

Chapter 5

Building Regional Supply Chains in South Asia: The Case of the Textiles and Clothing Sector

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5.1 Introduction

A long time has passed since the South Asian countries initiated a process of preferential trade liberalisation with the establishment of the South Asian Association for Regional Cooperation (SAARC) in 1985. The next concrete step for promoting regional trade was the operationalisation of the SAARC Preferential Trading Arrangement (SAPTA) in 1996 with an expectation of moving towards a South Asian Free Trade Area (SAFTA) agreement, the implementation of which eventually began in 2006 and is scheduled to be completed by 2016. Nevertheless, South Asia remains one of the least integrated regions with intra-regional trade accounting for about 5 per cent of the region's global trade, in contrast to the most recent estimates of a global average intra-regional trade of 35 per cent (WTO 2011) and region-specific comparable figures of 70 per cent for the EU; 49 per cent for NAFTA; 25 per cent for ASEAN; 16 per cent for CARICOM; and 10 per cent for COMESA. Since the 1990s, individual South Asian economies have opened up at a rapid pace. Their overall exports and trade have risen enormously. However, the relative significance of intra-regional trade remains appallingly low.

Despite the growing regionalism and increasing significance of intra-regional trade in many different regional trading blocs, it is important to recognise that not all trade taking place among countries belonging to regional arrangements of some type is actually preferential in nature. Indeed, only a very small proportion of such trade can be attributed to preferences exchanged under their regional integration initiatives. It is estimated that only 16 per cent of regional trade is preferential in nature, i.e. more than four-fifths of the trade among preferential trading agreement (PTA) partner countries tends to take place not because of preferences but on the basis of the most favoured nation (MFN) principle, even when they belong to a particular trading bloc. In other words, the growth of intra-regional trade has been dominated by exports and imports of goods under partner countries' MFN regimes.

The fact that regional trade is overwhelmingly dominated by non-policy-induced policy mechanisms has an interesting relevance for SAFTA. Against the backdrop of not very encouraging growth of regional trade volumes, many analysts strongly advocate abolishing all tariffs on regional partners and expanding regional integration beyond trade in goods. While extended co-operation involving services, infrastructure development, transshipment, etc. is under consideration, less attention has been given to understanding the scope for building supply chains based on

industrial units located in different countries within the region. This could potentially be an area where regional trade can naturally flourish without any preferential trade and tariff regimes.

A recent project jointly undertaken by UNCTAD, the Commonwealth Secretariat and the Centre for WTO Studies at the Indian Institute of Foreign Trade has carried out such an assessment of trade-related production linkages among South Asian countries with a case study on the textiles and clothing (T&C) sector (UNCTAD et al. 2011). In the context of South Asian countries, particularly for Bangladesh, India, Pakistan and Sri Lanka, the significance of the sector cannot be overestimated. It is the source of the leading manufacturing activities in the region in terms of its contribution to output, employment and trade. The sector collectively employs close to 60 million people directly and more than 90 million indirectly in the region.¹ The region's share in global exports of the sector (including both textiles and apparel items) increased from about 2 per cent in 2002 to more than 10 per cent in 2012, with exports reaching a value of over US\$75 billion. Its critical importance is also reflected in the contribution of the sector to individual countries' export earnings. Textiles and apparel products constitute 75 per cent of the total merchandise exports of Bangladesh; 45 per cent of Sri Lanka; 55 per cent of Pakistan and around 12 per cent of India.

Consideration of the T&C sector as a case study to assess the potential for building supply chains is also of interest from another perspective. Since the four above-mentioned individual countries are important exporters and they compete among themselves in the global market, it is often argued that South Asian nations cannot complement one another in developing and further strengthening supplying chains, and thereby in promoting their overall competitiveness. However, because of product variety and relative specialisation in different disaggregated items within the broad sector, it is necessary to map production and export structures in individual countries and their sourcing of inputs before making an informed assessment feasible. The scope for establishing and expanding export-led regional production networks looks promising *a priori*, given that India and Pakistan both have a strong textiles base and are sources of important raw materials, while Bangladesh and Sri Lanka are mainly apparel manufacturers.

This chapter draws on the joint project by UNCTAD et al. to provide a summary of the work undertaken and findings obtained. As can be inferred, the main aim of the project has been to understand the production patterns and sources of raw materials used by different countries in South Asia, utilising the information on highly disaggregated product classifications (i.e. at the Harmonized System (HS) six-digit trade classification level). Based on this, attempts have been made to identify the potential supply chains that either can be formed or strengthened further based on the existing comparative advantages of the countries vis-à-vis their partners in South Asia as well as global suppliers. The analysis undertaken is policy neutral in the sense that it does not call for considering region-wide trade protection and/or exchange of preferences to make the supply chains work for enhancing competitiveness. Being export products, the underlying argument is that if the raw materials cannot be procured from most competitive sources, a country's competitiveness would be

undermined. As this chapter will reveal, South Asian countries seem to have strong complementarity in promoting regional supply chains that are likely to augment their mutual competitiveness.

