Summary

Background

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. It then took a decade for the region to put in place practical measures to promote trade through a regional agreement. The South Asian Preferential Trade Agreement (SAPTA) came into operation in 1996 with the expectation of moving towards a South Asian Free Trade Agreement (SAFTA), the implementation of which eventually began in 2006.[1] Despite all this, south Asia remains a least integrated region, with trade among member countries accounting for approximately 5 per cent of their total trade. Many experts, however, suggest that expanded regional integration beyond trade in goods, together with co-operation in developing supply chains, has considerable potential for growth and development in the region.

While extended co-operation in areas such as services, infrastructure development and transshipment has been discussed in various forums by policy-makers and trade analysts, relatively little attention has been paid to understanding the potential for building supply sources based on industrial units located in different countries in the region. Against this backdrop UNCTAD (through its India Project Office), the Centre for WTO Studies in the Indian Institute of Foreign Trade (IIFT) and the Commonwealth Secretariat decided to collaborate on a joint project to assess the prospects for developing production linkages to further south Asian regional co-operation. A salient feature of the project is that rather than following a very general and broad approach, it looks at industry-specific dynamics so that the research can be useful to policy-makers and industries. Given its importance to the region, the textiles and clothing sector has been chosen as the

case study. The project comprised analytical research to identify potential supply chains and consultation workshops with the relevant stakeholders to disseminate and validate its findings and discuss policy implications. The findings have important implications for understanding the prospects for increased exports from individual south Asian countries by sourcing intermediate inputs from the region, the resultant consequences for export competitiveness and the scope of policy support in promoting such supply chains.

The south Asian textiles and clothing sector

The textiles and clothing (T&C) sector has been one of the leading manufacturing sectors in south Asia in terms of its contribution to output, employment and trade. The sector employs 60 million people directly and nearly 90 million indirectly. South Asia's share in global trade in T&C has increased from less than 2 per cent to nearly 10 per cent over the past decade, with exports reaching US$55 billion in 2010.[2] Its share in global imports improved from 0.8 per cent to 1.5 per cent during the same period. The importance of textiles and clothing is also reflected in the sector's share of total exports in all the region's major economies. T&C makes up close to 80 per cent of total exports from Bangladesh, providing direct employment to 5 million people; for Sri Lanka, the figure is 45 per cent, with the sector employing more than 1.8 million; for Pakistan, 55 per cent, employing more than 15 million; and for India, around 12 per cent, employing more than 38 million. With the onset of global economic crisis, south Asia as a region has experienced a slowdown in the growth rate of its GDP from 8.6 per cent in 2007 to 5.7 per cent in 2008. Growth remained at 5.7 per cent in 2009.[3] This resulted in a fall of 18 per cent in T&C exports, lowering the region's share of global T&C exports from 7.7 to 6.1 per cent. Since then, however, the growth in the sector has picked up. The textiles and clothing industry is a sector where competition is fierce and since the expiry of the Multi-Fibre Arrangement

(MFA) in 2005, the global market has yet to settle down. South Asian countries have major rivals in every export category; improving competitiveness in this heavily labour-intensive sector has therefore become one of the critical issues for export-led growth and poverty reduction. South Asian countries, particularly Bangladesh, India, Pakistan and Sri Lanka, compete with one another in the global market. However, effective regional collaboration, taking advantage of these countries' current production bases, could contribute to enhancing their competitiveness and result in a greater world market share in the textiles and apparels trade.

The benefits of regional co-operation in textiles and clothing production have been discussed by the Asian Development Bank (ADB) and UNCTAD (2008), Robbani (2004) and Tewari (2008). ADB and UNCTAD point out the growing intra-industry trade (IIT) in the textiles and clothing sector within south Asia and the potential to increase it further. The study estimates the bilateral Grubel Lloyd index for 1991 and 2004 and finds that IIT increased for some areas within the sector. These are spinning, weaving and finished textiles; knitting mills; and manufactures of textiles not elsewhere classified (nec). The study also estimates the gains to all countries in south Asia through the lowering of tariffs on textiles and clothing in SAFTA.

Research method

The analytical work maps out the production and export structures of different south Asian countries in order to identify potential cross-border linkages that are currently not being exploited. The methodology adopted is based on a simple logic, which is to identify those inputs used in the textiles and clothing sector that a country imports from outside the region although there is a south Asian country that exports these inputs globally. These are products for which both demand and supply exist in the region and which could potentially form supply chains. Based on this principle, and making use of the

available disaggregated trade data (at the 6-digit level of the Harmonized System (HS) of trade classification), the following steps have been taken to identify the potential cross-border supply chains that are currently not being exploited.

