

# Mapping the India MSME and Academic Landscape of Fashion and Sustainability

Opportunities for UK and India collaborative innovation towards Net Zero  
emissions and a regenerative fashion system



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## About Centre for Sustainable Fashion

Centre for Sustainable Fashion (CSF), is a University of the Arts London (UAL) research, education and knowledge exchange centre, based at London College of Fashion (LCF). CSF provokes, challenges, and questions the status quo in fashion, contributing to a system that recognises its ecological context and honours equity. It is world recognised in its expertise in the field of Fashion Design for Sustainability (FDfS) research, education and industry practice at large and small scales.

CSF's mission is to engage in participatory design and transformation design practices to act on the climate, societal and personal health and equity crisis in and through fashion; and to develop agency and capabilities in those involved in fashion to critically respond, adapt and transform fashion into restorative practices and cultures.



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# Executive Summary



Urvashi Kaur

## A Shared Problem: Sharing Opportunities

The Fashion and Textile Industry plays a vital role in India's socio-economic advancement. A country with a 5,000-year artisanal legacy, it is the second-largest job creator in the country, second only to agriculture<sup>1</sup>, employing 105 million people, with 73% of the workforce in the handloom industry being women<sup>2</sup>. India's domestic and apparel market contributed US\$ 100 billion in revenues in 2019 and is expected to grow at 12% to reach US\$ 220 billion by 2025-26.<sup>3</sup>

The Indian Fashion and Textile Industry spans micro to mass scale and is one of the top four textile exporters in the world along with China, Vietnam, Bangladesh, and Germany<sup>4</sup>. Indian textile and fashion exports were estimated at US\$ 82 billion in 2021<sup>5</sup>, holding approximately 63% of the global market in these sectors, the UK being one of the top 4 importers.

The fashion industry is one of the UK's defining sectors, world renowned for its creativity, innovation, and retail expertise. The UK creative sector's micro and small to medium sized businesses (MSMEs) make up over 99% of the sector, fashion is worth over £26 billion to the UK economy. Building on its reputation as challenging the status quo, fashion in the UK is becoming increasingly recognised, through its education, designer entrepreneurs and NGO organisations, as a location of innovation in sustainability in fashion.

Whilst India is a hub for fashion production and (increasingly) consumption, the UK is primarily a retail (but also increasingly, a production) economy. The mutual learning that can be identified through the distinctions and connections between the two countries can contribute to the shared aims of net zero and a just transition to a regenerative fashion system. The 2030 Roadmap for India-UK future relations<sup>6</sup> lists Climate as one of its five priorities.

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<sup>1</sup> [Year End Review 2020 - Ministry of Textiles](#)

<sup>2</sup> [2021 - A Year of Game Changing Reforms for Ministry of Textiles](#)

<sup>3</sup> Agrawal et al., Inside View - Annual Report on Textile and Apparel Industry (2020)

<sup>4</sup> [OEC 2020](#)

<sup>5</sup> [Textile and Apparel Industry Report](#)

<sup>6</sup> [2030 Roadmap for India-UK Future relations](#)

### India’s Journey to Net Zero and the Challenges of Global Consumption

Whilst India’s per-capita emissions are amongst the lowest in the world, it is the third biggest generator of greenhouse gas emissions. To address this, India has pledged to achieve net zero carbon emissions by 2070. Although seemingly lacking urgency, the commitment made on 1 November 2021 at COP26, in Glasgow, UK, brings India in line with other emitters, including the United States, China, Saudi Arabia, and Europe. Prime Minister Narendra Modi set the aim for net zero carbon emissions by 2070 and presented five nectar elements ‘*Panchamrit*’ as India’s contribution to climate action<sup>7</sup>. The roadmap for the Indian Fashion and Textile Industry is yet to be completed.

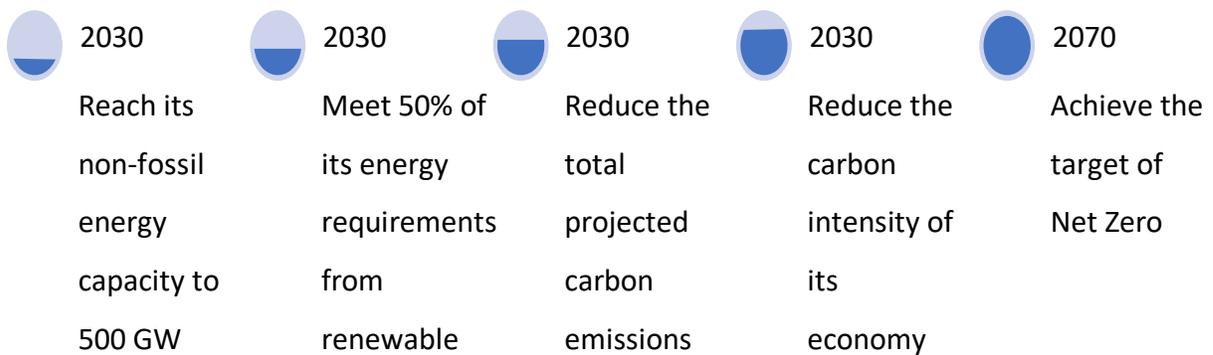


Figure 1: India’s Net Zero Goals presented at COP26.

India and China contribute significantly to the manufacture of textiles and fashion garments, supplying markets around the world, and increasingly, domestic markets. Powered mostly by coal-fuelled plants, fashion is a key contributor to India’s emissions, included in this is India’s position as the second-largest producer of man-made fibres after China<sup>8</sup>. The Indian government has identified the potential economic value of textiles and garments, thereby establishing the

<sup>7</sup> National Statement by Prime Minister Shri Narendra Modi at COP26 Summit in Glasgow

<sup>8</sup> [Ministry of Textiles - Annual Report 2020 - 21](#)

production-linked Incentive (PLI) Scheme (worth US\$ 1.44 billion) for manmade fibre and technical textiles. This aims to boost manufacturing, increase exports, and attract investment<sup>9</sup>. Current world demand for these materials is high, whilst this plan puts pressure on the ability to act on environmental imperatives.

Climate justice is interwoven with social justice and in an India focused garment supply-chain study in 2019, 80% of workers said their wages wouldn't cover their living expenses<sup>10</sup>. During COVID-19, leading brands who source their clothes from Indian factories refused to pay workers nearly US\$ 60 million over the course of the pandemic, leaving some households unable to buy basic staples like rice, meat, and vegetables, or pay their debts<sup>11</sup>.

Symptoms of the current model of fashion production and consumption that do not factor in full costs (or full benefits) impact India through polluted waterways, soil degradation, farmer suicides due to spiralling debts from chemical and seed purchases and a vast quantity of discarded textiles. Innovation to achieve net zero emissions and a just transition to a regenerative system needs to go beyond a focus on the symptoms, to create change in relation to causes of unsustainable practices.

There is an emerging fashion and sustainability ecosystem in India, with fashion entrepreneurs developing sustainability led businesses that exemplify parts of the industry moving away from a low-wage, high-volume identity, towards a skills, values and low emissions approach to business.

Internal markets are emerging as a new destination for India produced fashion and textiles due to India's rising citizen spending power. Fast fashion businesses are quick in identifying this potential and over 300 international fashion brands are expected to set up shop in India<sup>12</sup>.

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<sup>9</sup> [Government has approved Production Linked Incentive \(PLI\) Scheme for Textiles](#)

<sup>10</sup> Anner, Sourcing Dynamics, Workers' Rights, and Inequality in Garment Global Supply Chains in India (2019)

<sup>11</sup> Worker Rights Consortium, WRC confirms \$28.6 million in back pay commitments to Karnataka garment workers. (2022)

<sup>12</sup> Amed et al., How India's ascent could change the fashion industry (2019)

There is an argument that the UK and other western countries have had access to and enabled the growth of fast fashion and that India's citizens have every right to engage in similar practices. However, there is an opportunity to support sustainability led MSMEs, by communicating the value of their products, accessing customers, and highlighting fast fashion's impact on climate and social justice.

### **India's Creative Industries, Fashion and Design Education**

India has about 40 million people working in its creative manufacturing sector and 12 million young people entering the workforce every year for the next 15 years<sup>13</sup>. The size of creative goods and services exports grew from US\$ 7.5 billion in 2005 to US\$ 20 billion in 2015 and US\$ 35 billion in 2020, making India one of the largest players in the creative industries<sup>14</sup>. The design industry is the best performing segment, with US\$ 4,384 million worth of exports in 2003 and US\$ 26,904 million in 2012<sup>15</sup>.

Design and craft are woven into India's cultures and histories, passed on from generation to generation and via the education offered in its prestigious design institutions. There are 200 design schools across India's regions, a dramatic increase from the two institutes in 1975: National Institute of Design, (NID) credited as the birth of Design Education and the Industrial Design Centre at IIT Powai. Through the NIFT (National Institute of Fashion Technology) network, created in the 1980s, fashion became a powerful element in India's design reputation. NIFT alumni hold over 70% of managerial positions in the Fashion and Textile Industry in India and Southeast Asia<sup>16</sup>. The Government of India's National Design Policy<sup>17</sup> seeks to create a design enabled Indian industry, contributing to the national economy and quality of life. With the world's largest population aged between 15-24 years old, around 500 million people, and

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<sup>13</sup> [Creative manufacturing in India](#)

<sup>14</sup> [Creative Economy - Nation Building: Higher Education as the Catalyst](#)

<sup>15</sup> [Creative Economy Outlook: Trends in international trade in creative industries](#)

<sup>16</sup> [Twenty Ninth Report on Action taken by the Government on the Observations/ Recommendations of the Committee contained in Twentieth Report](#)

<sup>17</sup> [National Design Policy](#)

37.4 million students enrolled in higher education in 2019,<sup>18</sup> the Indian education sector has an incredible potential to drive positive change in fashion, at scale. By developing an educational offer that nurtures skills and capabilities needed for a just transition, there has never been a greater role for education to transform the fashion sector and contribute to Indian society.

The past two years have brought radical change in the education landscape, where digital technology tools play a pivotal role in the delivery of education. EdTech witnessed exponential growth with EdTech start-ups raising over US\$ 4.7 billion in 2021, with K-12 skill development, test preparation, and online certifications emerging as the most-funded EdTech sub-sectors. There are nearly 10,000 EdTech start-ups in India (IBEF, 2021), augmented by India’s growing internet economy with 622 million active internet users in 2020 and increasing smartphone usage. India’s top online course in fashion and sustainability, taken up by fashion students in India in 2021, was a UK based course, developed by Centre for Sustainable Fashion.

### **The Importance of India’s Micro, Small and Medium sized Enterprises**

India has the 3rd largest start-up ecosystem in the world; with a growing community of fashion MSMEs being set up with sustainable values at the onset, moving away from low-cost production to design-led original new offerings. Sustainable fashion MSMEs are supporting distinctive local production, championing traditional skills and crafts, and co-creating designs with communities to foreground regional culture and heritage. This takes the form of mindful design, durable, high-quality fabrics, on-demand, and made-to-measure garments, not replicable by the mass market. Business approaches are rooted in social justice and positive impact for markets that are increasingly requesting responsible fashion practices. These fashion businesses play an important role in cultivating social, and cultural dynamism and environmental stewardship by creating jobs, innovation, and economic prosperity. There is little evidence of awareness of the environmental value of these self-sustaining modes of local production and consumption rooted in sufficiency and low carbon lifestyles. Initiatives in

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<sup>18</sup>[Education and Training Industry Report](#)

academia, media and policymaking do not appear to spotlight their potential. There is an opportunity for high consumption regions, such as the UK, to learn from India's resourceful, resilient, low carbon MSMEs in reducing the impact of fashion production and consumption.

### **UK Fashion and Sustainability MSME Landscape**

UK MSMEs have long held identities as organisations that challenge the status quo and that move fashion and the UK forward in distinctive ways. With 99.3% of businesses in the UK being micro and small businesses, they account for nearly half of employment (48%) and over a third of turnover (36%) in the UK's private sector. Their employees demonstrate adaptability, they are usually hands-on and multi-talented and can move seamlessly across a plethora of roles and tasks. Through a longitudinal study of UK fashion MSMEs, an evidence base has been collected, of their contribution to sustainable prosperity in social, environmental, cultural, and economic terms. These businesses often struggle to survive due to the blinkers of economic growth as the metric of success in the eyes of government, investors, showcasing and business support. As this report outlines, there is much to be gained for both UK and India based MSMEs through the UK and India Sustainable Fashion Partnership focus on net zero and wider metrics of sustainable prosperity.

### **Headline recommendations for UK/ India Partnership in Fashion and Sustainability**

See section 9 for full conclusions and recommendations.

- Digital co-learning to incubate millions of designer entrepreneurs
- R&D for industry that supports MSMEs in UK and India
- Co-knowing and Co-doing Labs
- Early Career Researcher Innovator Programme
- Resourcefulness Action Research programme
- Connecting UK and India MSMEs to new markets and directly with customers
- Regenerative farming and regenerative cultures initiative
- Fashion and wellbeing hub

# 1. Introduction



The Summer House

This report was commissioned by InnovateUK as part of a set of studies supporting the UK mission in fashion and sustainability and aligns with the 2030 Roadmap for India-UK future relations, launched in May 2021<sup>19</sup>, committed to generating new knowledge for both economies. The study reviews the micro, small and medium fashion enterprise (MSMEs) and academic landscape of fashion and sustainability in India, with reference to potential international collaborative innovation opportunities.

The report is also of relevance to industry and academia relating to fashion and sustainability; socially engaged and commercially driven organisations; those making and influencing policy; intermediaries and organisations supporting the work of SMEs and researching fashion design for sustainability innovation.

The study was set up to investigate the support provided by Higher Education Institutions (HEIs) in India to design-led MSMEs as a conduit for change towards a more sustainable fashion industry.

Findings provide a mapping of fashion and sustainability HEIs and the research and innovation ecosystem which they support, highlighting areas of strength, growth, and innovation. A series of case studies of sustainable practices of Fashion MSMEs India further exemplify the state of play.

The report outlines routes for collaboration between the UK and India to accelerate a just transition to net zero emissions, and beyond that, to a regenerative fashion system.

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<sup>19</sup> [2030 Roadmap for India-UK future relations](#)

## 1.1 Report Aims and Objectives

### Report Aims

- Explore the role of universities in India and UK in supporting MSMEs' contribution to achieving net zero and related environmental and social prosperity.
- Identify potential UK/India collaboration in fashion and sustainability innovation relating to MSMEs and HEIs.
- Exemplify innovative fashion and sustainability practices in India MSMEs.
- Identify skills and capabilities development opportunities in Fashion and Sustainability in India and UK.

### Report Objectives

1. To undertake primary and secondary qualitative research to:
  - a. map HEIs in India engaged in Fashion Design for Sustainability (FDfS) research and/ or teaching.
  - b. undertake desk-based research to identify Indian HEIs working with MSMEs in relation to fashion and sustainability.
  - c. develop case studies that evidence sustainability capabilities of fashion MSMEs and exemplify sustainable innovative practices in India fashion MSMEs working in fashion and sustainability.
2. Analysis of findings to:
  - a. understand the relationship between India HEIs and fashion MSMEs in India in supporting a shift to a regenerative fashion system.
  - b. identify key drivers particular to Indian context, push/pull, constraints.
  - c. draft recommendations in terms of limitations and opportunities to in developing UK- India partnership opportunities to co-develop a regenerative fashion system.

### 3. Background



Juned x Vraj Bhoomi

Fashion matters at personal, local, global and biosphere levels. Its activities connect, delight, employ, and distinguish us in myriad ways. Its nearly **US\$ 3 trillion heartbeat** offers livelihoods to more than 300 million people and manufacture of an estimated 150 billion garments per annum in enterprises that span the micro to the multi-national. Beyond the economic transactions of fashion, lies an array of informal, convivial exchanges of garments, skills, and cultures across communities.

Fashion matters in climate, environmental, social, cultural, political and equity terms. It is an industry that **emits 8% of global greenhouse gases**, creates devastating water and air pollution, including chemicals dumping and leading to microplastic particles found in babies in the womb. Its practices exacerbate biodiversity loss, resource scarcity, soil degradation and are reliant on fossil fuels to make, transport, sell and re-sell its goods. Labour exploitation and other human rights and discrimination issues are endemic to fashion.

The crux of the problem is the phenomenal rise of consumerist models of fashion, reliant on manufacturing product and manufacturing demand. Through enticing customers to buy and fall out of love with purchases soon after receipt, production volumes are rocketing, **80 billion garments** are discarded annually, while emissions keep rising. There is a need to de-carbonise fashion and, in the words of Deborah Meaden, Dragon's Den investor and entrepreneur, 'we need to stop consuming so much'<sup>20</sup>. Consumption is a contentious word, especially in relation to countries with historically low per capita emissions and increasing incomes, where citizens seek access to fashion that companies are keen to provide.

This perfect storm involves businesses, governments, universities, and citizens around the world, giving fashion a vital role in reaching climate, environmental and social justice goals. The importance of fashion in emissions targets is identified by the United Nations Fashion Industry

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<sup>20</sup> The Big Green Money Show <https://www.bbc.co.uk/sounds/play/m00162p6>

Charter for Climate Action<sup>21</sup>. The imperative and incentive could not be clearer; with creativity, collaboration and a shared intention, sustainability of fashion is a vital and urgent opportunity.