This chapter is organised as follows: Section 5.2 provides a brief review of the relevant literature; Section 5.3 provides an outline of the methodology used in the technical analysis; Section 5.4 summarises the key results with implications for individual countries' participation in supply chains; and Section 5.5 provides some concluding remarks, highlighting a few key policy issues.

5.2 A brief review of the literature

Despite a vast literature on regional integration, there has not been much discussion on supply chains in the context of the South Asian region. A number of studies have, however, pointed out the benefits of regional co-operation arising from the regional T&C sector. ADB and UNCTAD (2008) point out the growing intra-industry trade (IIT) in T&C within South Asia and the potential to increase it further. The study estimated bilateral indices to show that IIT increased in some product lines within the sector. The study also estimated gains to all countries in South Asia by the lowering of tariffs in the South Asian T&C sector.

Robbani (2004) underlines the importance of enhancing collective export competitiveness of South Asian countries through co-operation rather than competition. According to the study, the hourly compensation rate in all the four countries in South Asia is among the lowest in the world. According to USITC (2004) apart from the low-cost labour, the region as a whole has other competitive advantages over others, with the availability of raw materials being one of its main strengths.

The textiles and clothing sub-sectors in Bangladesh, India, Pakistan and Sri Lanka exhibit somewhat different degrees of specialisation. Given this heterogeneity, there can be scope for regional co-operation. While firms in Pakistan specialise in cotton textiles intermediate goods (yarn and grey fabrics), firms in Bangladesh and Sri Lanka remain export-oriented apparel producers, dependent on imported inputs such as yarn and fabric. India has developed a highly complex sector, covering the entire value and production chain from fibre production to garment manufacture and packaging. India has certain unique advantages, such as having a wide range of fibres, both natural and synthetic, production capacities from spinning thread right up to apparel manufacture and cheap skilled labour.

Tewari (2008) discusses the need for regional integration through production networks in South Asia in the T&C sector. On the basis of analysis of trade data at the aggregate level and structured interviews, the study brings out the complementarities between countries in the region and the possibility of forming a production network in the region. RIS (2004) argues that the region as a whole could meet the challenge collectively if it pursued horizontal integration, i.e. co-operation in the same or similar lines of production and exports. Such a South Asian strategy envisages a particular South Asian country that has gained export specialisation in certain textiles or clothing

product lines acting as a host for relocated plants from other South Asian countries. In this way, the textiles and clothing sector can become a regionally integrated sector as countries vacate certain lines of production and gain in other lines of production according to their relative competitive advantage in the global market. Such restructuring would promote intra-regional investment flows that would be trade-creating vis-à-vis the global and regional markets. Vertical integration from one stage of processing to another according to comparative advantage can be considered in the subsequent phase. South Asia would, thus, not lose in the value-added chain, concludes the study.

Knappe (2005) suggests that firms and countries should accelerate South–South co-operation to tap markets in other developing countries. Increased intra-regional trade of intermediate products is thought to improve competitiveness, to exploit traditional markets in the North and to participate in global production chains. The argument is that intermediary products are available on world markets, but sourcing them from nearby countries can provide shorter delivery times. As it is unrealistic to assume that individual least developed countries (LDCs) will become vertically integrated at the national level, they can look at developing regional and even inter-regional value chains to exploit complementarities. The study concludes that trade in intermediate products provides a lot of scope for co-operation between developing countries. Magder (2004), however, highlights that while exporting through international supply chains was a successful way for East Asian countries to develop their textiles and apparel industries in the 1970s and 1980s, it is a less clear route for countries trying to replicate the same strategy today. He argues that by exploring to what extent geography, trade preferences, and local production factors may help, countries should carve out a role for themselves in global supply chains, and provide an engine to drive industrial upgrading throughout the country.

Gereffi (2002) uses the global commodity chains framework to explain the transformations in production and trade networks, as well as corporate strategies, which have altered the global apparel industry over the past decades and improved the prospects for developing countries to enter and move up these chains. The apparel industry is identified as a buyer-driven product chain that contains three types of lead firms: retailers, marketers, and branded manufacturers. As apparel production became globally dispersed and competition between these firms intensified, each type of lead firm developed extensive global sourcing capabilities. In the outward-processing or production-sharing ‘assembly’ pattern, the production networks are anchored in low-cost countries and they do not foster the kinds of local linkages and knowledge transfers that are needed for successful upgrading strategies.

Apart from the above studies, country-specific studies have also been undertaken which have extensively discussed this issue. For example, Kelegama (2005) emphasises that the challenge for Sri Lanka’s textiles industry lies in improving its competitiveness. One strategy is to reposition the Sri Lankan garment industry in a South Asian context and increase competitiveness by increasing vertical integration, capturing economies of scale, focusing on horizontal specialisation, incorporating innovative designs and building a stake in global marketing networks.