First, in Step I export products (destined for global markets) from four major economies in south Asia, Bangladesh, India, Pakistan and Sri Lanka, are identified. Only those products where a country has significant export receipts (more than US$100,000) are considered. For these final products, in Step II all inputs used (both from within the T&C sector and from other sectors) are identified and are labelled as stage I inputs. In Step III a trade matrix is constructed for each of the stage I inputs, showing their imports into and exports from all four countries. If imports of stage I inputs in a country are greater than US$100,000 and south Asia as a region exports more than US$100,000 of the input, the stage I input is identified as potential input in the supply chain.[4] Two countries in south Asia with the supply capacity for the stage I input are identified.

Once the countries which can export the stage I inputs have been identified, the primary inputs used in the production of the stage I inputs are identified in Step IV. 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 to that undertaken in Step III is then carried out to identify the countries which can export the primary inputs. Therefore, the final supply chain consists of: (i) a final output which is exported by a country (*X*); (ii) stage I inputs which are imported by country *X* from other two identified countries (*Y* and *Z*); and (iii) primary inputs which are imported by *Y* and *Z* from any two south Asian countries. Thus, the supply chain identifies the final output to be globally exported by a country, two countries that can provide the stage I inputs used in production of the final output and two more countries which can provide primary inputs 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 methodology has been implemented using disaggregated data at the HS 6-digit level, as available in the COMTRADE database. To avoid atypical trade flows, the trade matrix for identifying potential exports and imports is constructed using three-year averages (2005–2007). For the selected final products, the stage I inputs are identified by making use of an input-output database at the comparable HS tariff lines, constructed by UNCTAD through its India Project Office.

Key findings

Overall scope of developing regional supply chains

There are at least three different ways of analysing potential supply chains. First, they can be considered as the number of times a country participates in different production stages: as an exporter of final products, exporter/importer of stage I inputs and 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 of south Asia participates is reported in row 1 of Table S.1. Second, supply chains can be examined by tracking the flow of inputs leading to the export products. From 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 the stage I inputs used. Row 2 reports the number of supply chains that can be formed in the region from exports of final product from each country.

Finally, supply chains could also constitute the number of unique HS 6-digit tariff lines involved in the participation of a particular country in different production stages as an importer of stage I inputs needed for producing the final products and primary inputs used in the production of stage I inputs. Column 3 of Table S.1 reports the number of unique tariff lines each country can import from the region in the potential sup-

ply chains. In addition to the three ways of analysing the potential supply chains described above, Table S.1 also reports the number of unique final products which a country can export (row 4); inputs that may be imported as stage I inputs from the region (row 5); and number of unique primary inputs that a country may import for production of stage I inputs (row 6).

Table S.1. Number of potential 3-stage supply chains and import and export products

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

Following the first criterion above, India participates in the maximum number of stages (1,032) in the identified supply chains, followed by Pakistan (795), Sri Lanka (418) and Bangladesh (245). From this perspective, the more diverse the range of inputs exported and imported by a country, the higher will be its participation in different stages of the supply chains. In terms of the second criterion, the final product identified for global exports forms 109 supply chains in Bangladesh, 212 in India, 67 in Pakistan and 363 in Sri Lanka. The unusually low

figure for Pakistan is attributable to the fact that the final products exported by Pakistan are more often textile-related items than clothing. Textiles, as compared to clothing, have lower backward linkages in terms of inputs used for the production of final products. Finally, when the number of unique tariff lines that can be imported by a country in the identified potential supply chains are continued, Bangladesh is found to have 65 stage I primary inputs. The corresponding figures for India, Pakistan and Sri Lanka are, respectively, 38, 36 and 117.

For Bangladesh, 15 unique tariff lines have been identified as final products for global exports that can be manufactured using regional supply chains alone. The comparable number for India is 37, for Pakistan 29 and for Sri Lanka 8. The unique stage I inputs identified, which can be sourced 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 inputs that can be imported is greatest for Pakistan (103), followed by India (19), Bangladesh (47) 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, the study also examined if the existing trade flows point to the possibility of establishing regional supply chains. The results of this exercise have been summarised in Table S.2, which presents country global and regional imports of the tariff lines identified as stage I inputs or primary inputs in the potential supply chains. It is interesting that all four countries are mainly sourcing their imports outside the region, although regional supply capacity exists.

