

# Case Study: Sustainable manufacturing of denims – a focus on raw materials and water

Promoting Responsible Value Chains in India for an Effective Contribution of the Private Sector to the SDGs  
*(PROGRESS Project)*

**Sector: Apparel and Textile**

**Organization: K G Fabriks**



Centre for Responsible Business (CRB) and Aston India Centre for Applied Research (AICAR), Aston University, UK have teamed up to explore and investigate *how private sector companies - as part of Global Value Chains (GVCs), production networks and FDIs in India have/could better contribute towards achievement of specific SDGs, particularly inclusive education and life-long learning (SDG4), employment and decent work for the youth (SGD 8), women’s social and economic empowerment (SDG 5) and sustainable consumption and production (SDG 12).* The generated evidence would be used to influence and support policy and practice (industry) level discussions and actions through multi-stakeholder processes in India, with various industry sectors that are part of GVCs, production networks and foreign investments, but continue to be vulnerable. The project is being undertaken with support from the International Development Research Centre (IDRC), Canada.

This case study has been developed as an example from the Indian apparel and textile sector on the contribution of industry-led initiatives towards some of the SDGs (indicated above).



## Case Study – KG Fabriks

Title of the Case Study	Sustainable manufacturing of denims – a focus on raw materials and water
Nature of Organization	Medium-Scale manufacturer (denims)
Sector Covered	Apparel and textile
Relevant SDG and related targets	SDG 6, SDG 8, SDG 12, SDG 13

### Background and Motivation

KG Fabriks (<https://kgfabriks.com/>) is one of the leading manufacturers in producing sustainable denim in India and aims to create modern and sustainable future for generations to inherit. It was founded in 2005 with the focus of pioneering in ‘wholesome and true some’ sustainable denim manufacturing process. Denims are usually produced with a high intake of water and end up polluting the natural resources, but KG Fabriks produces denims by minimising the use of water and leaving zero solid and zero liquid discharge. The brand focuses on building the sustainable denim model at each stage of its value chain ranging from using the raw materials efficiently to using eco-friendly dyes to recycling the wastewater. It has been recognised through several reputed certifications for promoting green denim, adding the credibility, accountability, and transparency in its business model. The impetus to start implementing CE principles in the organisation’s business model is to bring an environmental and positive societal change.

### Business Model (Details of the initiative)

The center focus of the business model is to manufacture sustainable denim by using their in-house technologies (known as proprietary technologies) with the following steps:

- Cutting down the usage of water by 90%, during the denim manufacturing stage. Example: To make a kilogram of denim, 60 litres of water is used whereas KG Fabriks uses only 6 litres.

- It claims to utilise 100% of cotton and yarn. After fully optimising the use of raw materials (approximately 93% from cotton to yarn and approximately 96% from yarn to fibre), the remains from the manufacturing process are upcycled into gloves, cow harnessing threads, pillow fillings, and other biodegradable industrial fabric.
- At the recycling stage, water from Effluent Treatment Processing Units recycles approximately 96% of used water and the balance is mostly lost due to evaporation. Even the final hazardous sludge left after recycling of water is given to Cement industry because the presence of calorific value in the sludge can be used as an ingredient in the cement.
- It has also acquired the know-how to dye natural plant-based indigo on the slasher machine, thus giving longer lengths with better shade consistency, as against the conventional dyeing of natural indigo wherein very short length of 100 – 200 meters is only possible, under the technology named GRIN technology

## Impact

- KG Fabriks is the only platform which provides sustainable (green) denims produced with efficient use of resources.
- The water saving efforts in their business model has made them win the Indian Government's National Water Awards for two years consecutively.
- They are a composite unit and production of yarn and denim is done in a total of 7 mills within the state of Tamil Nadu.
- It employs migrants and provide them required skillsets to work in the factory. Women contribute 61% of the working capital of 3000 workers. All the workers are provided with bank accounts.
- Moreover, to uplift the workers coming from the remote areas of Bihar, Odisha or South India, they are providing an additional training from the government approved Institution Training Institutes running inside the premises.

## Challenges

Cost involved in inventing of the processes at each stage to produce sustainable denim was most challenging in the start of the business, but it was necessary.

## Road Ahead

They are further researching and working on the post-consumer waste concept to close the CE by starting their own shredding operations and supplying denims retrieved from post-consumer waste.