5.3 Methodology for identifying potential supply chains

The broad trends in T&C trade are indicative of the existing demand and supply of inputs used within the region. Identification of the potential chains would involve disaggregating input flows to compare sourcing options. The methodology adopted in the UNCTAD et al. project is based on a simple logic that identifies those products that have both demand and supply available in the region. For this purpose, those inputs of T&C are identified which a country imports from outside the region although there exists a South Asian country which exports these globally. For such inputs, which may be from within or outside the T&C sector, both demand and supply exists in the region. Using this simple idea, the following steps were undertaken to conceive the potential supply chains:

Step I: Identify T&C products for global exports in four major economies in South Asia – Bangladesh, India, Pakistan and Sri Lanka. These products fall in HS Chapters 50–63. This is done by examining the global exports of each of the four countries in each of the tariff lines at the HS six-digit level. When exports of an item exceed US\$0.1 million, it is selected as a final product for global exports in the potential supply chain of the country concerned. The final product can be any product of the sector.

Step II: For the identified final products for global exports in each country, the inputs used both from within the T&C sector and from other sectors are identified. This is done by using an input–output database constructed for the T&C sector. The database identifies the inputs at the HS six-digit level with the corresponding tariff lines. These inputs are labelled as stage I inputs.

Step III: After identifying the stage I inputs, which may be from the T&C or other sectors, a trade matrix is constructed for each of the inputs used. For the potential exports of a country, if global imports of stage I inputs in a country are greater than US\$0.1 million, and there exists a South Asian country which exports more than US\$0.1 million of the input, the stage I input is identified as a potential input in the supply chain. This indicates that the country exporting the final product has an import demand for the identified input and South Asia has the capacity to supply this input. Two countries in South Asia which export more than US\$0.1 million of the stage I input are identified. To illustrate, if a final product is identified as a potential export product by India, then potential stage I inputs of the final product are identified where India is globally importing more than US\$0.1 million and two other countries in South Asia are identified which are globally exporting more than US\$0.1 million each and ‘therefore’ have the capacity to export the stage I input to India.

Step IV: Once the countries which can export the stage I inputs have been identified, we identify the primary inputs used in the production of the stage I input. These primary inputs could be, for example, the chemicals used in the dyes which are used as stage I inputs in fabrics. A similar exercise (as undertaken in *Step III*) is then undertaken for identifying the countries which can export the primary inputs. A trade matrix (indicating global exports and imports of the primary

inputs) is constructed. For the country, which can export the stage I inputs, its global imports of the primary inputs are reported. In addition, the global exports of primary inputs of the other three countries are reported. If the global imports of a primary input are greater than US\$0.1 million the country is identified as a potential importer of the primary input. Two countries which export more than US\$0.1 million of the primary input are identified. To illustrate, if Bangladesh is exporting the final product, it may import the stage I inputs from India or Pakistan. India in turn may import the primary inputs used in stage I inputs from Sri Lanka or Pakistan; and Pakistan may import the primary inputs from Sri Lanka or Bangladesh.

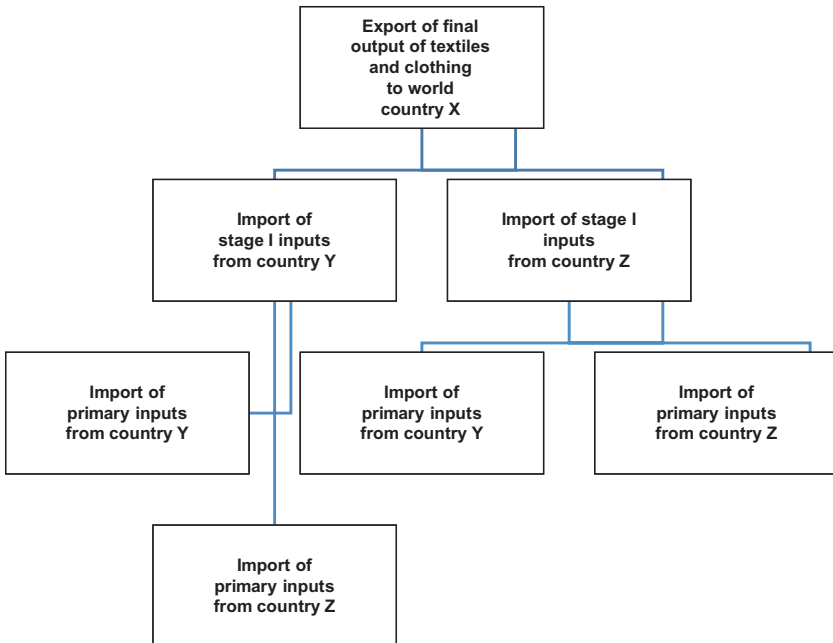
Step V: The final supply chain consists of:

- a) a final output which is exported by a country, say, X;
- b) stage I inputs which are imported by country X from two other identified countries (e.g. Y and Z); and
- c) primary inputs which are imported by Y and Z from any two South Asian countries.

