

Eco-friendly products extended to textile and apparel products

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The textile sector is the most important manufacturing sector and has the longest production chain, with inherent potential for value addition at each stage of processing, from cotton to ginning, spinning, fabric, dyeing and finishing, made-ups and garments. The sector contributes nearly one-fourth of industrial value-added and provides employment to about 40% of industrial labor force. Barring seasonal and cyclical fluctuations, textiles products have maintained an average share of about 60% in national exports.

Today textiles and clothing trade accounts for nearly 6% of total world exports. Many of the least developed and small developing countries have built a huge dependency on the sector which often accounts for more than 90% of industrial exports and more than 50% of total employment. With increased global competition, many sectors within the textile industry are increasing production efficiency.

In recent years the usage of natural dyes and colours for fabric dyeing has witnessed its revival due to the hazardous effects of synthetic dyes and chemicals. The natural dyes are eco-friendly, harmless and non-toxic. In addition, there has been an increasing focus on the use of renewable sources of energy in the textile and apparel industry.

These dyes may be absorbed through the skin with prolonged contact. There is growing concern about going green and consumers are increasingly inclined to choose products which are non-toxic and cause no harm to either humans or the environment.

Table 1: Import of Chemicals in Pakistan
Value: US \$ Million

Year	Organic	Inorganic	Total
2012-13	2,016	523	2,539
2013-14	1,931	391	2,322
2014-15	1,997	514	2,511
2015-16	1,864	520	2,384
2016-17	2,116	427	2,543

Source: State Bank of Pakistan Annual Reports.

Table 2: Export of Finished Textile Products

	2012-13	2013-14	2014-15	2015-16	2016-17
Knitwear (Hosiery)	2,043	2,294	2419	2,364	2,361
Readymade Garments	1,800	1,900	2101	2,195	2,319
Towels	770	767	781	903	800
Bed Wear	1,785	2,138	2095	2,014	2,138
Total	6,398	7,099	7,396	7,476	7,618

Source: State Bank of Pakistan Annual Reports.

This growing interest in eco-friendly products has been extended to textile and apparel products, particularly those products which directly come into contact with the skin for prolonged periods. Finishing operation entails production of finished textile fabric from greige goods. Finishing operations are predominantly wet operations requiring large amounts of thermal energy for water heating and drying as well as dyes and chemicals.

Import of dyes and pigments

The dyeing is the process of imparting colours to a textile material through pigment. Dyes are obtained from flowers, nuts, berries and other organic sources such as vegetables and plants, as well as animal and mineral sources. These are known as natural dyes. The other class of dyes, synthetic dyes, are based on a particular type of chemical composition.

According to a market research report on Textile Printing, Asia Pacific represents the world's largest as well as fastest growing region in textile printing. The Asia Pacific accounts for more than half of the world's textile printing production with China and India, the two most populous countries in the world.

In recent years, there has been quite a significant focus on sustainable and eco-friendly practices, particularly in the manufacturing sectors. Many chemicals used in the textile industry cause environmental and health problems. Some of these problems occur during the production process, with respect to emissions or occupational health problems. Other problems caused by these chemicals may also appear due to traces of harmful chemicals in the final product.

However, worldwide environmental problems associated with textiles are typically those associated with the water pollution caused by the discharge of untreated effluent and those because of the use of toxic chemicals, especially during processing. These chemicals can harm the consumer if retained in the fabric. The import of various types of dyes and pigments in Pakistan decreased from Rs 22.9 billion in 2015-16 to Rs 22.8 billion in 2016-17.

Import of chemicals

With increasing global awareness regarding the issues of environment and pollution, improved environmental performance has become a major factor in the dynamics of the world markets, and successful businesses around the globe are striving to achieve the goals of responsible environmental behaviour. To enhance and sustain the textile exports of Pakistan it is essential to address the associated environmental problems on an urgent basis. The new regime of international trade under the World Trade Organization (WTO) demands that the production of textile products should comply with local environmental standards. Import of organic and inorganic chemicals in Pakistan increased from the US\$ 2.32 billion in 2013-14 to the US\$ 2.54 billion in 2016-17, thus showing an increase of 10%. Imports of organic and inorganic chemicals in Pakistan can be seen in Table 1.

Enzymes are widely used in the textile industry owing to their eco-friendliness and suitability of application on different substrates under varying application conditions. The enzymes are now considered to be an integral part of almost every wet processing step of natural fibres, ranging from fabric preparation to the garment finishing. Enzymes are part of 'White Biotechnology', which is aimed at practising environment-friendly applications and using renewable resources.

The global market potential of enzymes for textile application is estimated to be about US\$ 150 million having CAGR of about 3%. The enzymes market is to exceed US\$ 9.5 billion by 2024. The growth rate is envisaged to increase further depending on the changing fashions in 'garment finishing' and the growing awareness of eco concerns demanding greener processing.


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Processing of textiles

The textile processing is one of the value-added, export-oriented and labour-intensive sectors of Pakistan. The exact number of factories, having high-speed rotary textile printing and processing units is not documented in Pakistan. However, most of the available units working on high-tech machines are owned by big industrial and commercial groups.

The current trend is for the establishment of air-jet looms units, open-width processing units and printing of fabrics with 'rotary' screen printing machines, the further investment made for the import of latest digital printing machines and machinery for bleaching, dyeing, printing, and finishing.

According to the estimates, textile finishing industry has almost 731 units; the majority is independent and complementary to the weaving industry. About 650 independent processing units are working in Faisalabad, Gujranwala, and Karachi, in which about 50 integrated units have complete finishing facilities.

Exports of textile finished products

The export of finished textiles products has been expanding since 2000. Worldwide governments and businesses respond to consumer preferences for ecologically friendly production and consumption and therefore, set and

impose environmental standards. Thus, even the goods currently being exported are subject to increasing expectations to meet stringent environmental standards.

Pakistan's exports of textile finished products rose by an average of 4% to US\$ 7.618 billion in 2016-17 from US\$ 6.398 billion in 2012-13. Exports of readymade garments grew 6% to US\$ 2.319 billion from US\$ 1.80 billion, and of knitwear raised 3% to US\$ 2.36 billion compared to US\$ 2.04 billion in 2012-13. Since many of the countries that enjoy the GSP status do not fall in the GSP Plus group, Pakistan in a position to export more of its products to the EU on low duties. Export figures for textile finished products from Pakistan are given in Table 2.

Challenges to overcome

The Pakistani textile industry is facing challenges due to social and environmental compliance issues with US and European buyers. The impact of environmental regulations on the textile sector of Pakistan can be classified according to many parameters. However, the major area of concern for the textile processing sector is wastewater. During the past few decades, the awareness regarding environmental problems has increased considerably and has become an important issue in the textile trade due to increasingly stringent environmental and health legislation. The environmental policy is also becoming increasingly influenced by market forces.

The textile industry of Pakistan has the inherent advantage of being the fourth largest producer of cotton in the world with a huge potential to further increase crop yield. For the success of any export-led industry, the availability of basic raw material is a key factor in reducing the cost of doing business. The textile value chain consists of multiple industrial subsectors. The value chain is quite long, starting from cotton picking to the creation of a finished garment of the latest fashion. The end product of one sub-sector is the raw material for the other. Each sub-sector in the value chain contributes to value addition and employment generation.

In view of the anticipated competition with rival countries, efforts are being made to make textile and clothing sector more dynamic and competitive as per targets set in economic growth framework strategy. To sustain its position and increase its share and to move into high value-added products, that is environmentally friendly and yet sustainable in this highly competitive global scenario.

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