Another story of fashion already exists. There are literally millions of people involved in creative and culturally, socially, environmentally, and economically sound fashion practices. This report shines a light on the role that MSMEs can offer towards a net zero and restorative fashion system, and that universities have in nurturing sustainability talent and innovation. Its recommendations open opportunities for these signals to be amplified, scaled, and embedded into practice through the UK and India sustainable fashion partnership.

## 4. Methodology

Centre for Sustainable Fashion (CSF) shapes and contributes to Fashion Design for Sustainability (FDfS) as a field of study that conceives, realises and communicates multiple ways in which fashion can manifest equity and take place within earth's carrying capacity. Central to its work is the development of evidence-based methodologies and framework for transformation.

### 3.1 Methodological Framework

The study is based on a methodological framework for fashion and sustainability, conceived by CSF and applied across a range of industry, education and research settings.

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<sup>21</sup>[https://unfccc.int/sites/default/files/resource/Fashion%20Industry%20Carter%20for%20Climate%20Action\\_2021.pdf](https://unfccc.int/sites/default/files/resource/Fashion%20Industry%20Carter%20for%20Climate%20Action_2021.pdf)

The framework engages in systems design to identify the context, agendas, issues and mindsets of fashion and sustainability. It acts as a means to recognise cause and effect of actions in an industry that takes place within a wider social and environmental context.

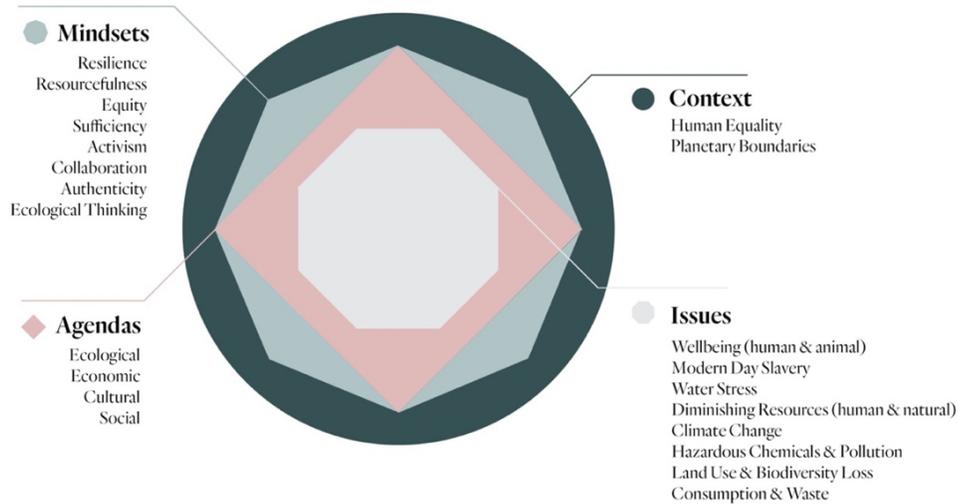


Figure 2: Centre for Sustainable Fashion's framework.

### 3.2 Scoping Study Methods

- Collection and review of data and literature (including policy documents, annual reports released by Ministry of Textiles, Government of India, NID and NIFT) on Fashion and Sustainability in UK and India: electronic databases, existing networks, relevant organisations, and conference proceedings.
- Collection and analysis of short interviews and other methods of engagement including such as surveys with key stakeholders/ organisations.
- In-depth interviews with designers, educators, and support organisations, with MSMEs and HEI tutors and professors in India.
- Mapping of data in text and visual formats.
- Qualitative analysis of data to identify thematic areas.

## 4. Contextual Review: India Fashion & Textile Industry

### 4.1 India Fashion and Textile Industry and Sustainability

The Fashion and Textile Industry plays an important role in India's socio-economic advancement. It is the second-largest job creator in the country, second only to agriculture<sup>22</sup>, employing 105 million people, with 73% of the workforce in the handloom industry being women<sup>23</sup>. India's domestic and apparel market alone contributed US\$ 100 billion in revenues in 2019, and is expected to grow at 12% to reach US\$ 220 billion by 2025-26<sup>24</sup>.

A significant driver of economic growth is the country's entrepreneurial landscape, most of which is led by MSMEs. Given that over 90% of India's workforce still operates in the informal economy<sup>25</sup>, entrepreneurial action across the spectrum plays a vital role in recognising traditionally marginalised communities and creating much-needed jobs. For India's young population to become key contributors to its growth, the country needs 100 million new jobs by 2030<sup>26</sup>.

The industry is closely woven together with a significant focus on export. According to data from 2020, the Indian Textile and Fashion Industry is one of the world's top four textile exporters in the world along with China, Vietnam, Bangladesh, and Germany<sup>27</sup>. Indian textile and apparel exports were projected to hit US\$ 82 billion by 2021<sup>28</sup>, holding approximately 63% of the global market in these sectors, with the UK being one of the top 4 importers.

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<sup>22</sup> [Year End Review 2020 - Ministry of Textiles](#)

<sup>23</sup> [2021- A Year of Game Changing Reforms for Ministry of Textiles](#)

<sup>24</sup> Agrawal et al., Inside View - [Annual Report on Textile and Apparel Industry](#) (2020)

<sup>25</sup> [Banerjee & De, India's Informal Employment in the Era of Globalization: Trend and Challenges \(2018\)](#)

<sup>26</sup> [Ghani, The right support: Creating the 100 million Jobs India needs \(2020\)](#)

<sup>27</sup> [OECD 2020](#)

<sup>28</sup> [Textile and Apparel Industry Report](#)

Furthermore, the Indian textile industry is the second-largest producer of man-made fibres after China<sup>29</sup>. The Indian government has acknowledged fashion and textile’s potential and is supporting the need to push India to become a world leader through policy support (such as the Production-Linked Incentive (PLI) Scheme, worth US\$ 1.44 billion) for man-made fibre and technical textiles over a five-year period, to boost manufacturing, increase exports and attract investments<sup>30</sup>.

As a leader in textiles export, large export houses and manufacturing units also play an instrumental role in the sustainability of the supply chain. Aditya Birla Fashion and Retail Ltd. with 6,878 points of sale in department stores, and around 31,767 multi-brand outlets throughout the country, is a member of several global sustainability organisations including the United Nations Global Compact and World Business Council for Sustainable Development and aims to become a leading Indian conglomerate for sustainable business practices, aligning their 2025 sustainability goals with the Paris Agreement.

Shahi Export, India’s largest apparel manufacturing company and exporter, operating 65 factories across 9 states with over 100,000 employee incubated Good Business Lab (GBL) which is working through rigorous research on demonstrating the impact of better living conditions for low-income workers and social well-being, on measurable financial returns to businesses.

Aside from manufacturing hubs, India has the 3<sup>rd</sup> largest start-up ecosystem in the world; with around 41,061 start-ups as of December 2020, contributing to around 470,000 jobs<sup>31</sup>.

Government Initiatives like Startup Yatra promote entrepreneurship in Tier 2 and 3 cities having given 1,424 incubation offers, impacting entrepreneurs in 207 districts across 23 states.

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<sup>29</sup> [Ministry of Textiles - Annual Report 2020 - 21](#)

<sup>30</sup> [Government has approved Production Linked Incentive \(PLI\) Scheme for Textiles](#)

<sup>31</sup> [What Economic Survey 2020-21 says about India's startup ecosystem](#)

India is not only a textile manufacturing and exporting leader, but it is also a large consumer of fashion and textile goods. India’s rising citizen spending power is recognised in global trends that suggest that more than 300 international fashion brands are expected to set up shop in India<sup>32</sup>.

### Textile and Apparel Industry in India (in US \$ Billion)

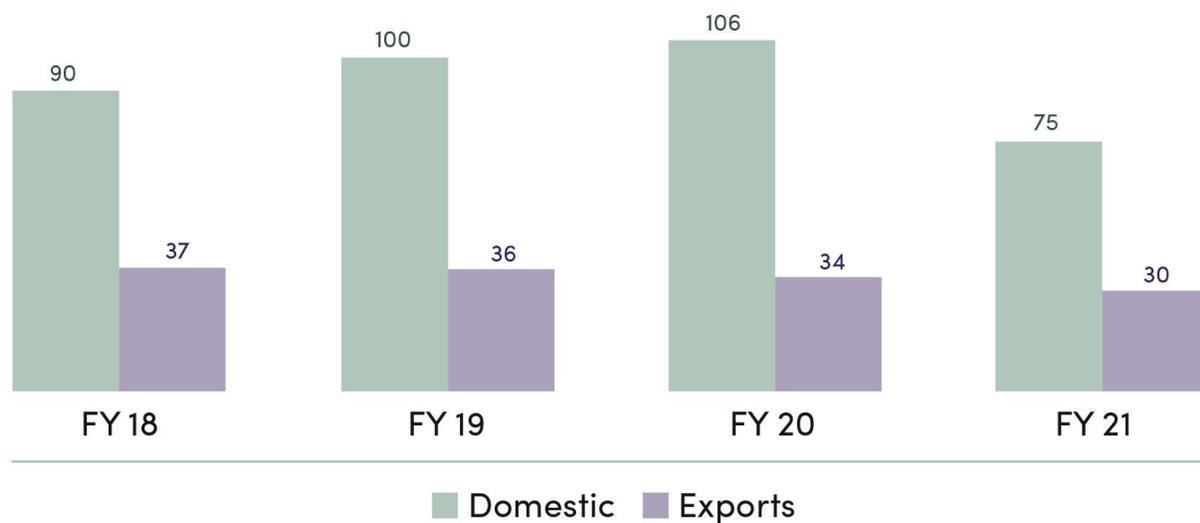


Figure 3: Domestic Textile and Apparel Industry and Textile and Apparel exports from India in US \$ Billion (IBEF, 2021).

It is widely acknowledged in and beyond India that the fashion industry needs to take serious action towards net zero emissions, nevertheless, global fashion businesses remain revenue focussed, often completely neglecting sustained prosperity in environmental and social terms.

In a 2019 garment supply-chain study focussed on India, 80% of workers said their wages wouldn’t cover their living expenses<sup>33</sup>. During COVID-19, leading brands who source their clothes from Indian factories refused to pay workers nearly US\$ 60 million over the course of

<sup>32</sup> Amed et al., How India's ascent could change the fashion industry (2019)

<sup>33</sup> Anner, Sourcing Dynamics, Workers’ Rights, and Inequality in Garment Global Supply Chains in India (2019)

the pandemic, leaving some households unable to buy basic staples like rice, meat, and vegetables, or pay off their debts<sup>34</sup>.

However, there is a growing community of sustainable fashion businesses in India that are being set up with sustainable values at the onset or moving away from low-cost production to design-led original new offerings and with sustainability values at their core. This scoping study identifies fashion entrepreneurs in India (see Annex G, case studies) who are interweaving local crafts, materials, and heritage with globally relevant designs and innovation processes to create a unique discourse around sustainability. Keeping in mind that most of India is tropical year-round, with only Northern India experiencing winter, such enterprises are also eschewing Western approaches to fashion seasons and cycles, opting for trans-seasonal lines and timeless designs for domestic and global markets.

Unlike the UK, India's creative economy is segmented by the national and state government of India in different geographic areas and departmental ministries including culture, tourism, textiles, handloom, and tribal affairs, which makes it difficult to gauge the cultural policy and investment in the creative economy, furthermore the crafts are a part of the informal economy, making their contribution to the national annual GDP challenging to quantify<sup>35</sup>.

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<sup>34</sup> Worker Rights Consortium, WRC confirms \$28.6 million in back pay commitments to Karnataka garment workers. (2022)

<sup>35</sup> [Taking the Temperature Report 2](#)

## 4.2 Exemplar Sustainability Initiatives in India Fashion & Textiles

### Textile Parks

To position India strongly on the Global textiles map, the Ministry of Textiles set up 7 PM Mega Integrated Textile Region and Apparel (PM MITRA) Parks, envisaged to help India in achieving the United Nations Sustainable Development Goal 9 (Build resilient infrastructure, promote sustainable industrialization, and foster innovation). It is inspired by the PM's 5F vision - Farm to Fibre to Factory to Fashion to Foreign to establish state-of-the-art infrastructure, common utilities and R&D lab over a three-year period boosting FDI and local investment in the sector<sup>36</sup>.

### Project SU.RE

The Ministry of Textile launched Project SU.RE, a move towards sustainable fashion, at Lakmé Fashion Winter/Festive 2019. It is a commitment by India's apparel industry to set a sustainable pathway for the Indian fashion industry.

### Promotion of khadi

Khadi and Village Industries Commission (KVIC) has signed MOUs with Aditya Birla Fashion & Retail Ltd. (ABFRL), Raymond and Arvind Mills for sale of Khadi fabric in the country and abroad, with Indo-Tibetan Border Police in the local space.

### Innovations to create sustainable textiles

BRFL Textiles Private Limited (BTPL), India's largest fabric processing facility, has introduced a new sulphur dyeing process involving continuous dyeing without requiring water. BTPL is the first company in the textile sector to implement this new process of dyeing, making it the pioneer of this innovative sustainable process.

<sup>36</sup> Notification issued for setting up of 7 Mega Integrated Textile Region and Apparel (PM MITRA) Parks with a total outlay of Rs. 4,445 crore.

### 4.3 Fashion Design and Education in India

India, a country with a 5,000-year artisanal legacy, has about 40 million people working in its creative manufacturing sector and 12 million young people entering the workforce every year for the next 15 years<sup>37</sup>. The creative assets and rich culture that exist in India has the potential to facilitate economic growth and transformative change<sup>38</sup>. The need and opportunity of education in enabling India's creative goods and services economy is increasingly recognised.

The size of creative goods and services exports from India has grown from US\$ 7.5 billion in 2005 to US\$ 20 billion in 2015 and were expected to grow to US\$ 35 billion by 2020 – making India one of the largest players in the trade of creative industries<sup>39</sup>. The design industry was the best performing Creative Industry, growing from US\$ 4,384 million worth of exports in 2003 to US\$ 26,904 million in 2012<sup>40</sup>.

Design as value-added has been growing in importance in India, aided by rising educational aspirations, openness to pursuing alternate careers, employment opportunities and increased affordability of higher education, which has led to an increase in the number of design graduates. In 2007, the Government of India adopted the National Design Policy<sup>41</sup> to have a “design enabled Indian industry” that could impact both the national economy and the quality of life in a positive manner, and in promoting and supporting design by setting up design clinics and providing institutes with the status of national importance, following the existing concentration of design companies and design institutions in the cities with an established fashion industry infrastructure. To implement the provisions of the National Design Policy, the government established India Design Council in 2009, an autonomous body of the Government

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<sup>37</sup> [Creative manufacturing in India](#)

<sup>38</sup> [Reinventing India's creative economy in a digital era](#)

<sup>39</sup> [Creative Economy - Nation Building: Higher Education as the Catalyst](#)

<sup>40</sup> [Creative Economy Outlook: Trends in international trade in creative industries](#)

<sup>41</sup> [National Design Policy](#)

of India, under the aegis of the Department of Industrial Policy and Promotion, Ministry of Commerce, and Industry.

Fashion education, a relatively new area of study in India, encompasses fashion, design, technology, and management. Its popularity has grown rapidly in the last 25 years from academic to vocational streams across secondary school levels, polytechnics, private institutes, colleges, and universities (Jha, 2014)<sup>42</sup>.

The identified 52 HEIs (see Annex A) providing Fashion and Design education offer courses ranging from Bachelor and Master of Design with a focus on creative application; Bachelor and Master of Science, incorporating technical aspects of Fashion production; Diploma; Bachelor of Arts etc. In total there are 5 HEI offering PhD education in Design and Fashion.

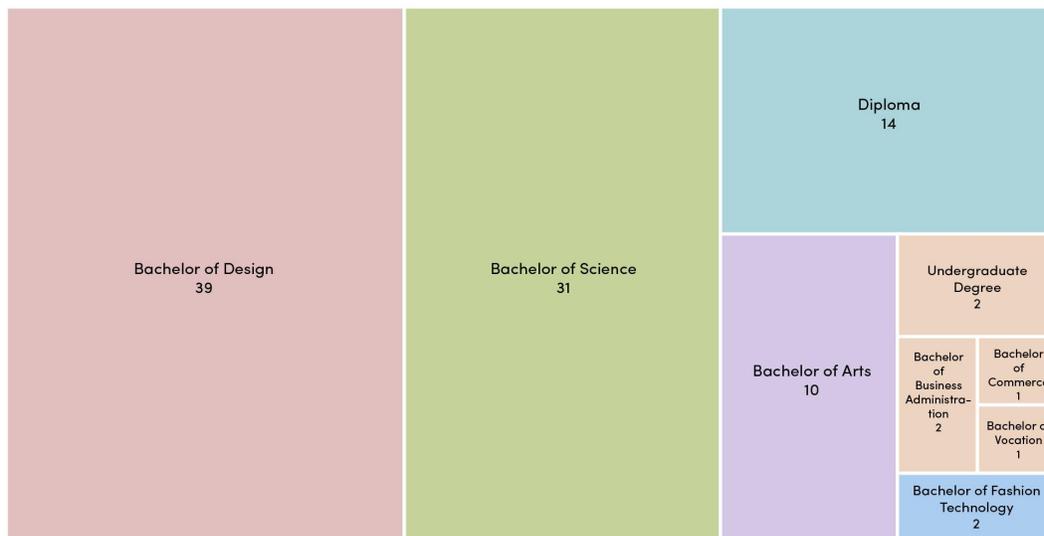


Figure 4: Undergraduate level courses offered by the 52 HEIs.