Bangladesh's global imports of the identified inputs comprise only around 18.3 per cent of the region's exports of these inputs. 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 for the demand for the identified inputs by the region. However, the global imports of the identified inputs for India is around 350 per cent of the region's exports, indicating that India's demand for the

identified inputs is much greater than the region's capacity to export. This may be a result of India's diverse production structure in the textiles and clothing sector, which ranges across the entire value chain. It also indicates the role that India can play in generating demand for inputs within the region.

Table S.2. Global and regional imports of identified inputs in potential supply chains (average for 2005–2007)

	Bangladesh	India	Pakistan	Sri Lanka
Global imports (US$'000)	493,150	4,834,969	1,166,083	327,176
Imports from other three countries of the region (US$'000)	146,628	221,657	202,466	94,808
Global exports of other three countries of the region (US$'000)	2,690,257	1,380.133	15,543,371	3,623,488
Imports from the region as a percentage of country's global imports	29.7	4.5	17.3	28.9
Global Imports of a country as a percentage of global exports of the region	18.3	350.3	7.5	9.0

Existing regional imports of inputs compared to total import demand are found to be very low in case of India. In the case of Bangladesh and Sri Lanka the 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 export demand is significantly higher than the export capacity within the region.

Country-specific product lines for potential supply chains

The study has also identified country-specific potential supply chains with respect to exports of final output, import of stage I and primary inputs. It includes the details of 3-stage supply chains of the countries involved together with their demand inputs vis-à-vis regional supply side capacity. In most of the inputs identified in the potential supply chains for Bangladesh, its global imports are much higher than the imports from

within the region. However, the supply capacity of the region in most of these products is far greater than Bangladesh's global imports, indicating that the region has a supply capacity to fulfil Bangladesh's demand for the inputs in the identified lines. Of the 65 import items that can be sourced from within the region, Bangladesh has tariff rates of more than 10 per cent for 34 items, while another 12 products are on the sensitive list under SAFTA , implying that liberalisation of these items is not being considered.

In the case of India, 38 tariff lines are identified as final products for exports in the potential supply chain, of which in 36 products it has tariffs of over 10 per cent. Twelve of 38 products are listed as sensitive products under SAFTA. A comparison of India's sourcing of identified inputs from within and outside the region shows that in most of the cases its global imports are much higher. For 7 of 25 stage I inputs, India's global imports are less than the region's global exports, which indicates that the region has insufficient supply capacity to fulfil India's demand. However, in 21 of 25 products, India's regional imports are less than 10 per cent of its total global imports. This indicates the India's potential for forming regional supply chains.

At the 3-stage level, there are 67 supply chains for Pakistan. Twenty-seven stage I inputs were identified, of which 23 have less than 10 per cent imports from the region. In 72 out of 103 identified primary inputs, Pakistan's regional imports are less than 10 per cent, while Pakistan's global imports are more than region's global exports in only 14 products indicating insufficient capacity. Of 117 unique products identified for regional imports by Pakistan, the tariffs are above 10 per cent in 21 products. Seventeen products are on Pakistan's sensitive list under SAFTA.

For Sri Lanka, 363 supply chains have been identified at the 3-stage level. For six of eight final products in the identified potential supply chains, Sri Lanka's exports are more than 10 per cent of south Asia's total exports. Thirty-four inputs are identified as stage I inputs that may be imported from the

region. However, unlike other countries in the region, Sri Lanka imports are sourced to a large extent from the region. Regional imports in 24 out of 34 products is greater than 10 per cent. Sri Lanka has a more open trade regime than other south Asian countries, as none of the inputs of potential imports from within the region have tariffs of more than 10 per cent and none of the tariff lines are on the country's sensitive list under SAFTA.

While identifying the regional supply chains, an attempt was also made to assess whether the intra-regional supplies would be competitive enough to provide a justification for regional sourcing. The fact that in many cases south Asian countries were actually exporting stage I and primary inputs to the rest of the world seems to suggest that they are globally competitive. A comparative assessment of unit value prices of the products supplied by south Asian countries vis-à-vis other leading global suppliers also reveals that in many of the items the former may actually be lower-cost suppliers.

Issues to consider and policy implications

The outcomes of the project as summarised above are likely to be of considerable interest to policy-makers and relevant stakeholders. Issues that are directly associated with the textiles and clothing sector and other issues relating to overall regional co-operation have important implications for promoting regional supply chains. In the following, some of these are briefly dealt with.

