are responded to in different manners, as shown in Table 6, and these could include delaying payments, discontinuing for future orders and even asking the work to be redone. Respondents were asked to list out advantages and disadvantages of engaging in subcontracting. Interestingly, as indicated in Table 7, whereas the advantages are essentially those adding value to the product and process, the disadvantages reflect more of managerial problems, including inadequacies in coordination, which could largely be sorted out.

The firms have sales arrangement with traders and exporters (Table 8) who operate as main links to the buyers, both Indian and foreign. In most cases, the firms would not know who the actual buyer (lead firm) is. The competition, hence, is perceived at various levels including the local, state level or even outside the country across all sizes of firms in these locations. As shown in Table 9 the most important issues in competition relate to price, design, technology and skilled labour. It is usual that quality of both product and raw material has emerged as a major issue in business, mainly, due to the local industry's interface with high-end markets. However, between supplier firms, which are mostly small enterprises, gaining an advantage through low prices appears vital to survive in the business.

As the firms in a cluster function within an informal sector framework, inter-firm competition often transforms into intense rivalry that assumes a variety of forms. Table 10 presents the nature of such unscrupulous practices adopted by individual enterprises. However, in clusters dominated by MSEs in developing and poor countries such practices in rivalry are only too commonplace (Das, 2005). The leather clusters of Tamil Nadu are no different.

Technology, innovations and quality management initiatives

The dynamism of the clusters notwithstanding, often

the level of technology and initiatives towards quality management fall far behind the standards in the sector worldwide. These concerns and initiatives are often determined by the nature of markets served. Of the respondents while over 70% could rate the machines being used at their units as mostly new and modern, six indicated that they had manual machines and two used diesel/kerosene as main source of energy. Additionally, almost all the material used is procured locally or within the state. The quality of the available material was stated to be low by over 50% of respondents and others mentioned about high prices or non-availability of certain materials in the local market. This also reflected on the nature of processes used at the units.

On being asked 'During the last five years, have you undertaken any kind of upgrading in the final product being produced?' an overwhelming 94% of the respondents replied in the positive, indicating the influence of high-end markets they cater to. Table 11 provides an idea

Table 11. Steps taken towards upgrading and managing product quality

Nature of the Initiative	Frequency (%)
Overall vigilance to ensure quality	16 (51.6)
Quality test at every stage	14 (45.2)
Final test after completion of production	13 (41.3)
Audit on production and material used	12 (38.7)
Analyzing product material	1 (3.2)

Source: Field Survey, April–May, 2011
Note: N=31

Table 12. Benefits of working for a global firm

Benefits	Frequency (%)
Better understanding of technology and innovative methods	11 (35.5)
Developing better products	5 (16.1)
Better idea about new designs	5 (16.1)

Source: Field Survey, April–May, 2011
Note: N=31

Table 13. Plans for surviving in the competitive industry

Plans	Frequency (%)
Improving quality	13 (41.3)
Adopting advanced technology	10 (32.3)
Increasing investment	6 (19.4)
Try better designs	5 (16.1)
Create brand image	1 (3.2)

Source: Field Survey, April–May, 2011
Note: N=31

about efforts at quality management and upgrading, but the lower proportions also suggest that much needs to be achieved in these areas. Whether working for a global firm would improve understanding and adoption of advanced technology and improvement of product quality as well as designs, the responses were too few to make a strong case for the success of RPNs in the prevailing level of development of the clusters (Table 12). In a similar vein, the respondents mentioned strategies for responding to the challenges of competitive global business (Table 13). Improving quality emerges the priority focus signaling the realization of the imperatives of global business.

Workers and conditions of work

Although, traditionally, *Chakkiliyans* and *Paraiyans* (Scheduled Castes) were engaged in the leather works, many of them have moved out and no longer work for large factories. In fact, the large units have started procuring labour (Scheduled Tribes) from surrounding hill areas (in about 16 km radius, mainly, Alangayam, Javvadu Hills and Yelagiri Hills) using factory vehicles for their daily pick-ups for the two shifts. They are trained on job and preferred for ‘competitively low’ salary. *Labbai* Muslim workers dominate the clusters in the Palar valley region and through strong community network (*Jamath*) they have better access to raw materials and capital support. They are also strongly preferred by large units. Social restrictions for working in leather factories have withered and members (including women) from poor households from even Hindu community are engaged in the clusters. In factories, whereas women workers are preferred for activities concerning finished leather products as dry-

ing, trimming, finishing and packaging, male workers do ‘brawny’ jobs as cutting, stitching, processing and tanning.