<sup>42</sup> A study of collaboration between Higher Education and Non Formal Adult Education for development of Fashion Technology courses



Figure 5: Postgraduate level courses offered by the 52 HEIs (identified through desk research).

In 1975, there were two design schools in India: National Institute of Design (NID) and the Industrial Design Centre at IIT Powai. The country now counts over 200 design schools across its regions. With the introduction of the NIFT (National Institute of Fashion Technology) network in the 1980s, fashion became a powerful element within India’s design firmament and is perhaps the dominating image of design in many young minds<sup>43</sup>.

The past two years have brought radical changes in the education landscape in India, where digital technology and tools play a pivotal role in the delivery of education. EdTech witnessed exponential growth with EdTech start-ups raising over US\$ 4.7 billion in 2021, pre-university education (K-12), skill development and test preparation, and online certifications emerging as the most-funded EdTech sub-sectors<sup>44</sup>.

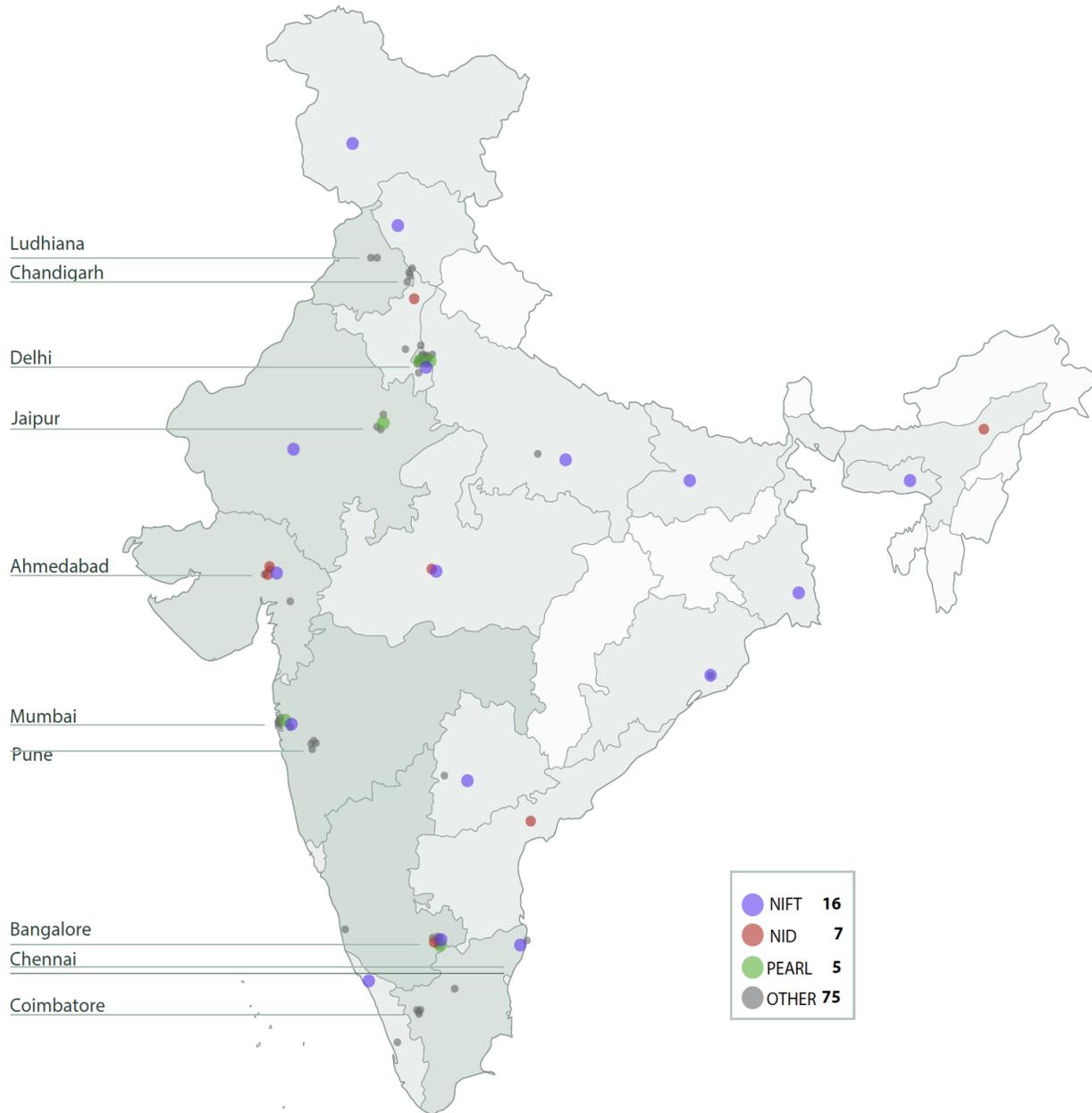
At present, there are nearly 10,000 EdTech start-ups in India (IBEF, 2021), further augmented by India’s growing internet economy with 622 million active internet users in 2020<sup>45</sup> and increased smartphone usage, challenging the digital divide and bridging the gap between rural and urban education.

<sup>43</sup> [Design education in India: An experiment in modernity](#)

<sup>44</sup> [Mumbai: Educational institutes ordered to cut ties with edtech companies](#)

<sup>45</sup> [Internet Adoption in India. ICUBE 2020](#)

# 5. Contextual Review: India Higher Education



HEIs engaging in teaching/ research in Fashion Design for Sustainability.

## 5.1 Understanding HEIs in an Indian Context

The Indian education sector has great potential to drive positive change, with the world's largest population of approximately 500 million people in the age bracket of 15-24 years, and 37.4 million students enrolled in higher education in 2019<sup>46</sup>. Indian Higher Education Institutions (HEIs) include both public and private universities, recognized by the University Grants Commission (UGC), in addition to 16 professional councils overlooking accreditation.

A survey of Higher Education distinguishes educational institutions in 3 broad categories:

1. University and University Level Institutions i.e. Institutions empowered to award degrees under an Act of Parliament or State Legislature,
2. Colleges that are not empowered to provide degrees in their own name and therefore are affiliated with/ recognised by universities; and
3. Stand-alone Institutions (not affiliated with universities) which do not provide degree and instead run Diploma Level Programmes (AISHE, 2020)<sup>47</sup>.

Out of the 40 fashion design schools researched are in category 2: colleges in affiliation with universities offering technical courses, vocational education, the remaining being stand-alone institutions. The 25 top private institutes of Fashion Design<sup>48</sup> offer fashion courses including Bachelor of Design in Fashion Design and Bachelor of Science in Fashion and Design with a focus on garment technology and production. NID and FDDI are 'Institutes of National Importance': pivotal players in developing highly skilled professionals within a specified region of the country or state, with NID credited to the birth of Design Education. The foundation stone was laid for Indian fashion with the establishment of the National Institute of Fashion Technology, with autonomy to award degrees, acknowledged as the key reference for fashion in India.

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<sup>46</sup> [Education and Training Industry Report](#)

<sup>47</sup> [All India Survey in Higher Education 19 - 20](#)

<sup>48</sup> [Outlook-ICARE Rankings 2021: India's Top 25 Private Institutes Of Fashion Design](#)

*“We need to start with the faculty in academia going back to the drawing board. The moment that happens, it will automatically trickle down to our students. As faculty, we need to learn new ways of interpreting and understanding design processes, need exposure to modern techniques and innovations in other disciplines that can be relevant for fashion. We need to be up to speed with sustainable alternatives to producing and distributing, so eco-consciousness can start from the classroom. Design institutes in the UK already have this kind of approach, which prioritises and encourages curiosity, exploration, and experimentation. We can benefit from their knowledge and approach to curricula and ensure that our students can contribute to creating a more sustainable world with greater respect for resources, people, and processes.”*

- Kriti Srivastava, Assistant Professor, NIFT Kangra

## 5.2 HEIs Engaging in Teaching/Research in Fashion Design for Sustainability

HEIs engaging in sustainability-related teaching/and or research. Indian fashion institutes with purposeful and substantial work in Fashion and Sustainability are shown on the map below. Key Institutes are discussed further in the report.

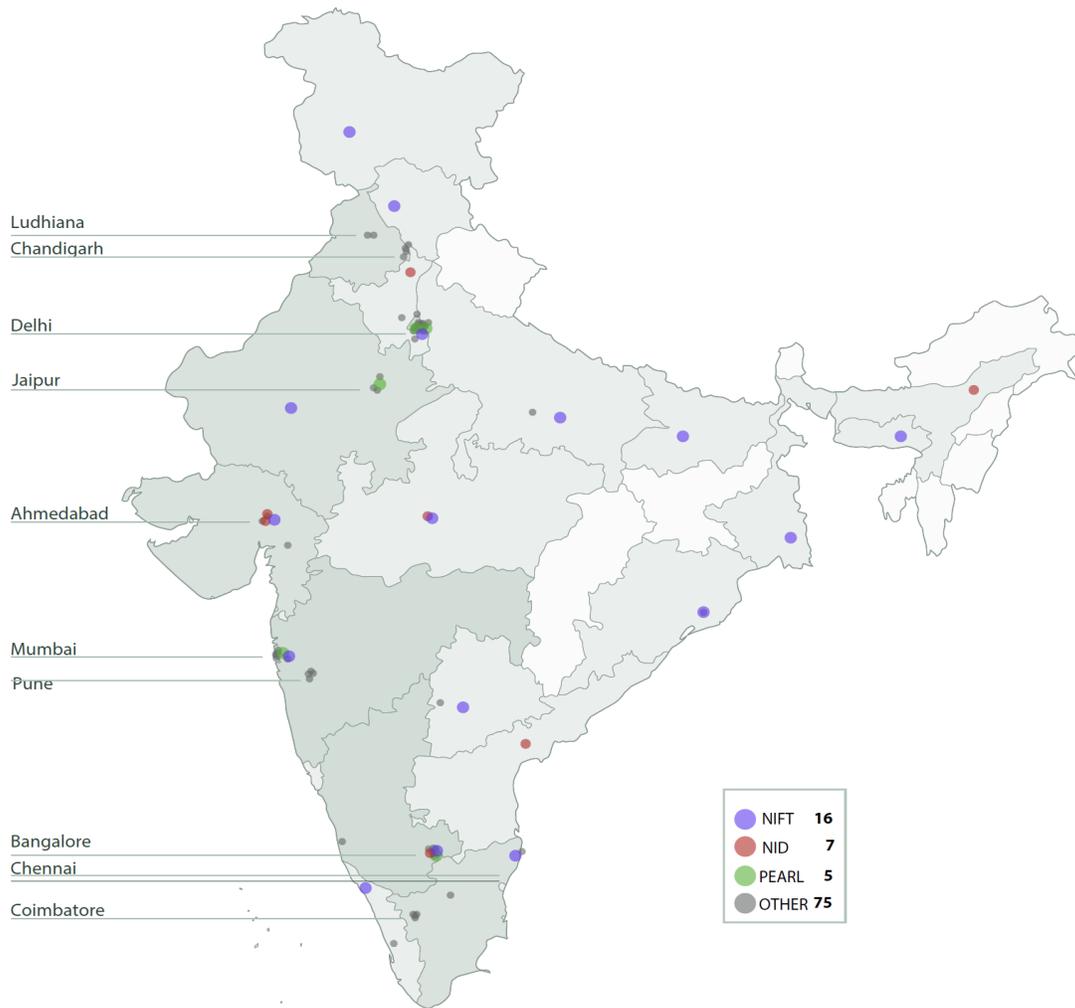


Figure 6: Map of HEIs engaging in teaching/ research in Fashion Design for Sustainability.

## 5.3 Key Fashion Design HEIs and Links to Industry: NIFT, NID, Pearl Academy

### 5.3.1 The National Institute of Fashion Technology (NIFT)

NIFT was set up in 1986, by the Ministry of Textiles, Government of India through a partnership with the Fashion Institute of Technology, New York on a five-year agreement and started its journey with a two-year Fashion Design diploma course. It is now a pioneering institute of fashion education in India with a focus on the textile and apparel industry through its 17 campuses offering the Undergraduate Bachelor of Design (Fashion, Textile, Knitwear, Accessory, Leather, and Fashion Communication); Post Graduate Master's Degree (Fashion Technology, Fashion Management and Design Space); Short Duration Part-Time Courses in the form of Continuing Education; Bridge Programme, Diploma Programme and PhD. It also works as a knowledge service provider to the Union and State governments in the design development and positioning of handlooms and handicrafts. NIFT has also assisted in setting up the FDCI and laid the foundation for establishing IFFTI.

A study identifies that design students at NIFT demonstrate entrepreneurial interests, 61% from Undergraduate Design aspiring to start their own business as a professional career after graduation<sup>49</sup>, and 47% of graduates wanting to settle down overseas the higher education institutes of India are providing training for the national as well as the global fashion industry (Reddy, 2015)<sup>50</sup>. NIFT observed 34% increase in admission from 2014 to 2019, demonstrating an increased interest in the pursuit of Design and Fashion degrees in India, which included Regular, State Domicile, EWS, and NRI candidates<sup>51</sup> with 10% reservation for EWS candidates with 3,692 students enrolling in 2019<sup>52</sup>.

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<sup>49</sup> Gudimetla, Chiranjeevi & Rajaram, N.J.. (2015). Career Aspirations and Background of Students Opting for Fashion Education Courses in India.

<sup>50</sup> [Reddy, G. C. \(2020\) A study on the academic management of fashion education in India](#)

<sup>51</sup> As per the directive issued by the Ministry of Human Resource Development (HRD), Dept. of Higher Education, Govt. of India vide O.M.No.12-4/2019-U1 dated 17th January 2019, 10% reservation quota for Economically Weaker Section (EWS) was implemented from the academic year 2019.

<sup>52</sup> [NIFT Annual Report, 2019](#)

The Fashion Design program has played an influential role in the growth of the Indian fashion industry through its illustrious alumni. NIFT Alumni hold over 70 per cent of the Managerial positions in the Textile and Fashion Industry not only in India but in Southeast Asia (Ministry of Textiles, 2021)<sup>53</sup>.

Student interactions with sustainability exist through various activities and pathways, for instance graduates at NIFT have 4 deepening specialisations: Design for Society, Experience Design, Design Strategy, and Theoretical Studies in Design offered in courses focusing on various design industry domains.

The following programmes and initiatives by NIFT enable students to interact with various facets of sustainability:

<b>Craft Cluster Program</b>	<b>Industry Experience</b>
<p>The program aims to provide the students with continuous exposure to the handloom and handicraft clusters by connecting with artisans and craftsmen at the grass-root level. A direct engagement for 3-4 weeks enables a student to become sensitised to their unique environment, encouraging conversation, interaction, and non-linear discussions. The impact of this initiative is reflected in the studied SMEs.</p>	<p>A mandatory internship for a period of 2-14 weeks towards the partial fulfilment of the curriculum exposes students to the industry, ranging from Export houses, Fashion SMEs to NGOs. Furthermore, Graduation/Research projects for final year students involve internships spanning 16-22 weeks depending on the course. Students interact in real-time with the industry to</p>

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<sup>53</sup> [Twenty Ninth Report on Action taken by the Government on the Observations/ Recommendations of the Committee contained in Twentieth Report](#)

**The Repository - Indian Textiles and Crafts**

Sanctioned by the Ministry of Textiles Govt. of India under NIFT Cluster Initiative the Repository aims to provide a digital platform/portal, a virtual museum of textiles and apparel including designer archives, a craft repository with individuated information on crafts-persons, their communities, their work processes and products, Case Studies, and research in the areas of crafts and textiles– from NIFT, the Crafts Museum, the Weaver Service Centres, and private collections.

**Design Resource Centre**

Continuing the work on and with craft and heritage NIFT Centres set up at weavers' service centres to facilitate weavers, exporters, manufacturers, and designers to access design repositories for sample/product improvisation and development<sup>54</sup>.

**Visionxt Trend Insights and Forecasting Lab**

collaborate and identify problems as well as feasible solutions.

**Industry Connect**

Departments take initiatives to bring industry in the classroom as part of different subjects in the form of interaction with Industry leaders and alumni in the classroom, sponsored classroom projects, industry visits to export houses, exposure to exhibitions and fairs, and internships. A rapport with the industry is established by the department faculty and students.

**Global Connect**

NIFT shares successful partnerships and dual degree programmes with 32 leading international fashion institutes and organisations pursuing similar academic goals.

