

# Sustainability and the apparel industry

## Sustainability, its concept and the nature of sustainable development

The wisdom of God Almighty required that He make the earth the center of human life, as He provided it with all that man needs, including plants, animals, air, water, and other necessities of life. And this doubled the human effort to achieve development and a decent life for the inhabitants of this world, which resulted in damage to the natural environment, which led to a global movement to study the features of modern life by specialists, to avoid those damages and achieve continuous development for all, so sustainable development appeared, which is one of New global concepts in the twentieth century and beyond. It is a broad concept with many dimensions and levels. It is also one of the newly developed concepts as a new development philosophy, as it resulted from international efforts to overcome the problems facing the world. Developed and developing countries have adopted the principle of sustainable development to preserve systems and support life, and ensure the availability of a healthy environment, to advance progress and prosperity, believing in its importance and necessity, which necessitates a multi-faceted practical approach to achieve a qualitative social and cultural shift for societies, with the relentless pursuit of all that is possible. It would achieve well-being for humans, and the continuation of this well-being for future generations. Sustainable development is a new term that is not one of the common and familiar words. Therefore, it has recently received increasing attention from international institutions and the research community, so several concepts and uses of sustainable development have emerged.<sup>1</sup>

Sustainability was defined as everything that leads to an integrated human life, present and future, within a civilized framework that preserves and develops the environment.<sup>2</sup> Sustainable development is the process of developing land, cities, communities, and businesses, provided that they meet the needs of the present without compromising the ability of future generations to meet their needs.<sup>3</sup> Sustainable development depends on long-term strategies for developing and preserving resources, as environmental resources belong to successive generations and have the right to benefit from and exploit them without the limit of waste and depletion. Sustainable development is the formulation of systems and procedures related to economic, financial, commercial, energy, agriculture and industry aspects that lead to economically, socially and environmentally sustainable development. To a new technology that is cleaner, more efficient, and more capable of saving natural resources, in order to reduce pollution, help achieve climate stability, and accommodate growth in population and economic activity (Qitaf, 2012). From the foregoing, it is clear that sustainable development should not result in destruction and depletion of natural resources, that it respects environmental systems, that it leads to human development in all aspects of life, and that it contributes to the transformation and change of traditional production and industry patterns in addition to consumption patterns, and the preservation of the rights of future generations.<sup>1</sup>

## Sustainability in the garment industry

The clothing and textile sector is one of the most important industrial sectors and the most powerful in shaping the economies of

Volume 8 Issue 6 - 2022

Shadia Salah Salem

Professor of Garment Manufacturing Technology, Department of Fashion and Textile, King Abdul-Aziz University, Saudi Arabia

**Correspondence:** Prof. Shadia Salah Salem, Professor of Garment Manufacturing Technology, Department of Fashion and Textile, King Abdul-Aziz University, Saudi Arabia,  
 Email [sssale@kau.edu.sa](mailto:sssale@kau.edu.sa)

**Received:** December 08, 2022 | **Published:** December 19, 2022

the world, as it is the fifth largest industrial sector in the world, and it is responsible for employing millions of workers around the world, as the size of the economies of this sector is the sum of the economies of the automotive and aviation sectors together around the world. To this industry, starting from the first point in the supply chain where the production of raw materials involved in the industry and ending with the delivery of the commodity to the final consumer, we will find that this sector is the largest ever in energy and water consumption after the construction sector and the agricultural sector, and even after the consumer begins to use These commodities, the washing and ironing operations consume a large amount of energy and water, in addition to that the disposal of clothes after their use is also a drain on the resources of this world.<sup>4</sup> Therefore, the importance of sustainable fashion emerged, which is “the processes and applications of fashion that will produce apparel products that maximize positive impacts and minimize negative impacts in the environmental, social and economic aspects along with their supply chain and value.”<sup>5</sup>

Among the areas of sustainable fashion that the researchers reached are what is known as sustainable design, green design, and eco design. The researchers concluded that maintaining sustainability in the fashion industry cannot be complete without being Design is the focus of the process, as design influences the selection of materials and the planning of production and distribution processes on consumer decisions.<sup>6</sup>

Sustainable design or green design is defined as: “a design whose processes and multiple aspects are linked to the impact of the final product on the environment”<sup>7</sup> Sustainable design also means design practices taking into account the rationalization of energy and environmental pollutants, the exploitation of renewable energy, and a focus on recycling or reusing raw materials.<sup>8</sup>

