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Development Horizons for Textile Industries Present and Future

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In Syria we have an old Roman proverb saying: "All roads lead to Rome." I say that it is more important now to choose the road that gives us the shortest time, low cost, convenience, safety and economic feasibility. This applies to all our activities and plans to achieve specific goals. This is also the case for the textile industry at the global level.

For my part, I believe that the development, investment and future prospects of this industry provide successful opportunities in a wide range of fields such as: cotton picking and ginning, sheep, silkworm breeding, natural and industrial fibers, harvesting and extracting bast, plant leaves and metal fiber, spinning and their preparations of all kinds, weaving industry and their preparations, tricot production, carpets and velvets production, technical textile, apparels Industry textile marketing , textile recycling etc.

To develop the textile industry I think it is useful for Officials and stakeholders of textile science and engineering, to take into account many aspects, including:

1)Providing the appropriate environment and strong incubator of creativity and invention from the idea to the product distributed to the consumer and also the interested parties and sponsors and support. Focus on the emerging ideas of the young generation, is one of the most important factors of technological progress in all areas in general and textile sector in particular.

2) To direct and finance scientific research to secure new sources of natural and industrial textile raw materials and to secure security and stability in their current production areas. Many of them have been out of service because of the long wars that have taken place in the countries of cotton growing, sheep raising and natural silk, such as Syria, Iraq, Arab Spring countries and Afghanistan.

3) Optimal investment of natural resources in textile industries, such as renewable energies such as solar energy, wind power, waterfalls etc.

4) The continuous pursuit of continuous improvement and improvement in all areas and textile activities using the Deming Cycle, or PDCA Cycle ,which is a continuous quality improvement model consisting out of a logical sequence of four repetitive steps for continuous improvement and learning: Plan, Do, Check and Act., The fishbone (Ishikawa) diagram, Total Quality Management Systems (TQM), Quality Management Systems (QMS) ISO 9000 standards, Environmental Management Systems (EMS) ISO 14000 standards,, Eco-label and their implementation in Textile Industry and their techniques, and the integration between this International Systems.

5) Enhance understanding, organizing, developing the Textile Industry and their techniques, and full benefit of research outcomes and invention.

6) The tendency to produce new machinery, equipment and technologies for the textile industry that provides the highest quality and the lowest cost and sustainable and environmentally friendly.

7) Training and continuous rehabilitation of human resources in textile factories on the use of integrated management systems in the textile industries such as industrial organization, project management, environmental management systems, quality, occupational health and safety, industrial safety, environmental quality, quality assurance and calibration in the examination laboratories and others.

8) The establishment of integrated complexes projects for the textile industries in the developed and developing countries, especially Syria according to the type of textile raw materials. For example, an integrated industrial complex for cotton textile products may include the following activities: "Cotton gaining, spinning, weaving, dyeing, printing and clothing " Textile of woolen and industrial products, in order to secure hundreds of thousands of jobs for the younger generation. For example, in Syria, under a plan of up to three years under the program of reconstruction of Syria. Syria will re-establish its position in the international market for textile products. You will need to combine efforts to restore the situation better than before the global war on Syria. We will not start here from scratch, but we have to start from scratch and time and cost to remove the rubble and debris from the unjust war that has been going on in Syria for seven years.

9) The textile industries in Syria were mostly destroyed by the unjust global war on Syria, which began seven years ago, from agriculture to industry and related services of all kinds, public, private and joint. Will the countries that have been blessed by technology and material resources provide material and machinery to invest in this ancient country?

10) Nanotechnology is an area of science and interdisciplinary knowledge aimed at exploiting the materials, equipment and methodologies in which the dimensions of their active materials are within the lengths of particles and wavelengths of visible light. It is expected that the subjects entering this knowledge space will be broad, Using materials to achieve modern technologies such as molecular systems, machines and equipment.

At the beginning of the twenty-first century, three technologies, all at the nanometer level, were applied: nanometric, electronometric and nanotechnological applications all under the name of nanotechnology. Nanotechnology represents the science and technology of the design, construction and application of nanoparticles. This material acquires

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excellent materials alongside high quality and performance Distinct with minimal flaws if compared to the material in its normal total size.

Nanotechnology is a modern scientific industrial revolution that is now being addressed by all the countries of the world, especially the United States of America, Japan, China and the European Union countries, and adopts hundreds of applications for the production of ultra-rigid light nanometer materials and complexes, nanomicrobial particles and nanometer-based crystals.

Other universities and research institutions in other countries have adopted many research projects in various areas of nanotechnology, and have made substantial contributions to building a scientific base for nanotechnology. They have also adopted many scientists and a large number of experts from all over the world.

Nanotechnology is a technological scientific revolution aimed at controlling the material at lengths of 100-100 nm. This scientific revolution will change the countries of the world at the same level as the scientific and civilization revolution of electricity and computer. It proved that the material varies its properties by decreasing the sizes and lengths of its particles. New properties that are completely different from their properties at larger levels. This property has enabled the material to open up new horizons for the development of materials and equipment in highly diverse application areas and will have enormous implications for almost all industries.

11. Expanding the production of environmentally friendly fibers: Special strains of *Acetobacter xylinum* bacteria are used in the production of environmentally friendly natural cellulose. These bacteria produce precise cellulose threads in a manner similar to the spider's spinning of its threads.

Bacterial cellulose is very difficult to dissolve in various liquids, is characterized by its high molecular weight and contains many strong hydrogens. The bacterial cellulose threads intersect in the form of a three-dimensional nanometric network with pores that can be controlled in size. The bacterial cellulose network is used as a bacterial filter to sterilize unwanted components from and easily dispose of them without causing allergies in polluting gases.

12. The textile industry is one of the key industries at the global level, and innovative technologies are urgently needed as an alternative to traditional production processes in order to reduce costs, to practice cleaner production processes and products, and to improve performance and quality.

The research and development activities focus on the application of nanotechnology in the textile industry, including the introduction or creation of nonmetric particles in the textile materials during manufacturing or processing. Therefore, the textile industry has been affected by the introduction of nanomaterial, Nanotechnology, particularly nanoparticles, high-performance nanomaterial, and the production of nanomaterial to help fiber.

The processing of textile fibers using nanotechnology makes these fibers positively affect their surface such as attracting water or expelling water and providing textiles with other functional properties such as durability, improved electrical conductivity and resistance to static electricity, fire resistance, ultraviolet protection and high durability.

The nanoscale treatment of nonwoven fabrics makes them a protective shield against ultraviolet radiation and a very high resistance to bacteria, with stability for washing.

Self-cleaning cloths can also be produced by forming a very thin film of nanometer titanium oxide that helps break down and remove substances of dirt, odor, bacteria, colored stains, harmful organic matter such as formaldehyde and carbon compounds with the help of sunlight and other sources of ultraviolet radiation.

One of the most important applications of nanotechnology in the textile industry: military clothing made of smart and medical textiles, camouflage and tents, sportswear, underwear, fabrics and overlapping materials, protective clothing to protect against chemical and biological hazards, medical textiles and tissue engineering, Functional and comfortable garments, functional equipment, high-performance nanomaterial's.

From the above we note the great task placed on the workers in the textile sector to secure the growing human needs of various textile products and services. Let us join together in the various fields of good, peace, security, safety and happiness for the welfare of the peoples of the world.

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