The supply chain constructed for the T&C sector, based on the trade data, can be illustrated as shown in Figure 5.1.

Using the above methodology, supply chains have been identified for four major economies of the region, which are Bangladesh, India, Pakistan and Sri Lanka, at HS six-digit codes. The trade matrix used for identifying the potential exports and

Figure 5.1 Constructed potential supply chain in textiles and clothing sector



imports is constructed using three-year averages (2005–07). The data source used for the study is UN Comtrade database using World Integrated Trade Solutions. In order to avoid the selection of products due to data-reporting errors and/or otherwise inconsistent trends over a very short period of time, resulting in high average values, export and import figures were compared against their long-term trends over the 2000–07 period. Therefore, only those products were selected in the supply chain either as final products or potential stage I or primary imports that show consistent export earnings.

Thus, the supply chain identifies the final outputs to be globally exported by a country or two countries that can provide the stage I inputs which are used in the production of the final output, and two other countries which can provide primary inputs, which are used in the production of stage I inputs. It should be noted that the final output to be exported may not necessarily be clothing. It could include yarn, fabrics or other upstream products. The stage I and primary inputs into these upstream products are then identified.

There is a possibility that despite the existence of the capacity to supply inputs within South Asia, the import may be cheaper from other countries. To consider this, the export unit values of all South Asian countries have been compared with those of the major global exporters of the same products.

Further, for some products, only two-stage supply chains could be formed. These supply chains have been identified for all the four countries along with the final outputs to be exported to the world and stage I inputs to be imported. For these supply chains two possible countries were identified from where stage I inputs can be imported. The export unit values of all South Asian countries, which have global exports of more than US\$0.1 million indicating some supply capacity, were considered.

5.4 Implications on potential supply chains

There are at least three different ways of analysing potential supply chains. First, these can be analysed from the perspective of the number of times a country participates in different stages of the supply chain, as an exporter of final product, exporter/importer of stage I input or exporter/importer of primary inputs in the supply chains formed. The number of stages in all supply chains in which each of the four major countries in South Asia participates is reported in column 1 of Table 5.1.

Second, supply chains can be examined by tracking the flow of inputs leading to the final exported products. For example, if a country X exports the final product (which can be apparel, made-up, fabrics, etc.), it will import stage I inputs which are used in the production of the final products from country Y and country Y, in turn, will import primary inputs used in the production of stage I inputs from country Z. To elaborate further, two unique supply chains are formed if, for exports of a particular product, country X imports one stage I input from country Y, and country Y in turn imports two primary inputs from country Z for producing the stage I input. However,

Table 5.1 Number of potential three-stage and two-stage supply chains and number of potential products of import and export

	Number of stages a country participates in three-stage and two-stage supply chains (1)	Number of potential three-stage supply chains formed by export of final product (2)	Total number of unique HS six-digit tariff lines of imports in the potential three-stage and two-stage supply chains (3)	Number of unique HS six-digit tariff lines identified as potential product for exports in three-stage and two-stage supply chains (4)	Number of unique HS six-digit tariff lines identified as potential imports of stage I inputs in three-stage and two-stage supply chains (5)	Number of unique HS six-digit tariff lines identified as potential imports of primary inputs in three-stage supply chains (6)
Bangladesh	245	109	65	15	19	47
India	1,032	212	38	37	25	19
Pakistan	795	67	117	29	27	103
Sri Lanka	418	363	36	8	34	2

there would be four unique supply chains if country Y imports four different primary inputs for producing the stage I input.

In other words, under this perspective, supply chains can be analysed by taking an export product and tracking the imports of its stage I inputs, and thereafter tracing the imports of primary inputs used in the production of stage I inputs. It may be noted that under this perspective each supply chain represents a unique product-country combination for export of the final product, import of stage I inputs relevant to production of the final product and import of primary inputs relevant to the production of that stage I input. Column 2 of Table 5.1 reports the number of supply chains that can be formed in the region from exports of final product from each country. The number of supply chains based on exports of the final products of a country that are formed should not be taken as an indicator of that country's potential to integrate in regional supply chains. A better indicator of this potential could be the number of times a country participates in different stages of all supply chains.

The third perspective examines the number of unique HS six-digit tariff lines involved a particular country's participation as an importer in different stages of all the unique supply chains, that is, (i) as an importer of stage I inputs linked to the final product; and (ii) as an importer of primary inputs linked to those stage I inputs which can be exported by that country. Column 3 of Table 5.1 reports the number of unique tariff lines each country can import from the region in the potential supply chains.

Table 5.1 presents the three described different ways of analysing the potential supply chains formed using the stated methodology. In addition, it also reports the number of unique final products which a country can export (column 4); inputs that may be imported as stage I inputs from the region (column 5); and number of unique primary inputs that a country may import for production of stage I inputs (column 6).