**NIFT Design Innovation Incubator**

Proposed to set up incubation facilities (Regional Incubators) in Mumbai, New Delhi, and Chennai campuses for facilitating innovation and entrepreneurship and to cater to the requirements of NIFT in Textile

<sup>54</sup> <https://economictimes.indiatimes.com/industry/cons-products/garments-/textiles/ten-more-design-resource-centres-being-set-up-by-nift-textile-ministry/articleshow/85368181.cms?from=mdr>

Under the Ministry of Textiles sanction NIFT for Apparel, Home & spaces (Delhi), Smart is set to create a first-ever Artificial wearable systems (Mumbai), Fashion and Intelligence enabled indigenous fashion Lifestyle accessories (Mumbai) and Apparel forecasting service that endeavours to including Athleisure and Activewear design seasonal directions for our country<sup>55</sup>. (Chennai).

### **INDIAsize: Standard size**

Under the Research and Development Scheme of the Ministry of Textiles, the 2-year long project aims to develop a size chart based on body measurements of 25,000 people aged from 18 to 65 years in six different regions of India using 3D body scanners. Such a project would benefit the domestic retail garment industry catering to Indian shapes and body types.

### **Centre for Sustainable Fashion: Farm to Fashion** <sup>56</sup>

NIFT Bhubaneswar proposed to have a “Centre for Sustainable Fashion (CSF)” based on the unique richness of handloom, natural dye and natural Fibre base. NIFT Bhubaneswar identified about 60 different locally grown dye yielding plants and 10 different natural Fibre plants and planted

### **Project Pratibha**<sup>57</sup>

Born out of a collaboration with the Ministry of Electronics and Information Technology (MEITY), PRATIBHA (Platform for Rural Artisans & Tribes of India and Businesses of Handicrafts) is a business incubation programme for the entrepreneurs leveraging their design/technology/business knowledge to create value using the skills inherent in the rural creativity and cultural ethos. The selected entrepreneurs are provided with academic and industry mentorship and financial assistance for 1 year.

### **Shahi Industry 4.0** <sup>58</sup>

Shahi Exports, India’s largest apparel manufacturer, set up the Industry Chair at NIFT, Delhi in the year 2019 to build a robust relationship between the industry and

<sup>55</sup> [Ten more design resource centres being set up by NIFT: Textile Ministry](#)

<sup>56</sup> [Twentieth Report - Functioning of National Institute of Fashion Technology](#)

<sup>57</sup> [How Pratibha Works](#)

<sup>58</sup> [Applications open for Shahi Industry Chair 4.0 at NIFT Delhi](#)

almost all of them in the campus. The unique proposition made by the campus revolves around the concept of “Farm to Fashion”. This is the only institution today in the world where the students can see the entire value chain of eco-friendly fashion.

‘All NIFT Campuses are to initiate similar “Farm to Fashion” projects based on their location, typographical uniqueness, and availability of resources. NIFT Kangra has already initiated action in 6 acres of unutilized land’ (Ministry of Textiles, 2021).

#### **NIFT MOOC**

NIFT Chennai took up MOOC development of fashion & technology subjects under the ‘National Mission on Education through Information & Communication Technology’ (NMEICT). The subject matter experts are mostly faculty members of NIFT with their rich expertise in the respective courses in addition to industry and other experts.

academia with an emphasis on conducting research in emerging technologies likely to disrupt the apparel manufacturing industry. The scholarship is open to B.F.Tech, M.F.Tech and PhD students

#### **NIFT Foundation for Design Innovation (NFDI)<sup>59</sup>**

Aims to develop an ecosystem enabling pre-incubation, incubation, and accelerator support by assisting the fashion, textile, lifestyle accessories, and design community entrepreneurs including NIFT alumni & members, craftsperson, artisans, and external community entrepreneurs in commercialising their products/service ideas.

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<sup>59</sup> [NIFT Incubation \(NFDI\) initiatives- A webinar by I&AA unit, NIFT, HO](#)

### 5.3.2 National Institute of Design (NID)

NID, established at Ahmedabad in 1961 is an educational and research institute offering multidisciplinary design education. It is a statutory institute under the Ministry of Commerce and Industry, Government of India and has been recognised as an 'Institution of National Importance'. It is also recognised by the Department of Scientific and Industrial Research, Government of India as a Scientific and Industrial Research Organisation. Owing to its early start, legacy as the first design institute in India, and its presence on the QS World University Ranking for Art & Design NID is one of the aspirational design institutes in India with graduates (Bachelor in Design) and postgraduate (Master in Design) programmes across 5 broad faculty streams and 20 diverse design disciplines, including the Faculty of Textile, Apparel & Lifestyle Accessory Design: Textile Design, Apparel Design, and Lifestyle Accessory Design.

NID currently hosts several funded labs and centres such as Intellectual Property Rights Cell (IPR), Ahmedabad Campus, Railway Design Centre, Ahmedabad Campus, International Centre for Indian Crafts (ICIC), Ahmedabad Campus, Innovation Centre for Natural Fibre (ICNF), Gandhinagar Campus, Centre for Bamboo Initiatives, Bengaluru Campus, and Smart Handloom Innovation Centre (SHIC), Bengaluru Campus.

Notable industry initiatives delivered by NID include:

#### **National Design Policy**

NID implemented the National Design Policy (NDP) in February 2007 making it the first among developing countries. In pursuance of the policy, the Centre set up four campuses for design education one each in Madhya Pradesh, Assam, Andhra Pradesh, and Haryana along the lines of NID Ahmedabad. As envisaged in the NDP, the Centre also set up the India Design Council (IDC). NID's collaboration with several national and international institutions has helped foster a culture of scientific inquiry through collaborative partnerships and for the faculty and students; this has become a platform for exchanging knowledge and ideas. NID undertakes consultancy

projects from various government, semi-government and private organisations and professionally delivers design solutions in diverse design domains ranging from Industrial Design, Communication Design, Textile/Apparel/Lifestyle Accessory Design and IT-Integrated Design. NID collaborates with 9 UK HEIs for Research, Collaborative Workshops and Projects, Open Electives and Student and Faculty Exchange.

**International Centre for Indian Crafts (ICIC)**

Set up with the primary aim to effectively understand the SWOT of a particular crafts sector in its local context. To develop a national and international network for Crafts Design Research, Training and Knowledge Dissemination for providing collaborative and sustainable linkages to the Indian crafts sector.

**Smart Handloom Innovation Centre (SHIC)**

A resource collaborative that brings together weavers and professionals from diverse fields of design, research, technology, marketing, and signs integrating emerging technologies into the creation of handlooms textiles to restore the dignity of Handlooms to make handloom weaving a sustainable livelihood and vibrant craft in Karnataka.

**Innovation Centre for Natural Fibre (ICNF)**

The centre prioritises India's natural fibres of national importance (Banana, Bamboo, Coir, Hemp, Jute and Water Hyacinth) capabilities, resources and contribution toward sustainability through a design-driven approach.

**National Design Business Incubator**

NDBI nurtures a culture of entrepreneurship in the creative minds of young designers and is India's first design-based business incubator. It incubated 10 start-ups from various sectors in the year 2019-20 and supported 19 student projects with grant funding. Recently signed an MOU with the Indian Institute of Management (IIM) to collaborate and create offerings that may boost innovation and support start-up ecosystem in the country.

### 5.3.3 Pearl Academy

Established in 1993, Pearl Academy is a globally renowned private institution of fashion higher education with a focus on Internationalism; Entrepreneurship and Employability; catering to the needs of the design, fashion, business, and media & journalism. It offers Undergraduate Diploma, Postgraduate Diploma, MBA, and Certificate courses in design along with other creative streams. Nationally, Pearl collaborates with Fashion Revolution India, Fashion Incubator India, FDCI, and Internationally with various HEIs in the UK for student/faculty exchange, training, and collaborative research projects.

Pearl also incorporates sustainability in fashion courses, which was formally introduced into the curriculum with the guidance of UK based Dr Sass Brown. Furthermore, sustainability discourses happen vocationally and practically, through visits to textile recycling units near the campus, focussing on environmental and economic issues. In addition, students are encouraged to complete the MOOC ‘Fashion and Sustainability: Understanding Luxury Fashion in a Changing World’ during the term break and before the advent of the Sustainability Module, which was set up by CSF in collaboration with the international fashion house Kering.

Notable industry initiatives delivered by Pearl Academy Include:

<p><b>Industry Linkages</b></p> <p>Students connect with the industry, undertake real-life projects and assignments, which can include a span of activities from research to design, implementation, installation, and audit. Students are required to undertake an Industry Internship of a duration of 8 -10 weeks to study and understand prevalent</p>	<p><b>Tihar Project – Weaving Behind Bars</b></p> <p>Pearl Academy set up a Fashion Laboratory equipped with all the essential facilities and tools necessary for learning the basics of design &amp; construction, in the prison premises</p> <p><b>SETU Project</b></p> <p>Pearl Academy in collaboration with The SETU Foundation (Skill and Empower the Unserved), has taken an initiative to train</p>
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commercial and industrial practices, standards, and procedures.

the less privileged and help them become entrepreneurs of tomorrow.

**“REZA” Pet Wear**

PG FD students made uniforms for Haryana Police using the traditional textile from Haryana by “REZA”. REZA is popular in the organic cotton yarn which comes from the cotton gram in the Haryana belt without using any chemical process, also the woven fabric is from the Rohtak jail inmates.

**Fashion Revolution India National Alliance**

Pearl and Fashion Revolution India conduct seminars and workshops during the Fashion Revolution Week led by experts in sustainability from their alumni list, including SMEs like Doodlage. They also worked on a 2-year long research project on issues related to post-production waste (PPTW) in the Fashion Industry.

**Incubation Cells**

Incubation cells set up by NIFT, NID and Pearl Academy enable students to seek mentoring from academic tutors as well as industry experts. As Indian education is built on close student-tutor relationships, mentoring is offered despite the absence of a formal relationship. Students are encouraged to participate in international competitions like Redress Design Award, Circular Design Challenge, Graduate Fashion Week, International Woolmark Prize.

**5.3.4 Exemplar India-International HEI Collaborations (see Annex B),**

According to the Ministry of Human Resource Development (MHRD), there were 631 foreign education providers operating in India in 2010, likely to be considerably higher today. Out International HEIs collaborations with Indian HEIs, UK HEIs constitute the highest.

International collaborations with Indian HEIs include:

**Parsons, the New School for Design (USA)**

**School of Design and Innovation (ISDI),**

Mumbai was set up in collaboration with Parsons, the New School for Design and offers programmes in Communication Design, Product Design, Interior Design and Fashion Design.

**Politecnico di Milano (Italy)**

**GD Goenka School of Fashion and Design**

has collaborated with Politecnico di Milano. They offer programmes in Fashion Design, Communication Design, Interior Design and Product Design.

**University of Michigan (USA)**

**Good Business Lab** (a not-for-profit lab incubated at Shahi Exports), online course 'How to Create a Good Business' on Coursera with a focus on research-based interventions and their effect on worker and business outcomes, unpacking "worker wellbeing" across different contexts to design scalable solutions for employer and employee sustainability.

**University for the Creative Arts (UK)**

**MIT Institute of Design in Pune** runs a franchised fashion design programme

**Kingston University (UK)**

**Indian Institute of Art and Design (IIAD)**

was set up in collaboration with Kingston University and offers programmes in Communication Design, Interior and Architecture Design, Fashion Design, and Fashion Business Management.

**Heriot-Watt University (UK)**

**Covid Lockdown Impact on Craft Capacity**

**(CLICC):** with academics from NID and Shrishti Institute of Art, Design and Technology on an 8-week long Global Challenges Research Fund on mediatisation and pedagogy of intangible making heritage for the fashion industries, with new roles for makers and consumers in the wider textiles and fashion space<sup>60</sup>.

<sup>60</sup> [Kalkreuter, B. et al. \(2020\) 'Exploring virtual heritage experience giving as entrepreneurship for makers'](#)

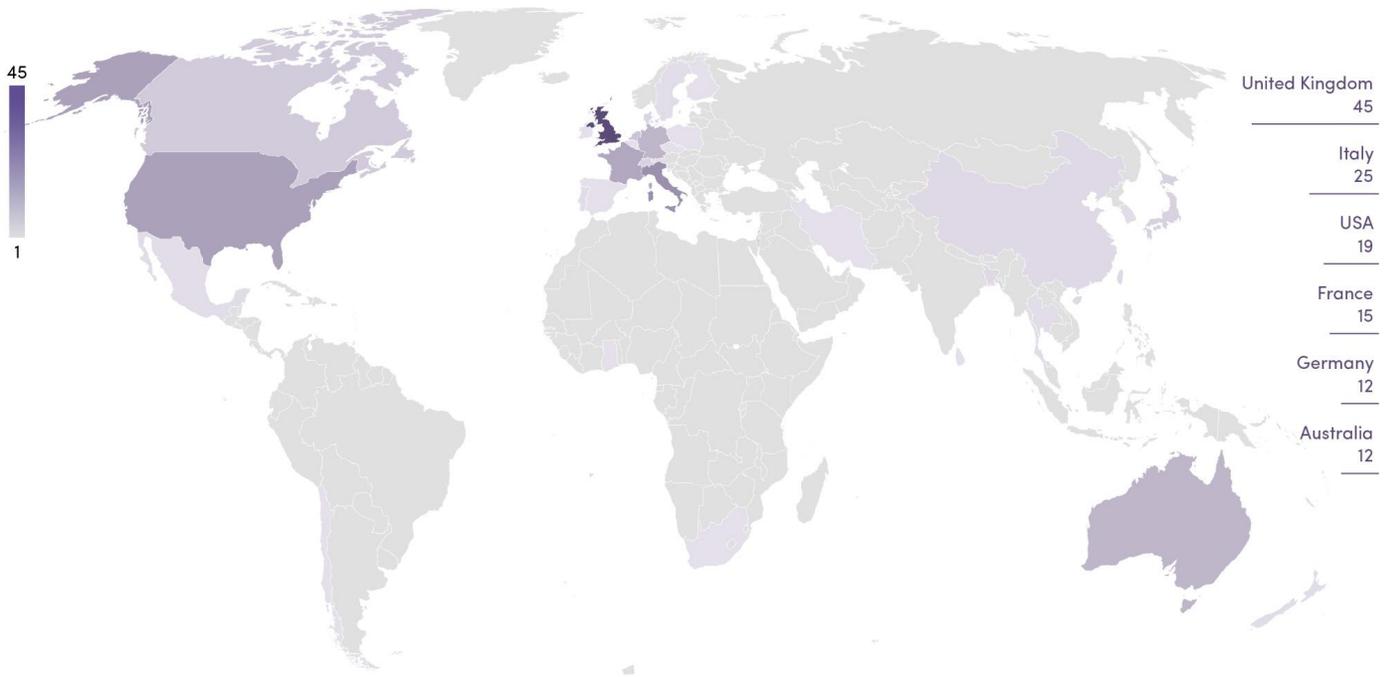


Figure 7: India-International HEI Collaborations.

## 5.4 Other Support in India for Fashion & Textiles Sustainability

India has immense inspirational spaces, traditional crafts, and design and production facilities. All this, in addition to the rich cultural heritage and the current political environment, have catapulted the Indian fashion industry into the spotlight<sup>61</sup>. The Government of India has initiated various programmes such as ‘Skill India’, ‘Digital India’ backing ‘Make in India’ to support the manufacturing sector and create a million jobs by the coming year. Furthermore, they have taken steps to onboard weavers/artisans on Government e-Marketplace (GeM), enabling them to sell directly to various government departments and organisations and a wider market (IBEF, 2021).

### 5.4.1 Exemplar Organisations Supporting Fashion and Sustainability in India

#### **Fashion Design Council of India (FDCI)**

FDCI is a not-for-profit organisation that works to further the business of fashion in India and ensure its sustainable growth. It promotes and nurtures its over 400 members: fashion and accessory designers and professionals, educational institutions, and corporates, who represent the best in Indian fashion. FDCI together with Lakmé Fashion Week (jointly organized by Lakmé & RISE Worldwide) hosted fashion week in New Delhi, from 23-27 March 2022, with sustainable fashion being a key ethos.

#### **India Fashion Incubator**

Launched in 2018, a not-for-profit organisation is India’s first platform to find, nurture, launch and promote talented young designers, by creating a professional environment to mentor and launch promising young creative talents for 6 months.

