

5 Methodology for Identifying Potential Supply Chains

The broad trends in trade in the textiles and clothing sector are indicative of the existing demand and supply of inputs used in the sector within the region. The main aim of this study is to identify potential production supply chains that could be formed within the region for improving the cost competitiveness of the region as a whole. This may enable the region to increase its share in global T&C exports and benefit each of the countries in the region in terms of enhanced exports, which may generate more output and employment, and enhance overall development that benefits in particular the poor, women and youth.

The methodology adopted is based on a simple logic, which is to identify those products for which there is both demand and supply in the region. Inputs of T&C are identified, which a country imports from outside the region, although there is a south Asian country that exports these inputs 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 logic, the following steps are undertaken to form potential supply chains.

Steps used to identify potential supply chains

Step I: Identify products for global exports in the T&C sector in the four major economies of south Asia – Bangladesh, India, Pakistan and Sri Lanka. These products fall under 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 HS 6-digit level. If a country exports more than US\$100,000 of a product, the product 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 T&C 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 the input–output database constructed for the T&C sector by UNCTAD (through its India Project Office). The database identifies the inputs at HS 6-digit codes of HS 6-digit 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\$100,000 and there exists a south Asian country which exports more than US\$100,000 of the input, the stage I input is identified as 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\$100,000 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\$100,000 and two other countries in south Asia are identified which are globally exporting more than US\$100,000 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 to that undertaken in Step III is then undertaken to identify 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, global exports of primary inputs of the

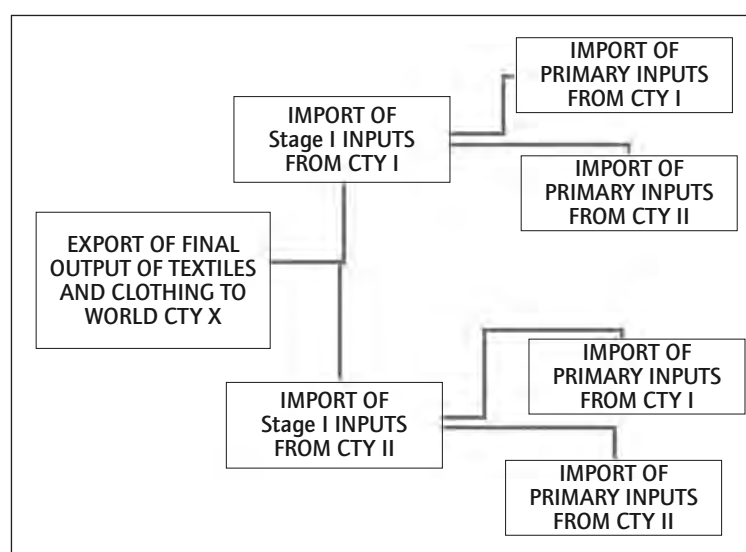
other three countries are reported. If the global imports of a primary input are greater than US\$100,000, the country is identified as a potential importer of the primary input. Two countries which export more than US\$100,000 of the primary input are identified. To illustrate, if Bangladesh is exporting 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 final output which is exported by country X;
- Stage I inputs which are imported by country X from two other identified countries (Y and Z); and
- 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 is illustrated in Figure 5.1.

Figure 5.1. Constructed potential supply chain in the textiles and clothing sector



Using the above methodology, supply chains have been identified for Bangladesh, India, Pakistan and Sri Lanka at HS 6-digit codes. The trade matrix used for identifying the potential exports and imports is constructed using three-year averages (2005–2007). The data source used for the study is COMTRADE (in World Integrated Trade Solutions). To avoid the selection of any product for which there may be exports or imports due to transshipment in a few years, the trend in 2000–2007 in imports and exports is also examined for each of the identified products. Products which are selected in the supply chain either as final products or potential stage I or primary imports that do not show a consistent trend are deleted from the supply chains.

Thus, the supply chain identifies the final output to globally exported by a country, two countries that can provide the stage I inputs used in production of the final output and two other 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 stage I and primary inputs into yarn or fabrics are then identified.

Though the capacity to supply inputs exists within south Asia, the import may be cheaper from other countries. To take this into account, the export unit values have been reported of all south Asian countries, together with the export unit values of the major global exporter of the product to the country.

Furthermore, for some products, only two-stage supply chains could be formed. The two-stage supply chains have been identified for all the four countries, together with the final output to be exported to the world and stage I inputs to be imported. Two possible countries have been identified from which stage I input can be imported. The export unit values of all south Asian countries that have global exports of more than US\$100,000, indicating some supply capacity, are reported.