

ITMF Awards 2022 Application

Mahmood Group of Industries – Pakistan

Category 1: Sustainability & Innovation

- Executive Summary

The group, since its inception, has been revolutionizing and transforming its framework to keep at par with the global market. With the inculcation of innovation and digitalization at all levels, Mahmood Group strives to make a smooth transition to a carbon neutral textile production.

MG has maintained a strong sustainability framework even during the challenges presented by the pandemic. The group acted proactively and tackled issues related to social and environmental issues. With its increasing investment in renewable energy and raw material conservation techniques, Mahmood Group has actively shifted its focus to achieving sustainable supply chains operated within an efficiently working infrastructure. One of the main issues remained the costs associated with cotton production and use. A single kilogram of cotton fiber requires up to 20,000 liters of water while its yearly production yields up to 220 million metric tons of carbon emissions. With global companies like World Economic Forum predicting climate action failure as the top global risk of the next decade, the time for action was passing by.

The solution to persisting issues within the industry was a shift to circular economy and incorporating operational recycling and reuse. In every step of the manufacturing process, ranging from spinning to weaving to stitching, the practice was recycling was initiated. Realizing the importance of dispelling the 'take-make-use-dispose' mentality, MG drafted a methodology of reusing existing raw material waste while looking for sustainable alternatives to textile inputs such as cotton and virgin polyester.

The methodology included backward integration to farms, addressing environmental costs linked to farming practices. The aim was to not only introduce cleaner, sustainable practices from the source, but also bridge the gap between farmer and manufacturer. The second step was to address inefficient SOPs within the production unit, to not treat leftovers as waste but as additional inputs, resulting in maximized yield from the same amount of raw material. The results of such changes would be multifold. The reduction of operating cost due to decrease in energy and water use would be apparent in the short term, but the long term impact of better farming techniques and integration of recycling should greatly benefit the environment and put us on track to a cleaner future.

While addressing concerns related to cotton is being continually dealt with, another plan also is in the pipeline. To counter the growing plastic pollution and utilize the immense potential for plastic recycling, a PET bottle recycling plant is currently in the financial feasibility assessment phase. With its approval and eventual execution, MG hopes to replace virgin polyester with its recycled alternative. Reducing not only the plastic impact but also the high energy costs and depletion of finite resources, associated with virgin polyester production.

- Participant Biography

Muhammad Anees Khawaja – ceo@mgapparel.com

Address: MG Apparel, Plot # 94, 95 & 96, Industrial Estate, Multan, Pakistan.

Muhammad Anees Khawaja joined Mahmood Group of Industries in 2003 as a member of the Board of Directors. Under his leadership and guidance, Mahmood Group flourished with his strategic decision-making w.r.t Marketing, BMR, Production, Administration, Audit, IT, and ERP. All these efforts bore fruit and Mahmood Group became the top 10 exporters of Pakistan. For the past 86 years, Mahmood Group has been a pioneer in multifaceted contributions to Pakistan's textile and agricultural industry. Mr. Anees is a firm believer in the efficient use of new operational techniques that not only helped the group to enhance its productivity as a textile house but also made it amongst the top 5 largest textile groups of the country. It is also one of the largest consumers of Cotton Farming and Cotton Ginning making it extend its expertise as an entire value chain- from farm to finish.

His academic background and expertise have been acquired from the finest business schools worldwide. After his MBA, he polished his skills by studying Financial Management and Risk Analysis from Wharton Business School, USA. He channelized and sharpened his inner strategist and attended Harvard Business School, the USA for a global understanding of Strategic Management in organizations. He strongly believes that his exposure to personal development and inspiring entrepreneurial growth has been enhanced during his time at the London School of Economics and London Business School, UK. For the past 5 years, he has been an active member of the ICA- International Cotton Association and various other committees that have sworn to take concrete measures in streamlining the production and export of cotton. Under his esteemed leadership, the most recent collaboration has been with HBL, which launched a Cotton Farming Initiative to facilitate cotton production via sustainable practices over 1000 acres in Balochistan with the help of agronomists. He plans to expand this initiative for over 10,000 acres in the future.