From the first perspective of the number of stages of a country's participation in all supply chains, India participates in the maximum number of stages in the identified supply chains (1032), followed by Pakistan (795), Sri Lanka (418) and Bangladesh (245). From this perspective, the more diverse the range of inputs of T&C exported/imported by a country, the higher its participation in different stages of the potential supply chains.

From the second perspective, the final product identified for global exports forms 109 supply chains in Bangladesh, 212 in India, 67 in Pakistan and 363 in Sri Lanka. A plausible reason for the lower number of potential supply chains formed for Pakistan is that the final products exported by Pakistan are more textiles than clothing. Textiles, compared with clothing, may have lower backward linkages in terms of inputs used for the production of the final product.

From the third perspective of the number of unique tariff lines that can be imported by a country in the identified potential supply chains, Bangladesh can import 65 stage I and primary inputs, India can import 38 inputs, and Sri Lanka 36 inputs and Pakistan 117 inputs. Most of the inputs identified for Pakistan are non-textiles inputs which are used in the textiles and clothing sector. The greater the number of inputs globally imported by a country, the greater the number of importable inputs that are identified in the potential supply chains to be formed in South Asia.

There were 15 unique textiles and clothing tariff lines identified as final product for global exports that can form supply chains within the region for Bangladesh. For India, 37 unique tariff lines have been identified, 29 for Pakistan and 8 for Sri Lanka. The unique first stage inputs identified, which can be imported from within the region are highest for Sri Lanka (34), closely followed by Pakistan (27), India (25) and Bangladesh (19). The number of potential primary inputs that are used in the first stage that can be imported are highest for Pakistan (103), followed by Bangladesh (47), India (19) and Sri Lanka (2).

Having examined the number of unique tariff lines involved in each stage of the unique supply chains in which a country participates, it is relevant to assess whether existing trade flows point towards the possibility of establishing regional supply chains in the T&C sector in South Asia. Three aspects are relevant in this assessment. First, whether the country has import demand for stage I and primary inputs; second, the extent to which the import demand is met from countries within and outside the region; and third, whether other countries in the region have the export capacity to meet the import demand. Table 5.2 presents the country-wise global and regional imports of the tariff lines identified as stage I inputs or primary inputs in the potential supply chains. It is interesting to note that in respect of all the four

countries, the imports of inputs are mainly from sources outside the region, although supply capacity exists within the region.

Estimating the percentage share of a country's global imports of the identified inputs to the region's global exports of these inputs, we find that Bangladesh's global imports comprise only around 18 per cent of the region's global exports. For Pakistan and Sri Lanka, these are around 7.5 per cent and 9 per cent respectively. This indicates that supply capacity exists within the region to cater to the demand for the identified inputs by the region.

However, India's global imports of the identified inputs is around 350 per cent of the region's global exports, indicating that India's demand for the identified inputs is much more than the region's capacity to export. This may be a result of the diverse production structure of India in the T&C sector, which ranges across the entire value chain. It also indicates the role that India can play in generating demand for the inputs within the region.

The existing regional imports of the inputs compared to total import demand are found to be very low (Table 5.2). In the case of Bangladesh and Sri Lanka, regional imports are around 30 per cent. India's regional imports are the lowest at less than 5 per cent, indicating the potential of intra-regional trade for India. However, India's demand for exports is significantly higher than the export capacity within the region.

To analyse the reasons for low regional imports we examined at the country level the identified inputs in the supply chain along with the export unit values of the countries in the region. Country-wise participation in supply chains is presented in the following sections. The existing tariffs on these identified products for imports in each country are reported along with the indication of whether the product appears in the sensitive list of the countries.

It should be noted that the exercise undertaken to identify supply chains is not exhaustive but is demonstrative in nature. At the country level, only those products where the country ranks either highest or second highest in terms of global exports have been selected as final products for exports.

Table 5.2 Global and regional imports of identified inputs in potential supply chains: Average for 2005–07

	Global imports (US\$'000)	Imports from other three countries of the region (US\$'000)	Global exports of other three countries in the region (US\$'000)	Imports from the region as % of country's global imports	Global imports of a country as a % of global exports of the region
Bangladesh	493,150	146,628	2,690,257	29.7	18.3
India	4,834,969	221,657	1,380,133	4.5	350.3
Pakistan	1,166,083	202,466	15,543,371	17.3	7.5
Sri Lanka	327,176	94,808	3,623,488	28.9	9.0

5.4.1 Participation by countries in potential three-stage and two-stage supply chains

Bangladesh

By adopting the discussed methodology, three-stage and two-stage supply chains (where only first-stage inputs are present) have been identified for the individual South Asian countries under consideration. The unique tariff lines identified as final products for exports and inputs for imports in supply chains are available in the main report (UNCTAD et al. 2011) along with the individual countries' demand and the region's supply-side capacity. For Bangladesh, most of the inputs identified in the potential supply chains had much higher global imports than imports from within the region. It was, however, found that the supply capacity of the region in most of the products was much more than that globally imported by Bangladesh, indicating that the region can fulfil Bangladesh's demand for the inputs.