#### **R|Elan: Fashion for Earth<sup>62</sup>**

R|Elan Fashion For Earth in partnership with UNEP and Lakme Fashion Week started the Circular Design Challenge in 2018/9. It is one of India’s first and largest

<sup>61</sup> Gage, K. and Pasricha, A. (2020) Editorial—Fashion in India

<sup>62</sup> [R-Elan goes Bigger, Better, Bolder](#)

<p><b>International Foundation of Fashion Technology Institute (IFFTI)</b></p> <p>Registered as a Society on 14th October 1999 at New Delhi, India, IFFTI is a global network of 61 International Fashion and Textile Institutes from 28 countries, offering an opportunity to share knowledge and intercultural understanding to inform, develop, shape, and direct the fashion and textile curricula and research agenda.</p>	<p>sustainable fashion challenges in the fashion, textiles and apparel industry. It provides a platform to conscious up-and-coming brands rooted in the principles of circularity in fashion, with an aim to mentor shortlisted entrepreneurs and exposure and access to business opportunities to the winner.</p>
<p><b>Fashion Forward Fellowship</b></p> <p>Led by The ReFashion Hub and YWater, the fellowship provides a platform to young apparel, footwear, and accessory designers where they can think about the impact that current models of the fashion industry have on the water.</p>	<p>In 2019, Nece Gene, Grandma Would Approve, LataSita, Bandit, Paiwand (Pearl Academy Alumni) and Tote Scarf were shortlisted for mentorship by Karishma Shahani, founder and creative director at Ka-Sha and UAL alumni. In 2022 the finalists were CHAMAR, Humanity Centred Designs (NIFT and UAL Alumni), Pieux, Sanah Sharma (Pearl Academy Alumni), SATAT and Thaely.</p>

*Mechanisation has accelerated this process of fast, cheap, and easy, giving rise to a generation that thrives on free shipping and delivery in less than 24 hours. What kind of toll is this taking on our planet? It's only in the past 30 years that India has moved towards generating this much waste instead of consuming less, and a lot of that is due to the rise in income levels. Post liberalisation of the economy in the '90s, we seem to have inherited a mindset of instant gratification, instant use-and-throw, a lack of regard for resources and the people who tend them."*

- Toolika Gupta, Director, IICD

## 6. State of play: UK MSMEs



Phoebe English

This chapter offers a headline state of play regarding UK fashion MSMEs needs and opportunities in the sustainability agenda to contextualise potential collaborative opportunities between UK and India based fashion MSMEs and HEIs. Based on an analysis of existing reports and research undertaken by CSF, it offers a contextual review of how UK-based fashion MSMEs interplay with UK HEIs and an analysis of identified support needs and opportunities of UK fashion MSMEs in relation to sustainability. It should be noted that the role of MSMEs and HEIs in the UK's growing sustainable fashion ecosystem is emergent and dynamic, and the subject of ongoing research.

The UK has a unique profile of design-led fashion micro and small enterprises (MSEs), linked directly with the UK's internationally respected arts education system. Increasingly, UK fashion MSEs are demonstrating ways of doing business that are based on sustainability mindsets and purpose that focus on more than economic goals for prosperity. HEI support for, and learning from MSMEs, draws on interactions across an ecosystem that comprises business support and incubator organisations, policy makers and governments, the creative industries, NGOs, community organisations, investors, and the citizens.

Sustainable fashion MSMEs have a critical role to play in creating 'good' jobs for a wide range of people in local economies, creating positive social, environmental, and cultural impact. They have a core role in the fashion industry transition towards net zero emissions, biodiversity and other climate justice and Sustainable Development Goals by demonstrating how highly innovative, creative practices can value materials, products, people, and cultures. This relates to increasing resourcefulness and ensuring fair labour practices, addressing concerns highlighted in the Fixing Fashion Report by the Environmental Audit Committee (EAC)<sup>63</sup>.

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<sup>63</sup> Environment Audit Committee, Fixing Fashion Report

## 6.1 Exemplar HEI Support to UK Fashion MSMEs in Sustainability

In order to attain the greatest impact on sustainability initiatives, collaborations across sectors are encouraged for knowledge sharing, networking, and for the effective use of resources.

While still a relatively new area for HEIs, academic and SME collaborations have begun to draw significant research funding and public interest<sup>64</sup>. There are numerous ways that HEIs have provided support already to UK fashion MSMEs, such as through providing resources and funding, education, mentoring, networking opportunities, and in advocating for policy change.

### **Re-thinking Fashion Design Entrepreneurship: Fostering Sustainable Practices (FSP)<sup>65</sup>**

FSP is a collaborative research project led by CSF of University of the Arts London. The purpose of the research is to explore the values, vision, capabilities, and business models of the MSEs for sustainable fashion. The project so far has developed policy recommendations related to MSE support needs, a hub for open access resources, presentations for the public, and conference papers. In addition, is the creation of a unique guidebook which provides information on sustainable prosperity and MSE support needs, directed at business support organisations.

### **Business of Fashion, Textiles, and Technology (BFTT)<sup>67</sup>**

BFTT was launched in 2019 as a 5-year industry-led project focused on delivering sustainable innovation within the fashion and textile supply chain. The aim is to develop a new business culture in which SMEs, as well as multinational companies, can use R&D as a mechanism for growth. The project is working closely with the Government to develop a talent pool and support the creative skills development of young people, including in the areas of Science, Technology, Engineering, Arts, and Maths (STEAM) especially.

<sup>64</sup> <https://op.europa.eu/en/publication-detail/-/publication/43511a04-b988-11e9-9d01-01aa75ed71a1>

<sup>65</sup> <https://www.sustainable-fashion.com/fostering-sustainable-practices>

<sup>67</sup> <https://bftt.org.uk/>

**Future Fashion Factory (FFF)<sup>66</sup>**

Founded in 2018, FFF is an industry-led collaborative research programme led by the University of Leeds. The £5.4 million R&D partnership explores and develops new digital and advanced technologies to improve product design. FFF offers degree programmes designed to push innovation and to fill skills gaps in the fashion sector. In addition, FFF provides funding and support for industry-led, collaborative R&D projects that promote data-driven design, circular economy, and innovation.

**Textile and Clothing Business Labs (TCBL)**

TCBL was a research and innovation project from 2015-2019 that was funded by Horizon 2020. The project included 22 partner organisations, two of which were UK-based universities: Oxford Brookes University and The Open University. The aim was to build a business ecosystem of innovation labs, service providers, sector enterprises, and advisors to work

**Manchester Fashion Institute<sup>68</sup>**

Founded in 2016 at Manchester Metropolitan University, with the aim of becoming an international hub of research, enterprise, and education for the next generation of leaders in the fashion sector. It offers a diverse range of undergraduate, post-graduate, and short courses for fashion sector skills. Scholarships are offered to undergraduate students each year to increase racial diversity and inclusivity in the fashion sector. In addition, these courses have also supported skill development for existing MSME business owners.

**Fashion Values<sup>69</sup>**

An educational programme developed in 2021 by CSF, in partnership with Kering, IBM, and Vogue Business. It has created a network of cross-sector leaders in academia, media, design, and technology. This network likewise includes NGOs, advocates, and other communications professionals. The purpose is to create a

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<sup>66</sup> <https://futurefashionfactory.org>

<sup>68</sup> <https://fashioninstitute.mmu.ac.uk>

<sup>69</sup> <https://fashionvalues.org>

collaboratively bringing change to the fashion and textiles sector.

learning platform that has courses and short-form content on a range of fashion sustainability topics. Including four open-access, deep-dive courses on Culture, Economy, Society, and Nature.

## 6.2 MSMEs Support Needs and Opportunities

Rethinking Fashion Design Entrepreneurship: Fostering Sustainable Practices (FSP)<sup>70</sup> has been investigating the creative and business practices in design-led fashion MSEs as a potential driver for transformational change. Key findings show that in order that those who invest in, offer business, showcasing, workspace and other support (known as intermediaries) to MSMEs to foster sustainable practices, there is a need for them to:

- better understand definitions of sustainable prosperity for the fashion industry across environmental, social, cultural, and economic agendas
- redefine growth in de-carbonised business models working to a just transition
- redevelop the support they offer in line with sustainable prosperity
- review the selection criteria for businesses they support

The transformational role of sustainable fashion MSMEs includes finding new niches, and good and innovative practices, that can be replicated across the industry. Success for small sustainable fashion enterprises is often holistic, integrating social, cultural, and environmental interests with more conventional economic performance parameters. Universities, governments, and intermediaries can support UK MSMEs in a number of ways including by:

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<sup>70</sup> [Fostering Sustainable Practices project](#)

### 1. Recognising the Strategic Importance of Sustainable Design Entrepreneurs

There is a need to explicitly recognise and support the role and innovative potential of fashion design MSEs to contribute to a truly sustainable economy<sup>71</sup>.

### 2. Resourcefulness to Reduce Waste and Wastefulness

MSMEs are often passionately resourceful in material and design thinking terms, developing models of making, repair, re-use and re-sale. These models are not supported by government or infrastructure projects that would increase their viability and contribution to sustainability. Improvements to textiles collection and recycling schemes are required, which would benefit both MSMEs and large corporations. Currently, the amount of clothing that is in circulation is too much for recycling and resale markets to handle<sup>72</sup>. However, textile recycling facilities are limited, and businesses lack incentive regarding waste management; this is partially due to a lack of legally binding waste management mechanisms<sup>73</sup>.

### 3. Good Jobs and Trusted Suppliers

Research and policy support is needed to support UK MSMEs as good employers, requiring trusted production opportunities in a more diverse and certified industry. There needs to be support for and of skilled garment workers and good practice, so that MSMEs can extend their sustainability practices throughout a UK-based and international supply chains, trusting material and production supplier practices in and beyond the UK.

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<sup>71</sup> [Dasgupta, P. \(2021\). The Economics of Biodiversity: The Dasgupta Review. \(London: HM Treasury\).](#)

<sup>72</sup> [https://static1.squarespace.com/static/5a1431a1e5dd5b754be2e0e9/t/60ec3d173ba7d954d567ee0d/1626094876047/FR\\_ESF\\_Cleaning+up+Fashion\\_Report\\_2021.pdf](https://static1.squarespace.com/static/5a1431a1e5dd5b754be2e0e9/t/60ec3d173ba7d954d567ee0d/1626094876047/FR_ESF_Cleaning+up+Fashion_Report_2021.pdf)

<sup>73</sup> [https://static1.squarespace.com/static/5a1431a1e5dd5b754be2e0e9/t/60ec3d173ba7d954d567ee0d/1626094876047/FR\\_ESF\\_Cleaning+up+Fashion\\_Report\\_2021.pdf](https://static1.squarespace.com/static/5a1431a1e5dd5b754be2e0e9/t/60ec3d173ba7d954d567ee0d/1626094876047/FR_ESF_Cleaning+up+Fashion_Report_2021.pdf)

#### 4. Collective Action

There is a need to support and facilitate collective initiatives amongst sustainable fashion MSEs, such as shared workspaces, resources and certification of suppliers, and forms of collective voice and formal representation.

#### 5. Measures of Success

Drawing on the wider discourse in factors of success beyond GDP and economic growth agendas, there is a need for more holistic measures of business success beyond economic indicators when assessing support for MSMEs.

#### 6. Business Support for Transformational Change

There is a need to provide funds to help build support infrastructures needed by sustainable fashion MSEs, i.e., support for peer to peer collaboration, rather than top down initiatives.

#### 7. Scaling Out as well as Scaling Up

Different kinds of support for the start-up and continuation of sustainable fashion businesses is needed through foregrounding sustainability criteria in grants, incubators, and mentoring programmes, reviewing existing provision locations and formats. This should include support to those who seek to stay small as well as those who wish to grow into big businesses.

#### 8. R&D Access and Acknowledgement

There has been a shift in support for MSMEs from European Regional Development Funding to UK government funding, creating new co-learning opportunities between universities and MSMEs. This is, however, still very limited and gaps remain in the area of HE and FE combined provision and access to innovation grants with sustainable prosperity criteria for a greater number fashion design businesses.

## 9. Expanding Education Flexibility and Lifelong Learning Opportunities

Building on the UK government policy to extend access to educational loans across life stages, there is an opportunity to respond to the identified needs for re-skilling, skills transfer and ongoing educational development. This involves lifelong, in-work learning and flexible opportunities beyond traditional education points as well as skills building for designing, creating, mending, and repairing clothes across and beyond school and university levels (e.g., EAC recommendations, ECAP).

Many of the MSMEs working in the area of fashion and sustainability do so through values-led design and business models that bring them a sense of freedom, fulfilment, and agency to act on environmental, social, and cultural concerns in ways that also create livelihoods for themselves and others. As well as the imperatives of their approaches, there are a number of strategic advantages to sustainability led practices, recognized<sup>74</sup> by fashion MSMEs which include:

- 1) achieving sustainability vision and impact through creative entrepreneurship
- 2) freedom in decision making, controlling direction, and fostering supplier relationships
- 3) flexibility to test ideas and experiment with materials and business models
- 4) exploring design-driven innovation for sustainability
- 5) enabling first mover advantage through sustainability
- 6) positive engagement with customers, suppliers, and community

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[74 Support report Mapping Sustainable Fashion Opportunities for SMEs](#)

## 7. Findings and Innovation in Sustainability



Cocoon

## 7.1 Innovative Sustainable Practices of Indian MSMEs, Case Studies

This section explores and documents identified business approaches of micro and small fashion enterprises (MSMEs) in India, to outline best practices around economic, cultural, social, ecological sustainability while being design-forward. It draws on in-depth interviews with designers, educators, and support organisations, to offer an understanding of sustainability in action in India and implications for how it can become part of wider fashion discourse.

The journeys and business approaches of these MSMEs are illustrated through eight case studies of fashion-focused enterprises from across India.

Shortlisting enterprises for case studies, was decided through broad thematic areas of businesses, to identify exemplar enterprises working in the sustainable fashion landscape:

- Artisan Entrepreneur
- Farm-to-Fashion
- Circularity
- Impact-Led
- Slow Fashion
- Conscious Luxury
- Material Innovation
- Social Justice

See Annex G for full list of case studies.

**Chamar<sup>75</sup>**

Chamar is a sustainable fashion brand founded on the ambition to confront deep-rooted caste biases and fight discrimination. The brand retrains artisans to apply their craftsmanship to new materials such as rubber from recycled tyres, cotton, latex and canvas, to create handbags, belts and other accessories. 50% of the brand's revenue from sales go to the artisans, firmly believing that designers and artisans need to have a seat at the same table to foster greater equality and participation.

**Ka-Sha<sup>76</sup>**

Ka-Sha uses clothing as a medium to celebrate the 'handcrafted' with artisanal techniques, finding expression in their work. People, stories, journeys, and perspectives are at the core of Ka-Sha's inspiration. Each piece is constructed in natural fabrics, hand-dyed, using zero-waste design methods and crafted with love. Ka-Sha collaborates with artisan

**Saheli Women<sup>79</sup>**

A social enterprise and fashion atelier based in the village of Bhikamkor in Rajasthan. They empower women through skills development and the creation of meaningful livelihood opportunities, which they achieve by partnering with international fashion brands to produce garments, accessories and homeware. With an approach centred around sustainability, transparency, and empowerment, Saheli Women is building a new narrative for rural women in India.

**Doodlage<sup>80</sup>**

Doodlage marries innovative design with sustainable techniques to create exclusive, eco-friendly fashion. Co-founded in Delhi by Kriti Tula, the label redesigns, reconstructs and recycles good quality industrial waste comprising mainly post-production waste, dead stock, and rejected shipments. Creating seasonless, modern, wearable garments designed for longevity.

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<sup>75</sup> <https://chamar.in/>

<sup>76</sup> <https://www.ka-sha.com/>

<sup>79</sup> <https://saheliwomen.com/>

<sup>80</sup> <https://doodlage.in/>

clusters and NGOs across India to create opportunities and improve livelihoods of marginalised communities.

### **Coccon<sup>77</sup>**

A social enterprise turned organic silk production company, Coccon, with their solution, is changing the way the world perceives sustainable fashion by addressing the issue of ethical supply chains. Coccon is GOTS, WFTO certified and is one of the leading fashion companies to introduce the UN SDGs into their agenda with 70% of their spinning and weaving operations zero-carbon. They use 100% renewable energy for irrigation, making farming carbon negative.

### **Urvashi Kaur<sup>78</sup>**

Founded by an environmentally conscious designer, Urvashi Kaur, the brand is a trans-seasonal, adaptable and gender-inclusive label that creates fashion with a local lineage. This is evident in their designs that celebrate local textiles, indigenous crafts, and artisan communities, thereby reducing

### **Juned Khatri<sup>81</sup>**

Juned, a 10th generation artisan, is committed to taking forward his family legacy by catalysing innovation within the craft. An artisan-entrepreneur expanding Ajrakh's footprint in India and beyond. He has collaborated with India's premier Indian design institutions, NIFT, NID, IICD, etc. All materials used to produce the fabric are made in India or grown locally in Kutch. Juned is keen to partner with designers and institutions to co-create zero-waste apparel and experiment with base materials like leather.

### **The Summer House<sup>82</sup>**

At the forefront of sustainability and slow fashion since they launched in 2015, Rekha and Shivangini founded their business on the values of quality, simplicity, and a deep respect for Indian artisans and processes. Limited edition collections designed to outlast seasons are made using responsible

<sup>77</sup> <https://www.coccon.com/>

<sup>78</sup> <https://www.instagram.com/urvashikaur/>

<sup>81</sup> <http://sufiajrahk.com/>

<sup>82</sup> <https://thesummerhouse.in/>

the impact on natural resources. The brand creates anti-fit, fluid clothing that promotes gender-inclusivity, body positivity and mindfulness.	processes, organic raw materials, low-impact dyes - or none at all, and traditional craft techniques. Over a thousand artisans have participated in producing fabric for the brand.
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These case studies act as exemplars of sustainability in action at MSME scale. They demonstrate practices of resourcefulness and extending value of materials and products; this is applied alongside practices of equity and inclusion and an entrepreneurial spirit that contributes to economic prosperity in business and community terms.

