

Case Study: Alternative raw materials to make textile manufacturing sustainable

Promoting Responsible Value Chains in India for an Effective Contribution of the Private Sector to the SDGs

(*PROGRESS Project*)

Sector: Apparel and Textile

Organization: AltMat



International Development Research Centre
Centre de recherches pour le développement international



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 (SDG 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).



AltMat

AltMat is a materials science and alternative materials manufacturing company. It transforms Agriculture waste into natural fibres and yarns for textiles neatly solving the dual problem of agriculture waste and textile pollutions. Using proprietary sustainable technologies and collaborative supply chains AltMat is scaling the availability and convenience of using the materials of future for lives of today. They envision to engage multiple kind of wastes into production of high value materials using technology and supply chain building.

Case Study - AltMat

Title of the Case Study	Alternative raw materials to make textile manufacturing sustainable
Nature of Organization	Micro-scale textile fibres and yarn manufacturer
Sector Covered	Apparel and Textile
Relevant SDG and related targets	SDG 6, SDG 8, SDG 9, SDG 12, SDG 13, SDG 17

Background and Motivation

AltMat (<https://AltMat.in/>) came into existence through several motivations in the life of the founder, Shikha Shah. It all began at the age of 10 when she visited her father's factory where she witnessed recycling of metals. She was fascinated by the fact that materials could have so much value, even when discarded. From thereon she always wanted to be an entrepreneur and simultaneously dived deeper into the issue of climate change through school projects, textiles supply chain through undergraduate projects and hemp legalisation through master's projects. AltMat is scaling an idea of converting banana, hemp and nettle wastes into sustainable alternate materials and creating a solution for a dual problem of textile pollution and agriculture waste while building circular textile economy.

Business Model

AltMat focuses on providing alternate materials for textiles fibres which are made from renewable resources while drastically reducing the amount of water, energy and chemicals required to manufacture raw materials for textiles. The key products are created through agriculture wastes where it is given a different form through the use of organisation's proprietary technologies. The process results in extending the life of the 'waste' and even helps to close the loop through biodegradable produce. AltMat mostly produces hemp textile fibres, hemp yarns, and fibres for papers, insulation and non-wovens. AltMat's factory is currently situated in Surat.

Impact

1. Agriculture waste is used as a resource to produce textiles and this process promotes the effective use of land by increasing the yield.
2. The process of converting agricultural waste into textile fibre is sustainable as very little water is used as compared to water used in production of other fibres. For instance: 1kg cotton uses close to 15000 litres, however, 1kg of AltMat fibre uses less than 15 litres.

3. The produced fibre can be used as a blend with a number of other fibres like cotton, recycled polyester, lyocell, etc. which helps to execute sustainability in textiles.
4. The primary launched product comes from agriculture waste of hemp and cannabis which further encourages farmers to grow a multipurpose hemp plant. The benefits on the cash crop returns is much higher than most other crops.
5. The agricultural waste is either used to make a low value product or burnt or farmers pay extra money to dispose the waste. However, AltMat buys such materials which creates an additional income for farmers enhancing the livelihood opportunities in rural areas.
6. This initiative also prevents burning of waste which directly prevents air pollution. Instead of burning the material, AltMat keeps the value of material inside the loop while extending its life and eventually stopping a destructive way of disposing them.
7. AltMat is working on making sustainable textiles which are affordable while having a right economic fit through time and resource costs.
8. AltMat is constantly researching on converting agriculture waste into a useful resource/feedstock and sharing the information with their relevant stakeholders to build a marketplace. They claim to be very tolerant towards the production strategy of farmers and accepts the resources/feedstock shared by farmers which are produced according to their own economic models. AltMat uses these resources and creates sustainable textile fibres with the help of their own proprietary technology.
9. AltMat focuses on product design which adds value to the production and manufactures fibres where each stakeholder is comfortable with the product and its sustainable use.

Challenges

1. There is a need for more awareness and education to define what sustainability truly means. Everyone has different understanding of the term sustainability within the supply chain of textiles. Therefore, while dealing with circular economy initiatives, each stakeholder of the supply chain needs to have same understanding of sustainable textiles otherwise it may lead to greenwashing.
2. There are a lot of myths or presence of miss information within the circular textiles such as the fibres are understood as natural fibre, but it is actually a regenerated fibre for instance in the case of Lyocell and chemically recycled cotton.
3. The length of the supply chain also makes it difficult to process the circularity or sustainability of textiles throughout the value chain.
4. There is no large-scale impact measured though any circular economy policies yet in India. However, if done it could have rewarded the innovations under circular economy and motivated to adopt sustainable practices in the business models.
5. There is a need for consumer mindset shift regarding cost of the product. AltMat believes it is not right to compare the sustainable cloth with the cloth produced under fast fashion.
6. AltMat also claims that sustainability need not be seen as an avenue to charge premium by businesses. However, if you have a patent over the innovation, then innovation premium should be charged but not under the name of sustainability.
7. In practice there is a lot of gap between what people envision about sustainability and what people are doing in terms of action. In businesses, the sustainability officers precisely talk a different language of sustainability than the production or operation

managers. Therefore, CEOs and other eminent business officials from operations or production and not only sustainability officers should attend sustainability conferences. Therefore, Sustainability should not be a job description assigned to a separate sustainability division, but should be equally a priority card for Operations, procurement and top management.

8. Lastly, there is lack of public research and development centres in India. The provision of such centres would be beneficial in India which is highly textile dependent economy and encourage innovation in green or circular economy.