Fifteen products were identified as final products that may be exported by Bangladesh, which was found to be either the largest or second largest exporter from the region. These products mainly belong to HS Chapters 61 (articles of apparel and clothing accessories, knitted or crocheted) and 62 (articles of apparel and clothing accessories, not knitted or crocheted) and include products such as women's and girl's suits, ensembles, jackets, blazers, men's or boy's shirts, T-shirts, jerseys, pullovers, cardigans, women's overcoats, capes, cloaks, men's or boys' suits, jackets, etc. It should be noted that there are many more products that Bangladesh exports to global markets, but the identified ones are those which have the potential to form supply chains in the region. That is, there exists a genuine possibility of regionally importing the stage I and other primary inputs.

The final products for exports also include a few woven fabrics of silk and synthetic filament. These products have a low share for Bangladesh in South Asia's exports, as the country that ranks highest (in this case India) has around a 98–99 per cent share in the region's exports. However, exports of these products do show a rising trend and thus can be considered as potential exports of Bangladesh.

The stage I inputs that are used in production of the final products for global exports are from both the T&C sector as well as from other (i.e. non-textiles) sectors. Thirteen such categories from the T&C sector have been identified that can be regionally imported by Bangladesh. In most of these products, Bangladesh is importing less than 20 per cent of its global imports from the region, while the global exports from the region are much higher than that of Bangladesh's global imports. These products include raw silk, yarn spun from silk waste, yarn of other vegetable textile fibres, synthetic filament yarn, synthetic staple fibres, wadding of textile materials, and quilted textile products. Only in two products, namely raw silk and wadding of textile materials, are Bangladesh's global imports higher than the region's supply.

There are six non-T&C products that are used as stage I inputs in the final products identified for global exports for Bangladesh. These are mainly synthetic organic colouring matters, lubricating preparations, finishing agents and laboratory reagents.

Except for lubricating preparations, Bangladesh imports from the region are less than 25 per cent of its total global imports, while the region's global exports are much higher than Bangladesh's global imports, except for finishing agents. Bangladesh's regional imports of lubricating preparations are around 26 per cent and of synthetic organic colouring matter (3204.15) are 36 per cent from the region. This shows the potential that exists in terms of global demand for the inputs of Bangladesh, which can be met within the region, leading to effective supply chains.

There are 47 products that have been identified as primary inputs of stage I inputs. Except for yarn spun from silk waste, all the products are from non-T&C sectors. Out of these, regional imports of 35 products are less than 20 per cent in Bangladesh, while regional supply is insufficient in only 5 products compared with Bangladesh's global demand. In all other products there exists a global exporter of the product in the region.

As part of the exercise, the export unit values of global top exporters have been compared with those of regional suppliers for the products identified in the supply chains. While the details can be found in UNCTAD et al. (2011), the comparisons do reveal that regional suppliers are cost competitive in most of the cases. Although the export unit values can be taken only as indicative of the export prices of the product and may not be comparable across countries as the quality of the product may vary, the findings are in line with the fact that South Asian countries are among the most competitive global suppliers.

India

Using the same methodology, three-stage and two-stage supply chains for India have been identified for products for global exports, and for imports as stage I inputs and primary inputs. The analysis finds 37 products for global exports from T&C, including silk yarn, cotton yarn, woven fabrics of cotton, synthetic filament yarn, woven fabrics of synthetic filament yarn, carpets, knitted and crocheted fabrics, women's suits, etc. In all but one item, India has more than a 10 per cent share in global exports from the region. In ten products, India's share in the region's global exports is more than 90 per cent. In 13 products, the South Asia region contributes more than 10 per cent of global exports.

Twenty-four products were identified for imports from the region by India. These are the products which are globally imported by India, but also have regional suppliers who are globally exporting (more than the threshold value of US\$0.1 million). Of these, three-quarters are related to T&C, while the rest are from non-textiles sectors. Products under T&C include woven fabrics of silk or silk waste, wool and yarn of wool, cotton, cotton yarn, woven fabrics of cotton, synthetic filament yarn, synthetic staple fibres, yarn of synthetic staple fibres, wadding of textile materials, etc. Some of these products are produced and exported as well, but several differentiated categories under the same tariff lines are being globally imported by India. From the non-T&C sector, the products which may be imported by India from the region are synthetic organic colouring matter; some starches and finishing agents (from HS Chapter 32.04, 32.06, 35.05 and 38.09). However, only in 7 out of 25 stage I inputs,

are India's global imports lower than the region's global exports, which indicates the insufficient supply capacity of the region to fulfil India's demand. But, in 21 out of 25 products, India's regional imports are less than 10 per cent of its total global imports. This indicates the potential of forming regional supply chains by India.