A collaboration with WWF has also been initiated that aims to carry out Organic Cotton Farming over 10,000 acres as well. From 2018 to 2020 he was actively engaged in a special task force under the PM reform unit. Simultaneously he has been keenly investing in startups that are accelerating the Digital Ecosystem of Pakistan and specifically in Agri Techs & Warehousing. He is an environmentalist through and through. Over years, Mr. Anees has taken some radical measures to introduce and apply eco-friendly business practices. It was his prerogative to shift industries under his leadership to solar energy. He has also emphasized a circular economy to maximize recycling and reusing materials to reduce waste. He has joined Net Zero Pakistan to reduce MG's carbon footprint and bring CO2 emissions to zero along with carrying out rigorous tree-plantation drives to make the planet greener.

There is a strong urge to give back to society and channel that he has undertaken many social and CSR projects representing Mahmood Group at various platforms in education, health, clean water initiative, and a greener environment. He has made untiring efforts to empower and facilitate women. In his project MG Apparel, he has ensured a 75% women workforce to create more employment opportunities for women. MG Apparel has been created with a vision to have a sustainable and inclusive business entity that prioritizes ethical manufacturing of world-class apparel whilst ensuring all business practices remain environment-friendly.

He is a strong advocate for eradicating gender inequality and promoting a just working environment. He is also a staunch supporter of women-led organizations and businesses like GBGFL. Other than Mahmood Group, he has been representing Pakistan as a panelist and has spoken at various events globally. He loves to run and enjoys playing football & cricket.

He is currently holding the following responsibilities:

- Director Mahmood Group | Mahmood Textile Mills Limited.
- CEO MG Apparel
- Founder & CEO – GroundUp & WHA House Avenue
- Vice Chairman –APTMA (P)
- Chairman PIEDMC (Punjab Industrial Estate Development and Management Company)
- Member/Convener –SVC Cotton – SVC APTMA Multan Region
- Director MG Agri Private Limited.
- Director Adam Jee Insurance Company Limited.
- Director PSW (Pakistan Single Window)
- Director Multan Solid Waste Management Company.
- Director Our Sun Private Limited.
- Chairperson- South Punjab Cricket Association.
- Member Pakistan Business Council (PBC).
- Executive Member ICA (International Cotton Association).
- Member - ITMF (International Textile Manufacturers federation).
- Member EDF (Export development funds Islamabad).
- Member – IMS Bahuddin Zakriya University.
- Partner – walled city Co.

Has been:

- APTMA (P) Senior Vice Chairman. 2 Years.
Vice Chairman 1 Year.
Chairman Cotton Committee
- D.G.K.CC&I. Executive Member Chamber of Commerce & Industry, D.G.Khan.
- Director MEPCO.
- President APBUMA (All Pakistan Bedsheet and upholstery Manufacturers Association.).
- Executive Member MCCI (Multan Chamber of Commerce & Industry).
- Ex. Director Multan Solid Waste Management.
- Ex. CMC member APTMA.
- President (Multan District), Business Forum Punjab.
- Director Masood Spinning Mills Limited.
- Director Punjab Social Security Health Management Company, Lahore.
- Chairman of BOD – Punjab Social Security Hospital, Muzaffargarh.
- Involved with board in Danish School Basera (Turkish school) and BZU Multan.
- Member Punjab vocational Training Council Multan
- Director DG Khan Solid Waste Management.