## Sustainable design and its relationship to fabrics

It is an interaction between the design of fabrics using an interconnected chain that follows a scientific curve to begin with, employs economic challenges, develops quantity and quality, exploits various technological and environmental opportunities, and opens new horizons for the textile and fashion industry. As for the term sustainability through design in its contemporary sense, it is based on the design (fabric design) being prepared to achieve the functional aspect, whether it is clothes, furnishings, or others, as well as having a long life span, and that the design achieves the highest rates of energy

supply (lighting, heating, cooling, Connection, etc.) and be able to achieve self-sufficiency in energy, and that the design is compatible with any future modifications, and that the design avoids health damage to the body or the internal environment (interior design), as for fabrics, the best choice is made for them with an attempt to use renewable fabrics and the use of durable materials Choosing energy-saving materials, encouraging the use of recyclable materials, and rationalizing the consumption of natural resources (cotton, silk wool), which means reducing consumption, as well as achieving the principle of human design that focuses on creating a comfortable and healthy environment for humans through the exchange of influence between humans and the natural environment.<sup>9</sup>

## Sustainability in textile design

Sustainability in textiles refers to any method used to produce textiles or to treat them in the most environmentally friendly way. Textile production has several methods that vary in means of modifying production to make it less harmful to the environment, such as the production of a cotton shirt. The stages of manufacturing the fabric used in this cotton shirt, one of the ways to transform the process into a sustainable one and the environmentally friendly methods of shipping the product around the world, how the consumer uses it, and extending the life of the piece before it is thrown into waste centers.<sup>9,10</sup> Thus, most industries in the world have become increasingly interested in defining the controls and requirements in order to reach cleaner production, and what is meant by production that preserves the environment and then preserves human life, as the garment and textile industry was at the forefront of industries as a vital and indispensable industry, as it meets Basic needs of human needs, which is the need for clothing, so the concept of (Oeko -Tex) appeared.<sup>11</sup>

## The Oeko Tex

It is a program developed at the European level to provide guarantee and safety to the consumer, that the materials or textile products around them do not contain elements harmful to human health or the environment, so it is prohibited from using some harmful dyes and auxiliaries, which are included in the processing processes used in Textile production, and thus the environmental dimension has become one of the important factors that govern the entry of textile goods or not to the consumer, and not just the consumer's taste. Innovation in the world of fashion in recent years has become not only focused on designing models and colors, but it has begun to take another direction, which is to make fabric yarns contain specifications that allow them to be in tune with the needs of those who wear them. The clothing yard is now smart fabrics with multiple uses.<sup>12,13</sup>

## Acknowledgments

None.

## Funding

None.

## Conflicts of interest

The author declares that there is no conflicts of interest.

## References

1. Al-Zahrani Admired. Sustainable development and its applications. Knowledge Treasures Library, 1st edn. Amman. 2016.
2. Al-Baridi Abdullah. Sustainable development. Riyadh: Obeikan Library; 2016.
3. Sweet Ahmed. Sustainable development. A step for documentation and studies. 2017.
4. Black S. The sustainable fashion handbook. New York; London: Thames& Hudson; 2013.
5. Moon K, Jimmy C, Wai-hon A. Product design scenarios for energy saving: a case study of fashion apparel. *International Journal of Production Economics*. 2013;146(2):392–401.
6. Shen B. Sustainable Fashion Supply Chain: Lessons from H&M. *Sustainability*. 2014;6:6236–6249.
7. Koehler Karen. The solar house: pioneering sustainable design. By Anthony Denzer. New York: Rizzoli, 2013. 2014;3:303–306.
8. Abdou. Entrances to environmental sciences in the third millennium and their impact in the field of industrial design. *International Design Journal*. 2014;4(2):41–51.
9. Al-Ani Hind, Twigg Ali. Sustainability of smart fabrics in the designs of the interior environment. *Journal of the College of Education for Girls for Human Sciences*. University of Kufa. 2017;11(20):326–357.
10. Ibn Hillel Naglaa, Ibrahim Abeer. Reading the cultural and artistic dimension in the Sadu craft and linking it to conceptual art and sustainability. *International Journal of Educational and Psychological Sciences*. 2020;48:122–145.
11. Bakri Manal. Clothing and health in the twenty-first century. World of Books, Cairo; 2011.
12. Shehata, Shaima Mustafa Ahmed Mohamed. Using environmentally friendly materials to achieve sustainability in the garment industry. *Journal of Architecture, Arts and Humanities*. 2020;22:174–157.
13. Bushengir Iman, Harvesting Layla. The role and importance of technological innovation in creating a competitive advantage: towards achieving sustainable development. *Journal of Studies and Research*. Zayan Achour University. 2012;4(7):29–48.