Reuse and Recycle of Fabric in Textile Industries

Terms of References (TORs) for Consultant

GENERAL:

This document contains Terms of Reference (TOR) for the Consultant, to be engaged by WWF-Pakistan (hereinafter called the Employer), for implementation of “Reuse and Recycle of Fabric in Textile Industries” (hereinafter called the Consultancy).

OBJECTIVES AND SCOPE OF THE STUDY

The past two decades have witnessed increasing attention being paid to the environmental impacts of the textile industry. Resultantly textile manufacturers are now moving towards manufacturing processes which put less stress on the environment. The fashion, apparel and textile sector has a significant impact on planetary systems. It ranks amongst the world’s most polluting industries, while in 2015 the sector was responsible for the consumption of 79 billion cubic metres of water, the emission of 1,715 million tons of CO2 and the production of 92 million tons of waste. Under a business-as-usual scenario, it is estimated these numbers will increase by at least 50 per cent by 2030. In order to tackle these challenges, reuse and recycling of pre and post consumer textile waste are one of the most economically and environmentally friendly options. This consultancy service will assist a maximum of two textile industries in textile waste reuse and recycling to reduce their carbon footprint.

- Recycling in the textile industry is usually done by breaking down the PET bottles into crush and then into fibre. Since reuse and recycling in the local textile industry is unregulated and fragmented hence these are not tested or certified. Resultantly, the end product holds less market value. Export oriented industries often buy recycled fibre from local industries and utilize it after getting it tested and certified. This way, the local industry producing the recycled fibre makes less money per unit of the product as compared to if they had the product certified.
- The Consultant will shortlist the textile industry (one or more) in which the reuse and recycle of textile waste is taking place already. The selection will be done by the mutual consent of the Employer and the Consultant.
- The Consultant will be responsible for securing the consent form or legally-binding document, signed between the Consultant and industry.
- This assignment will focus on the testing of the entire recycling process including the procurement of raw material, processing and the formation of the finished product (fibre or yarn). The testing will be done by an EPA/PNAC certified laboratory. This will be done to check if from raw material onwards hazardous materials are recycled within the product or not.
- The environmental footprint (water, energy, chemicals) of the recycled fibre will be calculated throughout the process and will be compared with the footprint of the fibre if it was prepared from the non-recycled material. For example energy meters will be used to determine how much electricity is being consumed if the product is made from recycled material as compared to if it was made from raw material.
- Concurrently the Consultant will be responsible for conducting Life Cycle Assessment (LCA) of the recycled fibre.
- After testing is done, the consultant will be responsible for getting the fibre certified from Pakistan Council of Scientific and Industrial Research (PCSIR).
- The specification for the product formed will be determined. Consultant will get the fibre length tested in order to assess the spinning potential of the fibre so that fabric can be made from it
- Consultant will be responsible for determining the market for the existing recycled fibre and if it is certified, how will the market expand
- For reuse of the textile waste, the consultant will enlist the fabric waste generated in an industry. It will also include the details of the product formed by reusing the fabric. For reuse of the textile waste, the environmental footprint (energy, water, chemical) will be calculated and compared against the footprint of the product if it was produced from scratch.
- Concurrently the Consultant will be responsible for conducting Life Cycle Assessment (LCA) of the reused fabric.
- Recommendations will be given by the consultant to further reduce the impacts of recycling and reusing of textile waste.
- The consultant will also conduct the cost benefit analysis of the recycled and reused textile waste.
- Consultant will also include pictures of the reused and recycled fibre and fabric supply chain (from raw material to finished fibre/product)
- Consultant will provide recommendations to further improve the recycling and reuse process of the fibre and fabric.

**Deliverables:**

- Final Report of the entire consultancy process
- Testing reports
- Certification from PCSIR
- 01 LCA of recycled and 01 LCA of reused textile waste

**Time period**

The time period of consultancy is 5 months
Required Qualification and Skills

Must have a Masters in related field, having an experience of more than 10 years on different textile related projects and case studies. The previous work in textile waste recycling and reuse will be an edge.