As may be seen from Table 14, the sample units typically engage a large number of workers for various operations, although about one-third of these would be categorized as skilled workers. The monthly average earnings of these workers, however, are very low (Table 15) and are mostly casual in nature without any form of social security applicable.

The two sample units where workers were engaged only on piece rate basis, the average monthly earnings worked out to be Rs. 1,500–3,000 for females and Rs. 3,000–4,000 for males. Women workers, particularly, are taken on temporary basis to avoid offering various benefits. ‘Regular’ employees are relieved from their jobs annually for a period of two months – it is compulsory and a tactic to avoid claim of permanency. Muslims have a stronger chance of being made permanent. Trade unions exist as namesake.

In small units activities include collection of hides and skin, tanning, processing and manufacturing even as these have no access to common effluent treatment plants. Mostly male workers are engaged on casual basis. In large number of microenterprises (mostly operated from Muslim homestead, with capital support from within the community) jobworks are undertaken from big companies as and when made available and these focus on making sole, shoe-upper, trimming etc. Children and women engage in drying and tanning of leather.

Challenges, prospects expectations from policy

The clusters also faced constraints including those concerning inadequate power supply, skilled labour and finance. These are, however, some of the most commonly cited problems facing the MSMEs, irrespective of if they are part of a cluster or not, in general and require serious policy attention. Any attempt at developing RPNs in South Asia must take into account these serious infirmities that plague industrial clusters as well as MSMEs, in general. Policy support enterprises are hoping for include credit, physical and economic infrastructure. The role of the state in providing both cluster specific and generic business services and infrastructure cannot be undermined.

VI. Concluding Observations

It has been observed that often regional trade blocks have a certain advantage wherein constituent national governments do play an important role in building up cooperation in trade and business, attaching prime focus

Table 14. Number of workers in the sample units

Number of Workers	Total Workers	Number of Units
<10	5	1
10– 50	537	15
51–100	779	10
>100	517	4
Total	1,838	30

Source: Field Survey, April–May, 2011

Table 15. Distribution of units by workers’ earnings

Earnings (Rs. per month)	Skilled		Unskilled	
	Male	Female	Male	Female
< 5,000	—	6	3	12
5,000– 7,500	24	20	23	13
7,500–10,000	4	1	—	—

Source: Field Survey, April–May, 2011

upon regional interests and concerns. In this context, efforts at South Asian trade agreements have been promoting through numerous initiatives, although the region remains one of the least integrated in the world, so far. A particular option of developing RPNs amongst South Asian nations in certain dynamic sectors having commonalities in prospects has generated much interest during recent years. It has been held that industrial clusters could be engaged as central conduits in enabling RPNs to synergise discrete national strengths in raw material, skills, tacit knowledge, markets and organisation to enhance regional competitiveness in the sector. However, the cluster dynamics in developing and poor countries do pose challenges as these suffer from various constraints concerning infrastructure, technology and institutions - both generic as well as cluster-specific.

Even as experiences from both the developed and developing world have substantiated the accrual of advantages - as drawing upon collective efficiency, building territorial competitiveness and upgrading technological capability through networking with global players - to firms in a cluster, there remains a hiatus in generalizing the evidence. These views on clustering assume both a certain minimum level of progress of the region and technological sophistication of the production process. Clusters in developing economies are often quite different from those highlighted in the so-called *textbook* model. The overwhelming presence of informality in such production and labour processes is one such issue. Further, the question of adhering to certain global standards is beset with issues of incentives and disincentives to comply, sidestep or even create one's own (national or regional) codes and norms. As the analyses of the leather sector in the South Asian countries in general and the south Indian leather cluster in particular suggest, challenges to upgrade the cluster functioning and contribution would involve addressing such issues as, for instance, the establishment and use of CETPs, ensuring decent working conditions, avoidance of banned substances (e.g., carcinogenic chemicals) as intermediate goods in processing, and even paying taxes to the state. Forming a collective amongst cluster stakeholders at the regional level is only one of the many serious tasks remain to be undertaken to make the sector globally competitive.