## 7.2 Key Themes from the Case Studies

Sustainable fashion MSMEs are supporting distinctive local production, championing traditional skills and crafts, and co-creating designs with communities to foreground regional culture and heritage. Slow is a mindset for these fashion businesses and it takes the form of mindful design, more durable and better-quality fabrics, on-demand and made-to-measure garments, which cannot be replicated by mass market offerings. They are adopting business approaches rooted in social justice and positive impact for markets that are increasingly requesting responsible fashion practices. These fashion businesses play an important role in cultivating economic, social, and cultural dynamism and environmental stewardship in India by creating jobs, innovation, and facilitating economic prosperity.

### Conscious Use of Materials

Popular approaches involve making conscious choices in the use of raw materials, extending the 'materials basket' beyond the dominance of cotton and polyester. Natural handspun fabrics crafted from banana, bamboo, coffee beans, and natural silks are slowly becoming viable alternatives that contribute to reduced reliance on fossil fuels, and do not draw on precious resources such as water and land.

Enterprises intentionally work with natural dyes made from barks, leaves, vegetables, and flowers. They are also innovating with locally found materials (like rubber) and repurposing them as alternatives for leather. These technologies are long practised and exemplify sustainability beyond a technocentric focus that has yet to be shown as regenerative in practice.

### **People-First Approaches**

Foregrounding workers' rights and their wellbeing is key to all the enterprises featured in the case studies. The approaches range from commitment to fair trade practices, gender inclusion, social justice advocacy to innovative pathways around profit-sharing and skill-building. Such enterprises are not only committed to creating sustainable and dignified livelihood opportunities but also driving greater inclusion and visibility for historically marginalised communities.

### **Going Slow and Circular**

Enterprises are using design as a tool to apply resourcefulness, extend the value of resources available to them. This includes circular and zero-waste approaches such as recycling, upcycling, and reselling products. Awareness of environmental issues relating to oil-based materials is leading designers to explore how to be plastic-free, such as using biodegradable packaging. This is communicated to customers and thus Business serves as a means to shift mindsets and towards reduced environmental impact while creating value for the customer

### **Revisiting Cultural Perspectives**

Historically, handwoven natural fibres were the mainstay of livelihoods in rural India. Every house had a loom. This lifestyle - more than just fashion - not only protects the environment but also has a trickle-down effect on the weaving and associated communities, generating sustainable livelihood opportunities and preserving cultural traditions. Growing environmental concerns — amplified by India's serious COVID-19 outbreak — are pushing fashion brands to

revive forgotten local weaves, empower artisan communities, and use earth-friendly fabrics.

### 7.3 Emerging Themes for India MSME and Sustainability Based on Case Studies, Interviews and Desk-Based Research

#### Distributed Value Business Models: Craft-Based Social Enterprises

Owing to India's rich cultural heritage and global manufacturing capacity the HEIs and SMEs in India focus on the craft sector with several initiatives and schemes to fund documentation, upliftment, and training programmes. Furthermore, the rise of craft entrepreneurs enabled by social media channels presents great potential and opportunity for integration between the fashion and technology industry.

#### Resourcefulness Through Extending the Value of Fashion: Textile Waste as a Creative Process

Exposure of fashion students to the cast-off capital, Panipat<sup>83</sup> and the *Chindi Katran*<sup>84</sup> ecosystem has influenced their entrepreneurial ventures, taking upcycling and recycling. Indian retailers and brands like Levi's donate unsold inventory to NGOs which operates nationwide and has a dedicated recycling programme<sup>85</sup>. Upcycling is key word for various Fashion SMEs in India founded by HEI alumnus like Doodlage, Patch over Patch, Ka-Sha, IRO IRO, and artisanal fashion businesses like péro, Good Earth, and Raw Mango (ibid).

#### Soil and Body: Regenerative Fashion Systems

Nationally and internationally, there is a growing interest in understanding the Fashion Supply Chain, starting with the farm stage. Globally the shift is seen through organisations like Fibreshed with their focus on regional and land regenerating natural fibre and dye systems, Polimoda's new course 'Master in Textiles from Farm to Fabric to Fashion' and a Textile Garden

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<sup>83</sup> [Sikka, S. and Brar, P. \(2018\) 'Chindi' or Textile waste products of Panipat, India - Dynamics of Emerging Opportunities](#)

<sup>84</sup> The chindi (rags) and katran (scraps) have their own specialised markets where small-scale dealers buy up waste directly from the factories, reused in a variety of ways by the informal sector (Norris, 2019)

<sup>85</sup> [India Sustainability Report 2020: Science and Sentiment](#)

for Fashion Revolution at RHS Chelsea Flower Show<sup>86</sup>. In a recently released report Regenerative Agriculture Landscape Analysis (Textile Exchange, 2021), Homegrown brand Oshadi is seen as a regenerative pioneer working with the indigenous farming practices in South India and collaborating with UK SMEs like Story MFG. Furthermore, initiatives by NIFT to introduce indigenous plants to the curriculum through Farm to Fashion programmes encourage students to re-imagine fashion's connection with nature and soil.

### **Agro-Waste as an Opportunity**

India is the second-largest agro-based economy in the world and employs a year-long cultivation system (FAOSTAT, 2020), 500 million tonnes of agricultural residues are generated annually. After their utilisation as fuel, fodder and other domestic and industrial uses, a surplus of about 140 million tonnes of residue remains, of which about 92 million tonnes are burnt, adversely affecting the air quality levels in the region<sup>87</sup>. A new study 'Spinning Future Threads' shows that there are enough usable agricultural residue streams from farming in South and Southeast Asia for the production of natural fibres textiles at scale<sup>88</sup>.

International brands like IKEA introduced using the agro-residue rice straw to tackle the air pollution problem prevalent in North India<sup>89</sup>. Locally SMEs like AltMat, Bananatex, Chlorohemp, Agralooop by Circular Systems, HempTex India and 9Fiber are working with Laudes Foundation, Adidas, Bestseller, Vivobarefoot and Birla Cellulose to turn agricultural waste into fibres through a global sustainable initiative by Fashion for Good 'Untapped Agricultural Waste'<sup>90</sup>.

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<sup>86</sup> [A Textile Garden for Fashion Revolution](#)

<sup>87</sup> [National Policy for Management of Crop Residues](#)

<sup>88</sup> [Spinning Future Threads: The Potential of Agricultural Residues as Textile Feedstock](#)

<sup>89</sup> [IKEA introduces FÖRÄNDRING, a collection based on rice straw](#)

<sup>90</sup> [The Next Generation of Materials... From Waste](#)

## 8 . Role of Universities in Supporting Fashion MSMEs in Sustainability

Beyond providing education, training, and skills to meet the demands of the changing world of work and prepare for the jobs of tomorrow, HEIs can be said to be “at the epicentre of human creativity and learning, critical to our planet surviving and thriving”<sup>91</sup>. HEIs are uniquely placed to support fashion MSMEs in sustainability as they fulfil key roles in mitigating barriers, levelling up and as places that explore short and long term horizons:

### 1. HEIs for Upskilling and Reskilling

HEIs provide knowledge, skills, and capabilities for those working in fashion to have agency to question and transform products and systems, shaping and preparing next-generation fashion designers with the skills they need. HEIs are uniquely placed to support government agendas with skills development in and beyond formal higher education courses.

Fashion MSMEs need HEIs to supply technical and industry-specific skills training but also transversal skills to prepare them to better tolerate ambiguity and manage uncertainty.

HEIs are well equipped to deliver flexible learning, relevant to different life-stages and learner needs. Open access online courses that allow for an economically, culturally, and geographically diverse set of participants, offer access and a way of mitigating the inequality of usual HEI accessibility. Digital courses are also a way to overcome unmet demands of HEIs. Practice-based and experiential learning opens up the university to new audiences, and can provide accreditation for high quality, needs-based lifelong learning.

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<sup>91</sup>

<https://eua.eu/downloads/publications/universities%20without%20walls%20%20a%20vision%20for%202030.pdf>

## 2. HEI as Disruptor

HEIs provide a space “for lateral thinking and for creating new knowledge that still lies outside of mainstream awareness”<sup>92</sup>. Fashion MSMEs collaborating with HEIs can test new ideas in safe spaces, testing the equilibrium between ecological, economic and social concerns, the digital transition and major political developments<sup>93</sup>. Through critical discourse and R&D collaboration, HEIs are well placed to mitigate local/global issues.

## 3. HEIs as Anchor in Place-Making

As place-based institutions, HEIs are landmarks of knowledge within localities. They can act as pivot between councils, government, and the public to address local needs and challenges, providing connections to businesses and institutions in proximity of one another, and boosting localism. The smaller scale operations of MSMEs allow for localised production and sale that offers distinction through understanding of and proximity to markets and access to locally relevant resources. Textiles and designs seeped in traditional heritage and cultural significance imbue considerable meaning into their products that create something special and to be cherished by their customers.

## 4. HEIs as Connectors

### Mentoring and Networking

To support Fashion MSMEs, HEIs can aid in propagating new networks and connections through hosting, showcasing or meet and greet events, and by enabling swift access to contacts that would otherwise be difficult and time consuming to gather. Connections can be fostered between MSMEs and large businesses, manufacturers and suppliers, funders and philanthropists, while also allowing MSME-MSME relationships to be developed and explored. As such, supporting MSMEs through networking ventures allows them to find suitable

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<sup>92</sup> European University Association [Universities of the Future](#) p5

<sup>93</sup> European University Association [Universities of the Future](#) p4

collaborators, access to skilled workers, relevant suppliers, and exposure to potential investors, thereby connecting and aligning values across the supply chain. Resources, in the form of knowledge, skills, connections, tools and materials can be indispensable in filling the gaps experienced by individual MSMEs in their businesses.

### Workspace/Design Hubs

India and the UK both need further options for open and affordable workspace, particularly for designers. Workspaces are needed in areas that would enable creative cluster formation and collaboration across related sectors. Collaborative workspaces and design clinics may also support skills gap barriers experienced by MSMEs and support connections between a pooled, skilled labour market and specialised intermediaries.

## 5. HEIs as Advocates for Policy Change

Universities are well placed to lobby on behalf of MSMEs especially with proof of concept as support. Fashion MSMEs constitute good case studies to demonstrate the need to reform tax, policy incentives and other support mechanisms for small businesses operating sustainably. Much of the policy landscape is shaped by multinationals and large businesses and do not recognise the strategic importance and value of MSMEs, who make up over 99% of creative businesses in the UK. Many graduates set up their own businesses, so universities have a duty and understanding of designer entrepreneurs and are thereby well placed to advocate for them.

## 6. HEIs as Research and Knowledge Exchange Powerhouses

### Recycling and Extending Product Life

Despite the presence of innovative MSMEs pioneering circular fashion through upcycling and recycling platforms, for instance Elvis & Kresse<sup>94</sup> and MUD Jeans<sup>95</sup>, the recycling infrastructure

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<sup>94</sup> <https://www.elvisandkresse.com>

<sup>95</sup> <https://mudjeans.eu>

for clothing is severely limited in the UK and other countries. Though customers are more readily recycling unwanted clothing, the actual amount of clothing that is able to be re-sold or re-enter the fashion cycle is limited due to material qualities and the scarcity of scalable textile-to-textile recycling technologies. To provide MSMEs with the resources that many seek (existing products and materials) and establish large-scale viability of a circular fashion model, critical detailing of a clothing recycling infrastructure must be addressed.

#### Alternative Measures of Prosperity

The potential for MSMEs to provide substantial impact across the entire fashion ecosystem necessitates the inclusion of these impacts when quantifying their growth. Therefore, instead of traditional economic growth, the criteria for MSME growth should begin to be measured in sustainable prosperity success measures. Under the sustainable prosperity umbrella, success of UK fashion MSMEs can be described through cultural, social, environmental, and economic prosperity values. HEI research and knowledge exchange is vital to create new metrics that are appropriate and useable, based on sound qualitative and quantitative research.

Universities are uniquely placed to lead opportunities for triple helix innovations where academia, industry and government work together, alongside the public (quadruple helix), and with the environment as a stakeholder (quintuple helix).

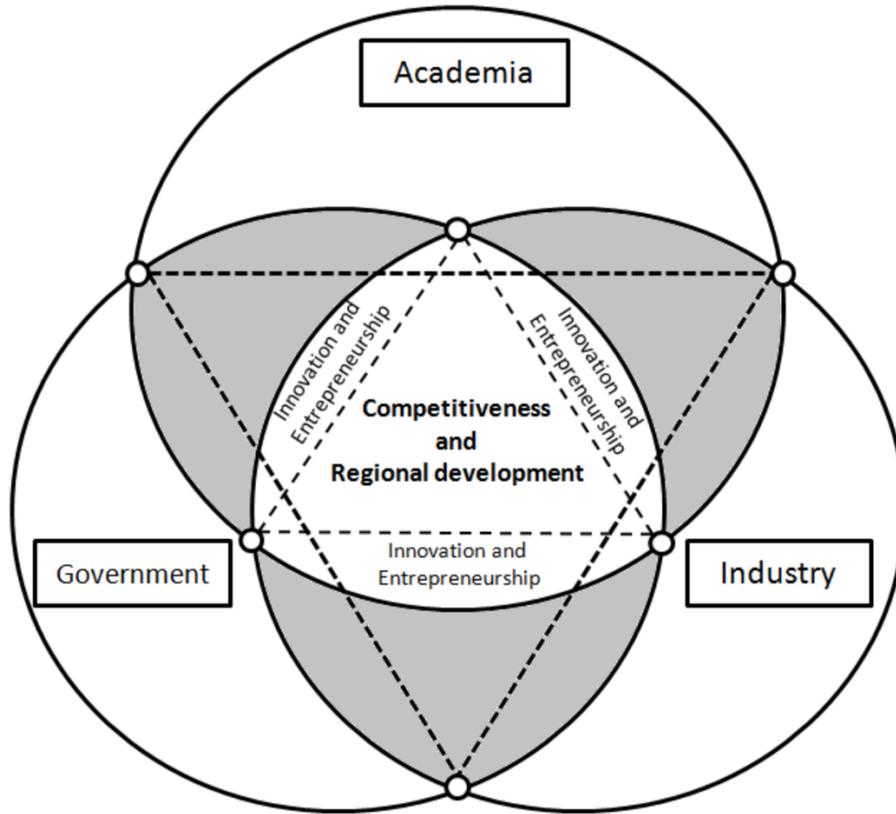


Figure 8: Triple helix triangulation Farinha, Luís, 2012, in TRIANGULATION OF THE TRIPLE HELIX: A CONCEPTUAL FRAMEWORK

## 8. Conclusions and Recommendations



The findings in this report identify a set of opportunities for the UK and India fashion and sustainability partnership in realising net zero and regenerative fashion goals through MSMEs and universities and their industry, community, and societal networks. These recommendations seek to make significant contributions to creating low carbon practices, products, and services for a regenerative fashion economy and recognise the distinctive role of MSMEs and universities and their networks.

### **Digital Co-Learning to Incubate Millions of Designer Entrepreneurs Across Life Stages.**

The information age has enabled an exponential rise in access to digital learning resources, heralding an unprecedented rise in interactive knowledge, skills, and capabilities provision. India's digital technology providers and UK fashion and sustainability expertise can create knowledge exchange between MSMEs and UK and India educators for participants across life stages, needs and locations.

The fashion and sustainability skills gap in India and UK is identified in craft, making, digital, technical, technological, organisational and access to funding. Flexible learning modules offer pathways for entrepreneurs to equip themselves and their teams with skills required to build sustainable, profitable businesses and demonstrate their skills to the wider industry. Courses must be relevant to needs and locations, connecting communities, industry bodies and academic institutions in sustainable design innovation ecosystems.

A clear gap in provision of sustainability led interactive learning and knowledge exchange is identified, with evidence of millions of potential participants across UK and India. Co-created digital learning provision can offer design entrepreneurship skills that can be connected to innovation challenges, where UK and India sustainable design entrepreneurs can ideate and share resources.

India has the world's largest population of 15-24 year olds, comprising 500 million people, with only 27 million having access to the HE education system. Digital micro learning modules and courses can swiftly upskill learners, to equip them for jobs in environmental, social, cultural, and economic innovation. Partnership accredited courses can equip a generation to be changemakers, a pathway to sustainable prosperity.

## **R&D for Industry that Supports MSMEs in UK and India: Networked Sustainability Start Ups**

The gap between graduation and flourishing MSME businesses is clear in India and the UK. Whilst both India and UK Government funded initiatives support universities in bridging that gap through a range of business support programmes, few have sustainable prosperity at their heart, and there is no evidence of UK/India MSME sustainable design entrepreneurship support.

By establishing a network of business support, with environmental and social prosperity at their core, there is an opportunity to recognise, support and scale sustainable prosperity. By linking existing labs, hubs, workspaces, and business support organisations, with clear sustainability intention, support organisations and businesses can focus on radical sustainability innovation, rather than add-ons in a business-as-usual model. There is an opportunity to extend knowledge and innovation in start-ups and in intermediaries (those who support, invest in, and showcase fashion) through a programme of activities, potentially linked to larger scale industry investment.