In the list of identified primary inputs of stage I inputs, which India could import regionally, there are 19 products, of which 14 belong to the non-T&C sector. In 16 out of 19 products, India imports less than 10 per cent regionally, while in only 4 products, India's global imports are lower than region's global exports. This indicates that although the region's supply capacity is limited in terms of fulfilling India's global demand for the inputs, whatever the given supply capacity, only a small part of it is being utilised by India.

To assess the feasibility of regional imports, the export unit value of the top exporter of these products to India was compared along with those of three other countries in the region. Of the whole sample of potential supply chain items, the export unit value of the exporter was found to be lower in only eight categories (i.e. global suppliers being more competitive). Therefore, in most of the cases the regional sources appeared to be least-cost suppliers.

Pakistan

A total of 29 products are in the potential supply chain as products for final export by Pakistan. These include, among others, cotton, cotton yarn, woven fabrics of cotton, synthetic filament yarn, woven fabrics of synthetic filament yarn, other knitted or crocheted fabrics, men's or boys' knitted or crocheted shirts, etc. In 22 of these products Pakistan's share in the region's exports is above 10 per cent, while in the remaining categories it exports around 50 per cent or more of the region's total exports.

There are 27 stage I inputs identified, of which 16 are from the T&C sector. These are mainly from HS Chapter 55 (synthetic staple fibres). There are three tariff lines of HS Chapter 52 (5201.00, 5203.00 and 5205.11) of which Pakistan globally imports more than US\$100,000. One of these products, cotton yarn (other than sewing thread) containing 85 per cent or more by weight of cotton, not put up for retail sale (5205.11), is imported mainly from the region, while 23 stage I inputs have less than 10 per cent imports from the region. In most of the products the region's global exports are higher than Pakistan's global imports suggesting that there exists supply capacity within the region to cater to Pakistan's global demand for the stage I inputs.

There are 103 primary inputs identified in the potential supply chains. These primary inputs are used in stage I inputs. An overwhelming majority (97) of these primary inputs are from non-T&C sectors. The large number of these inputs indicates diversity in Pakistan's basket of global imports. In 72 out of 103 products, Pakistan's regional imports are less than 10 per cent, while in only 14 cases Pakistan's global imports are greater than the region's global exports indicating insufficient capacity. These include products such as finishing agents, prepared binders for foundry moulds or cores, and artificial staple fibres, not carded, combed or otherwise processed for spinning.

Sri Lanka

The three- and two-stage potential supply chains identified eight products of Sri Lanka for final export, which have the potential of forming regional supply chains. These are the products where Sri Lanka is the largest or second largest global exporter in the region. These products are mainly from HS Chapters 61 (articles of apparel and clothing accessories, knitted or crocheted) and 62 (articles of apparel and clothing accessories, not knitted or crocheted).

There are 34 inputs identified as stage I inputs that may be imported from the region, of which 28 are from the T&C sector. These are mainly cotton (not carded or combed), cotton yarn, woven fabrics of cotton, and synthetic filament yarn. However, unlike other countries in the region, Sri Lanka is importing to a large extent from the region. Regional sourcing in 24 out of 34 products was greater than 10 per cent. Nevertheless, Sri Lanka's regional imports of cotton (HS 5201.00) are less than 3 per cent, while the region has high global exports of the same. For some tariff lines in woven fabrics, the regional supply capacity is limited as Sri Lanka's global imports are much higher than the region's global exports.

There are 36 unique products that Sri Lanka can import regionally in either two-stage or three-stage identified supply chains. Except for one item, synthetic filament yarn (HS 5402.20), which Sri Lanka is importing from the Republic of Korea, in all other products the export unit values of one of the three suppliers in the region is lower than those of the top exporters to Sri Lanka. None of the identified inputs are in Sri Lanka's sensitive list under SAFTA. This is indicative of the existing potential for regional imports for Sri Lanka.

5.5 Policy implications

The findings presented and discussed above therefore suggest the significant scope of developing supply chains using production networks across the borders of South Asian countries. Many of the products identified as inputs in the potential supply chains can be sourced from within the region without undermining competitiveness, as South Asian countries were also found to be global suppliers in the same categories. Comparisons of export unit values of regional suppliers with those of global suppliers also indicate a similar conclusion. It is quite interesting to find that despite the availability from the least-cost suppliers within the region, the global imports by individual South Asian countries of many of the identified inputs are higher than imports sourced from their neighbours.

The above, thus, brings to the forefront an important conclusion: despite the high potential, market forces on their own have not been successful in developing regional supply chains. Intra-regional trade still remains very low, while complementarities in the region have largely been ignored. Regional supply chains, if put in place, offer not only a reduction in costs of production but also the advantages of economies of scale, as well as lowering the lead time in global deliveries, which has become particularly critical for apparel exports.