In the South Asian context, the question is where and how the enterprises are placed in the RPNs; the governance and not the participation *per se* holds the key. In fact, promoting RPNs also involves "paying attention to demand side factors and policy inducements that can ratchet up production quality, standards, deepen collab-

orative and competitive capabilities and generate learning so as to create the conditions for upgrading in an institutional context of production sharing" (Tewari et al., 2015, p. 44). Exploring the nature and direction of collaboration among clusters and other stakeholders including institutions of the state requires closer exposition of both supply-side and demand side constraints in addition to the potential of improving political processes.

As could be surmised through the leather sector experience, an important dimension appears to be national level support of firms through making available adequate and timely loan finance, promoting economic infrastructure, and keeping the political process favourably sensitive to multi-lateral and bilateral trade agreements. However, the significant presence of informality in the production and labour processes requires to be addressed as a core concern of developing RPNs; in particular the conditions of work and social security provisions for workers. A definite reorientation in approach to bring the focus on the MSMEs, as different from keeping the lead firm interest centrestage, would bring about lasting progress and cooperation between south Asian economies. The role and responsibility of national states in rendering the sector dynamic and progressive are as important as exploring avenues of building regional competitiveness through cooperation.

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End Note

1. http://www.leatherindia.org/industry_2010.asp (accessed September 7, 2012)
2. Based on SMEDA (2011).
3. <http://www.ft.lk/2010/11/14/leather-industry-to-improve/> (accessed August 24, 2012)
4. Based upon ITC (2007, pp. 64–69).
5. <http://unctad.org/en/pages/newsdetails.aspx?OriginalVersionID=239> (accessed September 18, 2012)