### **Co-Knowing and Co-Doing Labs**

Whilst there are many fashion academia and industry connections in India, there is little evidence of a knowledge exchange infrastructure that enables sustainability led co-learning between educators, researchers, NGOs, and industry practitioners. The UK's developing Knowledge Exchange (KE) culture in fashion and sustainability offers the opportunity to engage with India's KE communities in sustainable innovation, to develop rapid prototyping through co-knowing and co-doing labs. Facilitated through a touring innovation lab programme, and interactive digital network, the programme would focus on identified areas of need, such as low carbon products, business, and lifestyles.

India's extensive knowledge in farming, crafts, fibre knowledge, dyeing skills, product and service design, practices of resourcefulness and resilience, alongside manufacturing and digital technologies offer exchange opportunities with the UK's product, service and systems design, sustainable entrepreneurship, social design, and customer engagement expertise.

### **Early Career Researcher Innovator Programme**

There is scope for focused innovation in relation to identified local, industry and environmental needs through researcher exchanges and academia and industry KE placements. This builds on an identified need and opportunity in the UK, to support the development of action research

through the creative talent of Early Career Researchers (ECRs). By creating a scheme for ECRs in UK and India, focused on Sustainable Prosperity, there is an opportunity to undertake interdisciplinary research and product, service, and systems innovation in response to identified briefs set by a consortium of industry, government, and environmental agencies.

### **Resourcefulness Action Research Programme**

The material element of fashion, whilst only part of the story, is an area that receives substantial attention. The material component of fashion products is the most visible element of the impact of a product, both in and post use. Holistic approaches are critical to achieving net zero (efficiency gains are often outweighed by volume increases) and within this, materials issues must be addressed. Three key areas of opportunity in relation to materials and material resourcefulness are identified as:

#### *Expanding the materials basket and reducing the reliance on fossil fuel-based materials*

There is an established body of research relating to expanding fibre and materials options for fashion, including specific research relating to UK and India (DEFRA Clothing Sustainability Roadmap 2008<sup>96</sup>). With the UK and India both exploring alternatives to cotton and polyester, there is an action research opportunity to innovate and scale better material options, moving away from a reliance on fossil-fuel based materials.

#### *Extending the life of products and materials and diverting fashion from landfill*

There is an established body of research relating to re-cycling, circular textiles and diverting fashion from landfill. The distinctions and similarities between fashion waste challenges in India and UK offer the opportunity for co-learning on two levels; to bring discarded textiles back into circulation and to extend the first life of products. A call for action research relating to resourcefulness could bring an interdisciplinary, academic, public, and community-based set of co-inquirers together to create new knowledge and behaviours. This could extend the economic, social, and cultural value of fashion, reduce emissions, resource use, biodiversity loss and use of chemicals.

#### *Optimising the waste from other industries into fashion materials*

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<sup>96</sup> Defra, [Sustainable Clothing Action Plan](#)

India is the second largest agro-based economy in the world and employs a year-long cultivation system (FAOSTAT, 2020), with 500 million tonnes of agricultural residues generated annually. After their utilisation as fuel, fodder and other domestic and industrial uses, a surplus of about 140 million tonnes of residues remains, of which about 92 million tonnes are burnt, adversely affecting the air quality levels in the region. There are enough usable agricultural residue streams from farming in South and Southeast Asia to produce natural fibres textiles at scale, offering the opportunity to build on current research initiatives, through a call for a UK and India action research programme in agro-waste for fashion to connect diverse knowledges to develop new materials and knowledge.

### **Connecting UK and India MSMEs to New Markets and Directly with Customers**

The fashion markets of the UK, EU and US are saturated with a plethora of brands, stores, and online marketplaces. The expanding population in India with disposable incomes is growing sharply. There is an imperative to find ways to create access for these potential customers to high quality, sustainable fashion that is recognised as more in line with citizen values than the exploitative and increasingly alluring model of fast fashion. This would enable MSMEs authentically offering low carbon, fair, high value fashion to sell, re-sell and rent directly with customers, curtailing the rise in fossil fuel intensive fashion and the 'push' model of high consumption. For MSMEs in India and the UK, this offers ways to create high value products, jobs, and social, cultural, economic, and environmental prosperity.

### **Regenerative Farming and Regenerative Cultures Initiative**

Innovation relating to regenerative practices is vital in a just transition to a more sustainable fashion system. Through identified initiatives in India and UK, there is an opportunity for co-learning and co-experimentation relating to regenerative supply chains. By forming and learning from Fibreshed projects, localised supply chains, craft communities and other models of sufficiency, radical innovation is possible. With further research, partners, and collaborators from across academia, industry, regions, and communities could be facilitated to connect through participatory, transformation design methodologies, that respect and celebrate indigenous knowledges, tacit and situated knowledge. Whilst radical in approach, as fashion is both imaginative and practical, it offers ways to practically change practices in ways that are often overlooked in techno-centric approaches to sustainability.

## Fashion and Wellbeing Hub

Implicit in the findings of this research, and in the wider discourse of fashion and sustainability, is a recognition of the value of fashion in social, cultural, and personal identity terms. This cannot be measured through its economic transactions but can add to its value. There is an increasing discourse in wellbeing and expansion in the understanding of prosperity, for instance with New Zealand introducing a wellbeing budget, Bhutan officially recognising the value of happiness since the 1970s and the Dasgupta report to name but a few, there is an opportunity to explore the contribution of fashion to wellbeing through practice-based public collaboration in research that can contribute to living well together on a finite planet. The wealth of knowledges across the UK and India offer rich ingredients for such a practice-based exploration.

*“As Indians, sustainability has been part of our ethos for generations, even when we didn’t have the language for it. This subcontinent has survived for 8000 years because sustainability is built into the system. Handing down clothing from elder to younger siblings, to orphanages, to be used and repurposed until it’s a rag continues to be how we do things in most households. No one ever threw away something that could be given new life as something else, and it was possible because it was all natural fibres like cotton. No other country recycles the way we do. The West is now looking at collaborative consumption, renting, and thrifting, which have always existed here in India.”*

Toolika Gupta, Director, Indian Institute of Crafts & Design (IICD)



Saheli x Zazi Vintage

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## 10. References

Agrawal, P., Arora, S., Prakash, B., & Vaid, V. (2020, January). *Inside View - Annual Report on Textile and Apparel Industry* (Rep.). Available at:

[https://wazir.in/pdf/Wazir%20Advisors Inside%20View%20-%20Annual%20Report%20on%20Textile%20and%20Apparel%20Industry.pdf](https://wazir.in/pdf/Wazir%20Advisors%20Inside%20View%20-%20Annual%20Report%20on%20Textile%20and%20Apparel%20Industry.pdf) (Accessed: 5 March 2022)

Alok, R. (2015, March 08). *Beef ban may spell doom for Dharavi Leather Trade*. Indian Express. Available at:

<https://indianexpress.com/article/cities/mumbai/beef-ban-may-spell-doom-for-dharavi-leather-trade/> (Accessed: 5 March 2022)

Amed, I., Balchandani, A., Beltrami, M., Berg, A., Hedrich, S., & Rölkens, F. (2019, February 07). *How India's ascent could change the fashion industry*. McKinsey & Company. Available at:

<https://www.mckinsey.com/industries/retail/our-insights/how-indias-ascent-could-change-the-fashion-industry> (Accessed: 5 March 2022)

Anner, M., Dr. (2019, November). *Sourcing Dynamics, Workers' Rights, and Inequality in Garment Global Supply Chains in India* (Rep.). Available at:

[https://ler.la.psu.edu/gwr/documents/copy\\_of\\_CGWRGarmentSourcingandWorkersRightsinIndiaNov.152019.pdf](https://ler.la.psu.edu/gwr/documents/copy_of_CGWRGarmentSourcingandWorkersRightsinIndiaNov.152019.pdf) (Accessed: 5 March 2022)

Banerjee, D. S., & De, S. N. (2018). *India's Informal Employment in the Era of Globalization: Trend and Challenges*. IOSR Journal of Business and Management (IOSR-JBM), 20 (4). Available at:

<https://iosrjournals.org/iosr-jbm/papers/Vol20-issue4/Version-3/C2004031220.pdf> (Accessed: 5 March 2022)

Birla Cellulose (2021) Birla Cellulose aims 'Net Zero Carbon emissions across all its operations by 2040', 31 Jan [Press release]. Available at: [https://www.birlacellulose.com/press-release/Birla%20Cellulose%20aims%20Net%20Zero%20Carbon%20emissions%20across%20all%20its%20operations%20by%202040\\_1643615943.pdf](https://www.birlacellulose.com/press-release/Birla%20Cellulose%20aims%20Net%20Zero%20Carbon%20emissions%20across%20all%20its%20operations%20by%202040_1643615943.pdf) (Accessed: 13 Feb 2021)

British Council & India Design Council. 2016. *The Future of Design in India*. Available at: [https://www.britishcouncil.in/sites/default/files/the\\_future\\_of\\_design\\_education\\_in\\_india.pdf](https://www.britishcouncil.in/sites/default/files/the_future_of_design_education_in_india.pdf) (Accessed: 5 March 2022)

British Council (2021) 'Taking the Temperature Report 2'. Available at: [https://www.britishcouncil.in/sites/default/files/ttt2\\_report\\_un\\_year\\_of\\_creative\\_economy\\_aug\\_2021.pdf](https://www.britishcouncil.in/sites/default/files/ttt2_report_un_year_of_creative_economy_aug_2021.pdf) (Accessed: 11 January 2022)

Cabinet (2021) 'Government has approved Production Linked Incentive (PLI) Scheme for Textiles.', 8 September [Press release]. Available at: <https://www.pib.gov.in/PressReleasePage.aspx?PRID=1753118> (Accessed: 20 Jan 2022)

Chatterjee, A. (2019) *Design education in India: An experiment in modernity* [Speech]. Frame Conclave, Goa. 16 August. Available at: <https://www.frameconclave.com/lecturesanddiscussions?wix-vod-video-id=dae74dcb415b4d699de203b734b2c17d&wix-vod-comp-id=comp-k61qvht5> (Accessed: 9 January 2022)

Deb, S. (2022) 'Reinventing India's creative economy in a digital era', *Trade Promotion Council of India*. Available at: <https://www.tpci.in/indiabusinesstrade/blogs/reinventing-indias-creative-economy-in-a-digital-era/> (Accessed: 12 February 2022)

Department for Promotion of Industry and Internal Trade (2011) *National Design Policy*. Available at: <https://dpiit.gov.in/policies/national-design-policy> (Accessed: 20 January 2022)

European Commission, Directorate-General for Internal Market, Industry, Entrepreneurship and SMEs, Support report mapping sustainable fashion opportunities for SMEs, Publications Office, 2019, <https://data.europa.eu/doi/10.2873/694021>

European Skills Council (2014) *Textile Clothing Leather Footwear Report*. Available at [http://europeanskillscouncil.t-c-l.eu/pdoc/22-eng/2014\\_report\\_F.pdf](http://europeanskillscouncil.t-c-l.eu/pdoc/22-eng/2014_report_F.pdf)

FAO (2022) FAO in India: India at a glance. Available at <https://www.fao.org/india/fao-in-india/india-at-a-glance/en/> (Accessed: 2 March 2022)

Fashion for Good (2022) *The Next Generation of Materials... From Waste*. Available at: [https://fashionforgood.com/our\\_news/the-next-generation-of-materials-from-waste/](https://fashionforgood.com/our_news/the-next-generation-of-materials-from-waste/) (Accessed at: 13 March 2022)

Fashion for Good and CAIF (2020) *The State of Circular Innovations in the Indian Fashion and Textile Industries*. Available at: <https://reports.fashionforgood.com/report/state-of-the-circular-innovations-in-the-indian-fashion-and-textile-industry/chapterdetail?reportid=181&chapter=1> (Accessed: 16 February 2022)

Fashion Revolution (2022) *A Textile Garden for Fashion Revolution*. Available at: <https://www.fashionrevolution.org/a-textile-garden-for-fashion-revolution/> (Accessed: 2 March 2022)

FICCI (2019) *Creative Economy - Nation Building: Higher Education as the Catalyst*. Available at: <https://ficci.in/study-page.asp?spid=23151&sectorid=11>) Accessed: 12 January 2022)

Foreign, Commonwealth & Development Office. (2021). *2030 Roadmap for India-UK future relations*. London: Government of the United Kingdom

Fostering Sustainable Practices in Fashion MSMEs, *Next Steps for Policy*. Available at: [https://www.sustainable-fashion.com/files/ugd/9dbc3c\\_c6ac51e2fded4d108bb2ce4a837cbb14.pdf?index=true](https://www.sustainable-fashion.com/files/ugd/9dbc3c_c6ac51e2fded4d108bb2ce4a837cbb14.pdf?index=true)

Gage, K. and Pasricha, A. (2020) Editorial—Fashion in India, *Fashion Practice*, 12(2), pp. 163-171. doi: 10.1080/17569370.2020.1769359

Ghani, E. (2020, October 30). *The right support: Creating the 100 million Jobs India needs*. Financial Express. Available at: <https://www.financialexpress.com/opinion/the-right-support-creating-the-100-million-jobs-india-needs/2116839/> (Accessed: 5 March 2022)

Gudimetla, C. R. and Rajaram, N.J. (2015) Career Aspirations and Background of Students Opting for Fashion Education Courses in India, *Procedia - Social and Behavioral Sciences*, 176, pp. 952-960. doi: 10.1016/j.sbspro.2015.01.564.

IAMAI and Kantar (2021) *Internet Adoption in India. ICUBE 2020*. Available at: [https://images.assettype.com/afaqs/2021-06/b9a3220f-ae2f-43db-a0b4-36a372b243c4/KANTAR\\_ICUBE\\_2020\\_Report\\_C1.pdf](https://images.assettype.com/afaqs/2021-06/b9a3220f-ae2f-43db-a0b4-36a372b243c4/KANTAR_ICUBE_2020_Report_C1.pdf) (Accessed: 5 January 2022).

IBEF (2021) *Education and Training Industry Report*. Available at:

<https://www.ibef.org/industry/education-sector-india> (Accessed: 10 December 2021)

IBEF (2021) *Textile and Apparel Industry Report*. Available at:

<https://www.ibef.org/industry/textiles> (Accessed: 10 December 2021)

IKEA (2019) *IKEA introduces FÖRÄNDRING, a collection based on rice straw*. Available at:

<https://about.ikea.com/en/sustainability/a-world-without-waste/ikea-introduces-frndring-a-collection-based-on-rice-straw> (Accessed at: 13 March 2022)

Indian MSME Industry Report (2021, November). Available at:

<https://www.ibef.org/industry/msme.aspx> (Accessed: 5 March 2022)

Institute for Sustainable Communities, World Resource Institute and Wageningen University & Research (2021) *Spinning Future Threads: The Potential of Agricultural Residues as Textile Feedstock*. Available at: <https://www.laudesfoundation.org/learning/research/2021-07-01-spinning-future-threads> (Accessed: 21 February 2022)

Invest India. (n.d.). *Textile Industry in India - Garment & Apparel Market in India*. Available at:

<https://www.investindia.gov.in/sector/textiles-apparel> (Accessed: 6 March 2022)

Jha, B. (2014) *A study of collaboration between Higher Education and Non Formal Adult Education for development of Fashion Technology courses*. PhD thesis. Banasthali University. Available at: <https://shodhganga.inflibnet.ac.in/handle/10603/141872#> (Accessed: 14 Jan 2022).”

Kalkreuter, B. et al. (2020) ‘Exploring virtual heritage experience giving as entrepreneurship for makers’ Global Fashion Conference, Lyon, 21–23 October 2020. Available at: <http://gfc->

[conference.eu/wp-content/uploads/2020/11/KALKREUTER-ET-AL\\_Exploring-virtual-heritage-experience-giving-as-entrepreneurship-for-makers.pdf](https://conference.eu/wp-content/uploads/2020/11/KALKREUTER-ET-AL_Exploring-virtual-heritage-experience-giving-as-entrepreneurship-for-makers.pdf) (Accessed: 15 December 2022).

Kennedy, J. (2022) 'Innovation now will rejuvenate India's creative economy post pandemic', *The Times of India*, 14 January. Available at:  
<https://timesofindia.indiatimes.com/blogs/voices/innovation-now-will-rejuvenate-indias-creative-economy-post-pandemic/> (Accessed: 26 January 2022)

Matthew, J.. (no date) 'Creative manufacturing in India', *British Council*. Available at:  
<https://creativeeconomy.britishcouncil.org/guide/creative-manufacturing-india/> (Accessed: 24 February 2022)

Ministry of Agriculture (2014) National Policy for Management of Crop Residues. Available at:  
[https://agricoop.nic.in/sites/default/files/NPMCR\\_1.pdf](https://agricoop.nic.in/sites/default/files/NPMCR_1.pdf) (Accessed: 2 March 2022)

Ministry of Education (2020) *All India Survey in Higher Education*. Available at:  
[https://www.education.gov.in/sites/upload\\_files/mhrd/files/statistics-new/aishe\\_eng.pdf](https://www.education.gov.in/sites/upload_files/mhrd/files/statistics-new/aishe_eng.pdf)  
(Accessed: 20 January 2022)

Ministry of Textiles (2021) '2021- A Year of Game Changing Reforms for Ministry of Textiles', 27 Dec [Press release]. Available at:  
<https://www.pib.gov.in/PressReleasePage.aspx?PRID=1785516> (Accessed: 20 Jan 2022).