There could be a concern that regional supply chains might undermine the efforts of individual countries to develop their own domestic backward linkages. However, the methodology devised for the analytical study rules out such a possibility. The basis of the analysis is to establish whether the countries are already importing from the rest of the world and, if so, whether regional sourcing can replace those supplies. Therefore if, for example, a country is sourcing all its import requirements from its internal 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 will hurt domestic industries.

It is also important to point out that the analysis has only considered regional imports that would be used in the export-oriented sector, not those used for domestic consumption. As a result, regional supply chains – at least in the way they are presented in this study – do not pose a threat to domestic industries.

Following on from the above, it is worth mentioning that the sensitive list under SAFTA may not be a constraint for regional supply chains. In most cases, export-oriented sectors procure their raw materials from the cheapest possible global sources. Even when the relevant domestic import-competing sectors operate under the protection of tariffs and other support measures, exporters are allowed duty free imports of raw materials or to make use of such facilities as duty drawback and bonded warehouses to protect their competitiveness by obtaining inputs from globally efficient suppliers. From this perspective, the sensitive lists maintained by the various countries in the region should not prevent their exporters from sourcing raw materials regionally. This is an issue that requires the attention of policy-makers and businesses. Notwithstanding this, the inclusion of products in sensitive lists may increase transaction costs to the importers to some extent. This suggests that for forming cost-effective supply chains within the region, lower tariffs on the identified inputs may be helpful.

There may 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 and therefore trigger welfare costs. However, as has already been pointed out, south Asian countries export many of these items to the world market and they compete well with other major global suppliers; thus, concern about undermining competitiveness in the export sector may not be relevant in a range of product lines. On the other hand, it is important to

note that the analytical study 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 oriented to the global market and exporters must 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. However, this has not been considered as part of the current study.

There are other factors associated with competitiveness where regional supply chains can exert beneficial effects. Unlike under traditional trade theories, there is now robust evidence that transport costs reduce tradable volumes. In ideal circumstances, supplies procured within the region will involve lower transport costs and therefore improve individual south Asian countries' competitiveness. With regard to exports of textiles and apparel, most south Asian countries suffer from high 'lead time' (i.e. the time between the receipt of an export order and delivery of the order at the importer's designated port). Regional sourcing of raw materials, particularly for apparel, can greatly help to mitigate this problem.

The distribution of regional export gains may also attract the attention of some observers. Within the region some countries have larger supply capacity than others; concerns may therefore be raised about unequal distribution of gains from regional supply chains. However, this argument is misconceived. According to the methodology adopted, countries import intermediate inputs in order to increase their exports. If countries do not experience increased export earnings, regional imports will 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 must, however, be acknowledged. Despite the use of highly disaggregated data, it has not been possible to take into account the quality variations across various suppliers. It cannot be denied that the quality of inputs will determine a supplier's ability to cater for a particular market. In the case of apparel, in particular, many importers provide strict specifications with regard to the inputs to be used and their preferred sources. This requirement can reduce the scope for regional sourcing. Nevertheless, the study has provided detailed and disaggregated product level information where potential for developing regional supply chains exists. Based on this, 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 largely depends on the progress made on overall co-operative efforts among the south Asian nations. The existence of bilateral political differences has affected the progress of regional economic co-operation. It has been found that south Asian countries have more restrictive trade regimes with their regional partners than with the rest of the world. Together with tariff barriers, a plethora of non-tariff measures seriously constrain intra-regional trade and investment flows. Due to lack of political will, the region also suffers from relatively poor trade facilitation and high transaction costs associated with cross-border exchange. All this has serious implications for promoting regional supply chains.

In conclusion, this study brings out the potential of south Asia to emerge as globally more competitive suppliers of textiles and clothing through identified potential supply chains that can be formed within the region. The existing trade flows in the identified 3-stage and 2-stage supply chains indicate that south Asian countries have an import demand for inputs that is relevant for establishing supply chains in the T&C sector, but that import demand is met mainly from sources outside the region. However, the region has the supply capacity for exports and in many cases the region already has lower-cost suppliers.

Many of the identified inputs in the potential supply chains are identified as products in countries' SAFTA sensitive lists, with tariffs of over 10 per cent. This indicates that at the national level each country has policy tools to form the identified supply chains and lower its import costs by importing from the region instead of from global markets. In order to make the potential supply chain work, SAFTA can therefore play a very important role.