Description of Exceptional Achievements

Considering the global need to act on Sustainable Development goals and ensure responsible production and consumption of raw materials, Mahmood Group ventured into resource recycling to not only take a step towards circular economy for a sustainable future, but also actively work towards conserving the finite resources available on this planet. Since the group operations are primarily focused on the manufacturing of cotton into yarn and eventually into apparel, the initiative undertaken started with cotton recycling within the facility. The activity extended to all operations currently part of the group, with over 300,000 spindles and 1000 looms with a consumption of 550,000 cotton bales per annum. Ranging from spinning and weaving to stitching, with 15% of cotton and fiber waste being recycled. This reduces dependency on raw materials and offsets the harm done by their increased cultivation and extraction. It is important to note that MG is also focusing on backward vertical integration, to branch out into cotton farming so the recycling and conservation can be extended to farming practices as well. For our annual needs we need at least 300 K acres of cotton to be cultivated, with best use of modern techniques and resultantly optimizing farms production (estimating at least 20% increase in production).

The aim here was to not only minimize waste as a result of recycling but to also restrict the amount of utilities and resources consumed during production. Textile industry remains one of the most notable worldwide contributing to an influx of greenhouses gas emissions, so while addressing this inherent issue does we have already converted 10 % of our energy resource to renewable energy hoping lot more. Conventional practices from farm to garment are also being worked out to identify losses and solving issues step by step in getting more sustainable as well as promoting mass recycling within operations.

To delve into the details, the purpose was multifold. Recycling and reuse of cotton would not only reduce the total amount used but also have a direct impact on both financial and environmental costs. Less cotton consumed would result in less amount of water and energy used, which would minimize the amount of carbon emissions expelled as a result of operational activities and also for surplus in budget. In line with this, Mahmood Group looks to expand towards cotton farming and initiate implementation of sustainable practices from the ground up. Currently, the world average of water consumption remains 9,000 liters per kilogram of cotton fiber, however Australia has reduced the amount to approximately 2,400 liters per kilogram of cotton fiber. Taking inspiration from their achievement, MG also aims to exercise efficiency by reducing losses in process and using best modern techniques.

The operating procedures were modified to incorporate the recycling and reuse of cotton. In all spinning facilities the waste was run again through the spinners to yield maximum yarn out of a fixed amount of raw material. The focus to increase sustainability encompassed over both the product and process. With the process, MG assures efficient use of raw materials while minimizing dependency on energy and other utilities. Whereas with continued backward integration and growing emphasis on sustainable farming practices, the sustainability of product is also achieved. It is important to note that reuse and recycling extends beyond the operational process to the apparel as well. Scraps that are discarded in the stitching process are also utilized to produce masks, tote bags and other products.

With the implementation of the mentioned plan, MG has reduced up to 5 to 8 % raw material use and a significant 15 to 20 % energy use with recycling and energy efficient machinery. Additionally the integration of 10 % renewable energy has succeeded in minimizing production costs and carbon

emissions. Work is also underway on colored cotton to reduce wet processing water that is estimated to save roughly 50 liters per garment.

Moving on to the Backward Integration to farms, the benefits helping supply chain will be as following;

Activity	Better Management of Mahmood Group	Conventional
Irrigation	12 cycles in 6 months	15 cycles in 6 months
Quantity of water	918.36 m ³	1147 m ³
Seed Rate	6-8 kg	10-12 kg
Pesticide	6 - 7 spray cycles	, 10 - 11 spray cycles
Fertilizer	25 % can be saved by adopting:	Excessive use of chemical based fertilizers
	Use Against soil test report	
	Use of FYM, fermenter and other techniques lower the chemical based inputs	
Harvest	Clean & quality pick training	Trash mixed, high moisture content and low quality fiber plus work load in spinning

Motivated by the successful integration of reuse and recycling in the facility, MG has put in place plans to install a PET recycling facility as well. Currently at the financial assessment stage, PET plant will be a significant step forward in ensuring more sustainable products are used in manufacturing. The aim being to replace current consumption of 15 TPD Polyester with rPET fiber. Also in implementation stages is the recycling all our group plastic and PET bottle waste to pallets and packages (from all manufacturing processes) replacing use of paper. Advancements in finding working alternatives to limited raw materials would greatly benefit the environment and ensure a cleaner future for all, as it is imperative to realize that responsibility does not lie with one entity alone. Shift towards a complete circular economy requires collective action and continued innovation, something that MG is deeply committed to.