Ministry of Textiles (2021) 'Year End Review 2020 - Ministry of Textiles', 30 Dec [Press release]. Available at: <https://pib.gov.in/Pressreleaseshare.aspx?PRID=1684735> (Accessed: 20 Jan 2022).

Ministry of Textiles (2021) *Annual Report 2020 - 21*. Available at:  
[http://texmin.nic.in/sites/default/files/AR\\_Ministry\\_of\\_Textiles\\_%202020-21\\_Eng.pdf](http://texmin.nic.in/sites/default/files/AR_Ministry_of_Textiles_%202020-21_Eng.pdf)  
(Accessed: 13 December 2022).

Ministry of Textiles (2021) 'Notification issued for setting up of 7 Mega Integrated Textile Region and Apparel (PM MITRA) Parks with a total outlay of Rs. 4,445 crore.', 22 October [Press release]. Available at: <https://pib.gov.in/PressReleaseDetail.aspx?PRID=1765737> (Accessed: 20 Jan 2022).

Ministry of Textiles (2021) *Twentieth Report - Functioning of National Institute of Fashion Technology (NIFT)*. Available at: [https://eparlib.nic.in/bitstream/123456789/810434/1/17\\_Labour\\_20.pdf#search=null%20Departmentally%20Related%20Standing%20Committees](https://eparlib.nic.in/bitstream/123456789/810434/1/17_Labour_20.pdf#search=null%20Departmentally%20Related%20Standing%20Committees) (Accessed: 20 January 2022)

Ministry of Textiles (2021) *Twenty Ninth Report on Action taken by the Government on the Observations/ Recommendations of the Committee contained in their Twentieth Report (Seventeenth Lok Sabha) on 'Functioning of National Institute of Fashion Technology (NIFT)*.

Available at: [https://eparlib.nic.in/bitstream/123456789/835405/1/17\\_Labour\\_Textiles\\_and\\_Skill\\_Development\\_29.pdf](https://eparlib.nic.in/bitstream/123456789/835405/1/17_Labour_Textiles_and_Skill_Development_29.pdf) (Accessed: 20 January 2022)

Ministry of Textiles (2021) *Twenty Ninth Report on Action taken by the Government on the Observations/ Recommendations of the Committee contained in Twentieth Report*. Available at:

[https://eparlib.nic.in/bitstream/123456789/835405/1/17\\_Labour\\_Textiles\\_and\\_Skill\\_Development\\_29.pdf](https://eparlib.nic.in/bitstream/123456789/835405/1/17_Labour_Textiles_and_Skill_Development_29.pdf) (Accessed: 20 January 2022)

NIFT (2020) *Annual Report*. Available at: [https://www.nift.ac.in/sites/default/files/inline-files/NIFT\\_Annual\\_Report\\_2019-20\\_-\\_English\\_Final.pdf](https://www.nift.ac.in/sites/default/files/inline-files/NIFT_Annual_Report_2019-20_-_English_Final.pdf) (Accessed: 21 December 2021)

NIFT (2020) *Annual Report*. Available at: [https://www.nift.ac.in/sites/default/files/inline-files/NIFT\\_Annual\\_Report\\_2019-20\\_-\\_English\\_Final.pdf](https://www.nift.ac.in/sites/default/files/inline-files/NIFT_Annual_Report_2019-20_-_English_Final.pdf) (Accessed: 21 December 2021)

NIFT Delhi (2021) NIFT Incubation (NFDI) initiatives- A webinar by I&AA unit, NIFT, HO. 5 June.  
Available at: <https://youtu.be/RrsDt4MtgyQ> (Accessed: 13 February 2022).

Norris, L. (2010) *Recycling Indian Clothing: Global Contexts of Reuse and Value*. Indiana: Indiana University Press.

*Outlook* (2021) 'Outlook-ICARE Rankings 2021: India's Top 25 Private Institutes of Fashion Design', 31 July. Available at: <https://www.outlookindia.com/magazine/story/education-news-outlook-icare-rankings-2021-indias-top-25-private-institutes-of-fashion-design/304835>  
(Accessed: 11 January 2022)

Pratibha (no date) *How Pratibha Works*. Available at:  
<https://pratibha.digitalindiaincorporation.in/digi/process-flow/> (Accessed: 16 January 2022).

Prime Minister's Office (2021) 'National Statement by Prime Minister Shri Narendra Modi at COP26 Summit in Glasgow', 1 Nov [Press]. Available at:  
<https://pib.gov.in/PressReleasePage.aspx?PRID=1768712> (Accessed: 13 Dec 2021)

Radharaman, K. (2020, April 3). *If the textile industry is to recover from the lockdown, it needs quick government help*. The Wire. Available at: <https://thewire.in/business/textile-industry-covid-19-government-help> (Accessed: 5 March 2022)

Reddy, G. C. (2020) *A study on the academic management of fashion education in India*. PhD thesis. The Maharaja Sayajirao University of Baroda. Available at:  
<https://www.proquest.com/openview/b433846e5802383c9ec84cbedd0e6229/1?pq-origsite=gscholar&cbl=18750&diss=y> (Accessed: 15 Feb 2022)

R-Elan (2019) R-Elan goes Bigger, Better, Bolder. Available at: <https://www.r-elan.com/pdf/R-Elan-Newsletter8.pdf> (Accessed: 17 February 2022)

Saxena, T. (2021, November 28). *Chamar Studio: Cobbling a slur into style*. New Indian Express. Available at: <https://www.newindianexpress.com/lifestyle/fashion/2021/nov/28/chamar-studio-cobbling-a-slur-into-style-2388137.html> (Accessed: 5 March 2022)

Shah, H. C. (2022) 'Mumbai: Educational institutes ordered to cut ties with edtech companies', *The Times of India*, 17 January. Available at: <https://timesofindia.indiatimes.com/city/mumbai/edu-institutes-ordered-to-cut-ties-with-edtech-cos/articleshow/88939452.cms> (Accessed: 12 March 2022).

Shahi (2022) *Applications open for Shahi Industry Chair 4.0 at NIFT Delhi, 3 January* Available at: <https://www.shahi.co.in/blog/applications-open-for-shahi-industry-chair-4-0-at-nift-delhi/> (Accessed: 02 February 2022)

Sikka, S. and Brar, P. (2018) 'Chindi' or Textile waste products of Panipat, India - Dynamis of Emerging Opportunities, *Journal of Emerging Technologies and Innovative Research*, 5(8), pp. 924 - 929. Available at: <https://www.jetir.org/papers/JETIRA006165.pdf> (Accessed: 21 February 2022)

Singh, R., & Chhabra, P. (2020, July). *Financial inclusion for women-owned MSMEs in India*. International Finance Corporation, World Bank Group. Available at: [https://www.ifc.org/wps/wcm/connect/region\\_ext\\_content/ifc\\_external\\_corporate\\_site/south%20asia/resources/financial%20inclusion%20for%20women-owned%20msmes%20in%20india](https://www.ifc.org/wps/wcm/connect/region_ext_content/ifc_external_corporate_site/south%20asia/resources/financial%20inclusion%20for%20women-owned%20msmes%20in%20india) (Accessed: 5 March 2022)

Sinha, U. K. (2019, June). *Report of the Expert Committee on Micro, Small and Medium Enterprises* (E. A., Ed.). Available at: <https://www.rbi.org.in/Scripts/PublicationReportDetails.aspx?UrlPage=&ID=924> (Accessed: 5 March 2022)

*The Economic Times* (2021) 'Ten more design resource centres being set up by NIFT: Textile Ministry', 29 January. Available at: <https://economictimes.indiatimes.com/industry/cons-products/garments-/textiles/ten-more-design-resource-centres-being-set-up-by-nift-textile-ministry/articleshow/85368181.cms?from=mdr> (Accessed: 11 February 2022)

*The Economic Times* (2021) 'What Economic Survey 2020-21 says about India's startup ecosystem, 29 January. Available at: <https://economictimes.indiatimes.com/tech/startups/what-economic-survey-2020-21-says-about-indias-startup-ecosystem/articleshow/80586774.cms> (Accessed: 11 March 2022)

The Voice of Fashion (2020) India Sustainability Report 2020: Science and Sentiment. Available at: <https://thevoiceoffashion.com/sustainability/india-sustainability-report-/making-waste-worthy--3716> (Accessed at: 15 December 2022)

UNCTAD (2018) *Creative Economy Outlook: Trends in international trade in creative industries*. Available at: <https://unctad.org/webflyer/creative-economy-outlook-trends-international-trade-creative-industries> (Accessed: 6 March 2022)

Vaidyanathan, G. (2021) 'Scientists cheer India's ambitious carbon-zero climate pledge', *Nature*, 5 November. Available at: <https://www.nature.com/articles/d41586-021-03044-x> (Accessed: 15 December 2022)

World Bank (2020). Rural population (% of total population) - India. Available at: [https://data.worldbank.org/indicator/SP.RUR.TOTL.ZS?locations=IN&year\\_high\\_desc=true](https://data.worldbank.org/indicator/SP.RUR.TOTL.ZS?locations=IN&year_high_desc=true) (Accessed: 6 March 2022)

WRC confirms \$28.6 million in back pay commitments to Karnataka garment workers. Worker Rights Consortium. (2022, March 1). Available at: <https://www.workersrights.org/our-work/wage-theft-in-karnataka/>

Image: Ka-Sha



## Annex

### A. 52 Indian HEIs providing Fashion and Design education

<a href="#">Acharya Institute of Graduate Studies</a>	<a href="#">Indian Institute Of Crafts &amp; Design (IICD)</a>	<a href="#">Pearl Academy of Fashion</a>
<a href="#">Amity School Of Fashion Technology</a>	<a href="#">Indian Institute of Fashion &amp; Design</a>	<a href="#">PSG College Of Arts &amp; Science, Coimbatore</a>
<a href="#">Anant National University</a>	<a href="#">Indian School of Design and Innovation (ISDI)</a>	<a href="#">Raffles Design International</a>
Apeejay College Of Fine Arts, Jalandhar	<a href="#">Institute of Home Economics</a>	<a href="#">Rathinam College Of Arts And Science, Coimbatore</a>
<a href="#">Apeejay Institute of Design</a>	<a href="#">Inter National Institute Of Fashion Design (INIFD)</a>	<a href="#">Sardar Vallabhbhai Patel International School of Textiles &amp; Management</a>
Arch College of Design & Business, Jaipur	<a href="#">International Institute Of Fashion Technology</a>	<a href="#">Satyam Fashion Institute</a>
<a href="#">Army Institute of Fashion &amp; Design</a>	<a href="#">Istituto Marangoni</a>	<a href="#">Sri Krishna Arts &amp; Science College (Autonomous), Coimbatore</a>
Axis Institute of Fashion Technology, Kanpur	J.D. Birla Institute, Calcutta	<a href="#">Symbiosis Institute of Design</a>

Chitkara University	<a href="#">JD Institute of Fashion Technology</a>	<a href="#">The Maharaja Sayajirao University of Baroda</a>
Department Of Design, Manipal School of Architecture & Planning, Udupi	KIIT School of Fashion Technology	<a href="#">The Oxford College Of Science, Bangalore</a>
Department Of Fashion Technology, Sona College, Tamil Nadu	<a href="#">Lovely Professional University, Phagwara</a>	<a href="#">Unitedworld Institute of Design (GD Goenka)</a>
<a href="#">FAD Academy</a>	<a href="#">Maharshi Karve Stree Shikshan Samstha's School of Fashion Technology (SOFT)</a>	University Institute of Fashion Technology & Vocational Development
<a href="#">Fashion &amp; Apparel Design, T. John College, Bangalore</a>	<a href="#">MES College Marampally</a>	<a href="#">Vogue Institute of Art &amp; Design, Bangalore</a>
<a href="#">Footwear Design &amp; Development Institute (FDDI)</a>	<a href="#">National Institute of Design (NID)</a>	<a href="#">Whistling Woods International</a>
<a href="#">Hindustan College Of Arts and Science, Tamil Nadu</a>	<a href="#">National Institute of Fashion Technology (NIFT)</a>	World University of Design
<a href="#">Image College of Arts, Animation &amp; Technology (ICAT Design &amp; Media College)</a>	<a href="#">Nehru Arts &amp; Science College, Coimbatore</a>	Woxsen University

<a href="#">IMS Design &amp; Innovation Academy</a>	<a href="#">Nitte School of Fashion Technology and Interior Design (NSFTID)</a>	
<a href="#">Indian Institute of Art and Design (IIAD)</a>	<a href="#">Northern India Institute of Fashion Technology</a>	

### B. International HEI collaborations with Indian HEIs

Countries	Collaboration Count	HEI	No. of countries
UK	45	NID	100
Italy	25		
USA	19	NIFT	33
France	15		
Germany	12	Pearl	11
Australia	12	Other (10)	52
Canada	7	<b>Grand Total</b>	<b>196</b>
Netherlands	7		
Israel	5		

### C. CSF projects of relevance to this report

[Fostering Sustainable Practices](#) (2018-2021) is a project funded by AHRC to explore the holistic approach that pioneering fashion MSEs bring to the concept of sustainable prosperity and the potential for such practices to transform the fashion industry. The project has a dedicated

online hub with guidebook, case studies and policy briefing note. The guidebook, 'Fashion as Sustainability in Action', provides business support for organisations, with an understanding of sustainable prosperity and the needs of the designer in the fashion sector.

[Mapping Sustainable Fashion Opportunities for SMEs](#) (2019) is a report produced for the European Commission to map initiatives and key organisations in sustainable fashion and textiles across Europe. It provides an overview of the opportunities and challenges in adopting environmentally and economically sustainable business models in the fashion sector.

[Fire up and Fire Digital projects](#) (2013-2016) were funded by AHHC to research the needs and interests of MSMEs, to develop typologies and ontologies that underpin the creation of a prototype online platform for knowledge exchange dedicated to the designer fashion sector. The project aimed to bring research closer to the designer fashion sector, foster more open innovation, and support longer-term research and development through the FIRE.Digital platform.

#### D. CSF projects in India of relevance to this report

Shared Talent India was funded by Defra, UK, as part of the Sustainable Clothing Roadmap and the Department of Textiles, India. The project explored market opportunities for Indian sustainable textiles and UK fashion business, building capacity and sharing best practice. Following on from the success of Shared Talent 1 (Ghana) and Shared Talent 2 (South Africa), Shared Talent India mapped sustainability related textiles across India, to produce a sustainability related supplier base, and a showcase of India and UK based designers at London Fashion Week.

#### E. CSF 4 Agendas of Sustainability

The 4 agendas of sustainability are:

**Economic sustainability:** refers to the ability of citizens to enjoy living conditions that are within agreed boundaries in terms of wage levels relative to costs of living and the gap between the lowest and highest wages. It refers to regional and inter-regional access to investment and to a healthy relationship between productivity, employment and economic status.

**Environmental sustainability:** refers to our ability to live within biosphere limits, recognising planetary boundaries (Rockström et al., 2009). It draws on ecological principles and various practices that recognise people as part of nature and looks for ways to preserve the quality of the natural world on a long-term basis.

**Social sustainability:** refers to the ability of a community to interact and collaborate in ways that create and exemplify social cohesion. It considers places, communities and organisations, formal and informal, and their resources, opportunities and challenges. It involves the agency of diverse participants in voicing and acting with autonomy and in harmony with others.

**Cultural sustainability:** refers to tolerant systems that recognise and cultivate diversity. This includes diversity in the fashion and sustainability discourse to reflect a range of communities, locations and belief systems. It includes the use of various strategies to preserve First Nations' cultural heritage, beliefs, practices and histories. It seeks to safeguard the existence of these communities in ways that honour their integrity.

## F. List of Abbreviations

CLICC - Covid lockdown impact on craft capacity

CSF – Centre for Sustainable Fashion

EWS – Economically Weaker Section

FAO - Food and Agriculture Organisation

FY – Fiscal Year

FDCI - Fashion Design Council of India

FDfS – Fashion Design for Sustainability

GBL – Good Business Lab

GeM - Government e-Marketplace

GHG – GreenHouse Gases

HEI – Higher Education Institute

ICIC - International Centre for Indian Crafts

ICNF - Innovation Centre for Natural Fibre

IDC – Indian Design Council

IFFTI - International Foundation of Fashion Technology Institute

IPR – Intellectual Property Right

ISDI – School of Design and Innovation

LCF – London College of Fashion

MHRD - Ministry of Human Resource Development

MMCF – Man-Made Cellulosic Fibres

MMF – Man-made Fibres

MOOC - Massive Open Online Courses

MOU - Memorandum of understanding

MSME – Micro Small Medium Enterprise

NDP – National Design Policy

NGO – Non-Governmental Organisation

NID – National Institute of Design

NIFT – National Institute of Fashion Technology

NMEICT - National Mission on Education through Information & Communication Technology'

NRI – Non-Resident Indian

PLI - Production Linked Incentive

PM MITRA – Prime Minister Mega Integrated Textile Region and Apparel

SHIC – Smart Handloom Innovation Centre

SME – Small, Medium Enterprises

UGC - University Grants Commission

WTO – World Trade Organisation