References

- Ahmed, N. and Bakht, Z. (2010): Leather Footwear Industry in Dhaka: A Case Study. Bangladesh Institute of Development Studies. <http://www.ihindia.org/Formal-and-Informal-Employment/Paper-8-Leather-Footwear-Industry-in-Dhaka-A-Case-Study.pdf> (accessed September 23, 2012). (E)
- Alam, M.F. (n.d.): Finances Impede Tannery Cluster Progress: Bangladesh. Leather International. <http://www.leathermag.com/m/fullstory.php/aid/13477> (accessed September 20, 2012). (E)
- Bandara, J.S. and Yu, W. (2003): How Desirable is the South Asian Free Trade Area? A Quantitative Economic Assessment. *World Economy*, Vol. 26, No. 9, 1293–1323. (E)
- Banga, R. (2013): Measuring Value in Global Value Chains. UNCTAD Background Paper No. RVC-8, UNCTAD. http://unctad.org/en/PublicationsLibrary/ecidc2013misc1_bp8.pdf (accessed April 14, 2013). (E)
- Council of Leather Exports (n.d.): Current Export Trends. <http://leatherindia.org/current-export-trends/> (accessed January 12, 2017). (E)
- Damodaran, S. and Mansingh, P. (2008): *Leather Industry in India*. Centre for Education and Communication, New Delhi. (E)
- Das, K. (2005): Industrial Clustering in India: Local Dynamics and the Global Debate. Das K., ed. *Indian Industrial Clusters*. Ashgate, Aldershot, UK, 1–19. (E)
- Das, K. (2008): Fostering Competitive Clusters in Asia: Towards an Inclusive Policy Perspective. *VRF Monograph Series No. 437*. Institute of Developing Economies, Chiba, Japan. (E)
- Das, K. (2012): Developing Regional Value Chains in South Asian Leather Clusters: Issues, Options and an Indian Case. Report submitted to the Asian Development Bank (through the Research and Information System for Developing Countries, New Delhi), Gujarat Institute of Development Research, Ahmedabad. (Unpublished, Mimeo). (E)
- Dash, K. (2008): *Regionalism in South Asia: Negotiating Cooperation, Institutional Structures*. Routledge, New York. (E)
- Dash, K. (2009): Toward Free Trade in South Asia: Political and Economic Dimensions. http://www.thunderbird.edu/knowledge_network/ctrs_excellence/tgpec/publications/articles/_toward_free_trade_south_asia.htm (accessed October 3, 2012). (E)
- Entrepreneurship Development Institute of India (EDI) (n.d.): *Diagnostic Study of Leather and Leather Products Cluster of Chennai*. Entrepreneurship Development Institute of India, Gandhinagar. (E)
- Food and Agriculture Organization (FAO) (2013): *World Statistical Compendium for Raw Hides and Skins, Leather and Leather Footwear 1993–2012*. Commodities and Trade Division, FAO, Rome. (E)
- Food and Agriculture Organization (FAO) (2016): *World Statistical Compendium for Raw Hides and Skins, Leather and Leather Footwear 1999–2015*. Commodities and Trade Division, FAO, Rome.
- Indo-Italian Chamber of Commerce and Industry (IICCI) (2008): Short Market Overviews: The Indian Leather Industry. <http://www.centroesteroveneto.com/pdf/Osservatorio%20Mercati/India/Ricerche%20di%20Mercato/2009/Short%20Market%20Overview%20-%20Leather%20Industry.pdf> (accessed August 12, 2012). (E)
- International Trade Centre (ITC) (2007): Export Potential Assessment in Nepal, Asia Trust Fund, UNCTAD/WTO. <http://www.scribd.com/doc/49913984/Export-Potential-Assessment-in-Nepal-2007> (accessed September 8, 2012). (E)
- Jayasuriya, S. (2012): Footwear, Leather Industry Gaining Momentum. *Daily News*, June 12. <http://www.dailynews.lk/2012/06/20/bus04.asp> (accessed August 26, 2012). (E)
- Kumar, A.G. and Saini, G.K. (2009): Economic Cooperation in South Asia: The Dilemma of SAFTA and Beyond. *Journal of South Asian Development*, Vol. 4, No. 2, 253–281. (E)
- “Leather industry to improve”. *The Daily FT*, November 14, 2010. <http://www.ft.lk/2010/11/14/leather-industry-to-improve/> (accessed August 24, 2012). (E)
- Ministry of Technology and Research (MTR) (2010): Vision. http://www.motr.gov.lk/web/pdf/annual_report_english.pdf (accessed May 22, 2012). (E)
- Mukherji, I.N. (2004): Towards a Free Trade Area in South Asia: Charting a Feasible Course for Trade Liberalization with Reference to India's Role. *RIS Discussion Paper 86/04*, Research and Information System for the Non-Aligned and Developing Countries, New Delhi. (E)
- Panagariya, A. (2007): Trading Choices of South Asia. Ahmed, S. and Ghani, E. (eds.): *South Asia: Growth and Regional Integration*. Macmillan, New Delhi, 173–190. (E)
- Pradhan, J.P. (2009): South-South Investment in Infrastructure: The Operation of Indian Firms in Developing Countries. *Foreign Trade Review*, Vol. 43, No. 4, 3–31. (E)
- Sinha, S. and Sinha, S. (1992): *Indian Leather Industry: The Challenge of Modernisation*. Oxford & IBH Publishing Co., New Delhi. (E)
- Small and Medium Enterprise Development Authority (SMEDA) (2011): SME Trade Outlook: Leather Sector. *SME Observer*, 1 [3]. (E)
- Sustainable Development Policy Institute (SDPI) (2014): Strengthening South Asia Value Chain: Prospects and Challenges. Paper presented at the 7th South Asia Economic Summit on November 7, 2014. New Delhi. (E)
- Tewari, M., Veeramani, C. and Singh, M. (2015): The Potential for

- Involving India in Regional Production Networks: Analyzing Vertically Specialized Trade Patterns between India and ASEAN. *Working Paper 292*, Indian Council for Research on International Economic Relations, New Delhi. (E)
- Tsui-Auch, L.S. (1999): Regional Production Relationships and Developmental Impacts: A Comparative study of Three Production Networks. *International Journal of Urban and Regional Research*, 23 [2], 345–359. (E)
- UNCTAD-JETRO (2008): *South-South Trade in Asia: The Role of Regional Trade Agreements*. UNCTAD, Geneva. (E)
- Wilson, J.S. and Ostuki, T. (2007): Cutting Trade Costs and Improved Business Facilitation in South Asia. Ahmed, S. and Ghani, E. (eds.): *South Asia: Growth and Regional Integration*. Macmillan, New Delhi, 236–270. (E)
- Yeung, H.W.-C. (2001): Organising Regional Production Networks in Southeast Asia: Implications for Production Fragmentation, Trade, and Rules of Origin. *Journal of Economic Geography*, 1 [3], 299–321. (E)