The issue of developing supply chains, however, might give rise to certain unwarranted concerns. One popular argument in South Asia is that regional sourcing will undermine the efforts of the countries in developing their own domestic backward linkage industries. On the contrary, the methodology employed and discussed in this chapter rules out such a possibility. The basic premise of the analysis is whether the countries are already importing the required raw materials from the rest of the world and, if so, whether regional sourcing can replace those supplies. Therefore, if a country, for instance, is sourcing all its import requirements internally (from domestic backward linkage industries), there is no scope for developing regional supply chains. In other words, since global imports exist, there is no reason to believe that regional imports would hurt domestic industries.

It is also important to point out that the analysis has only considered regional imports for use in the export-oriented sector and not for domestic consumption. As a result, regional supply chains – at least the way they have been presented in the study – are not any threat to domestic industry.

Following from the above, it is worth mentioning that the sensitive list under SAFTA may not be a constraint for regional supply chains. The export-oriented sectors, in most cases, procure their raw materials from the cheapest possible global sources. Even when the relevant domestic import-competing sectors operate under the shield of tariffs and other support measures, exporters are allowed duty-free import of raw materials or to make use of such facilities as duty-drawback and bonded warehouse to protect their competitiveness by getting inputs from globally efficient suppliers. From this perspective, the sensitive list maintained by different countries in the region should not be a problem for allowing their exporters to source raw materials regionally.

There might be some apprehension about compromising the export sector's competitiveness by using raw materials and primary inputs manufactured in the region. Another related concern is whether the regional supply chains could lead to trade diversions triggering welfare costs. However, as already pointed out above, South Asian countries are exporting many of these items to the world market and they compete well with other major global suppliers, and as such the concern about undermining competitiveness in the export sector may not be true in a range of product lines. It is important to note that this chapter does not advocate trade policy-induced measures (such as tariff concessions for regional partners) for promoting regional trade or supply chains. The South Asian textiles and clothing industry is overwhelmingly global market-oriented and exporters will have to have access to raw material supplies at world prices. Therefore, any suggestion of discriminatory tariffs on input supplies by sources is not considered, thereby eliminating the possibility of trade diversion. Nevertheless, it does not rule out the scope of policy interventions by South Asian countries, as they can be more ambitious in integrating their textiles and clothing industry across the region. But this is not something that has been considered as part of the current study.

There are, however, other factors associated with competitiveness where regional supply chains can actually exert beneficial effects. Unlike the traditional trade

theories, there is now robust evidence that transport costs reduce tradeable volumes. Under ideal circumstance, supplies procured within the region will involve lower transport costs improving the competitiveness of individual South Asian countries. With regard to the exports of textiles and apparels, most South Asian countries suffer from high 'lead time' (i.e. the time spent between the receipt of the export order and delivery of the order at the importer's designated port). Regional sourcing of raw materials, particularly for apparels, can greatly help mitigate the problem.

The distribution of regional export gains could also attract the attention of some observers. As within the region some countries have a larger supply capacity than others, concerns may be raised about unequal distribution of gains from regional supply chains. However, this argument is misconceived. According to the methodology adopted, countries are importing intermediate inputs in order to increase their exports. If countries could not experience increased export earnings, regional imports would also not rise. In addition, one should not merely focus on the distribution of regional exports; what is more important is the growth of overall exports to the global markets.

One important caveat about the supply chain assessment, however, must be acknowledged. Despite the use of highly disaggregated data, it has not been possible to take into account the quality variations across various suppliers. There is no denying that the quality of inputs would determine a supplier's catering to a particular market. In the case of apparels in particular, many importers often provide strict specifications with regard to the inputs to be used and their preferred sources. This can somewhat reduce the scope of regional sourcing. Nevertheless, the study has provided detailed and disaggregated product-level information where potential for developing regional supply chains exists. Based on this, the industry stakeholders can more precisely assess any likely effects of product heterogeneity on regional sourcing and exports.

It goes without saying that much of the existing scope for exploiting supply chains would largely depend on the progress made on overall co-operative efforts among the South Asian nations. The existence of bilateral political differences has affected the advancement of regional economic co-operation. It has been found that when it comes to regional partners, South Asian countries have more restrictive regimes for their regional partners than for the rest of the world. Along with tariff barriers, a plethora of non-tariff measures seriously constrain intra-regional trade and investment flows. As a result of lack of political will, the region also suffers from a relatively poor state of trade facilitation and high transaction costs associated with cross-border exchange. All this will naturally have serious implications for promoting regional supply chains. Indeed, many business leaders and informed observers attending the consultation meetings that were undertaken as part of the aforementioned UNCTAD et al. project identified, among others, weak trade facilitation infrastructures, inconsistent policy regimes in cross-border trade using land-ports, and port-management and related inefficiencies as major obstacles to building regional supply chains.

Note

- 1 According to the currently available information, the sector provides direct employment to 3.5 million people in Bangladesh, 38 million in India, and 15 million in Pakistan.

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