



**New
Landscapes
India:
Fashion,
Textiles &
Technology
R&D Grant
Scheme**

About the partnership



Image: Centre for Pastoralism/Here We Are, 2024

The New Landscapes Fashion, Textiles and Technology Catalyst R&D Grant Scheme is an international programme led by University of Arts London's Fashion, Textiles and Technology Institute (UAL FTTI), in partnership with the British Council.

Since 2021, the programme has nurtured new Research and Development (R&D) partnerships with enterprises across 10 different countries, to support new ideas shaping the future of sustainable fashion, textiles and technology.

In 2023 the first New Landscapes India R&D grant scheme was launched, a three year programme supporting new collaborations in sustainable fashion, textiles and technology between SME (small and medium enterprises) partners in India and the UK. The initiative aims to nurture international cooperation, share sustainable practice, and support the cultural, social, and environmental values of the fashion and textiles sector in both countries.

The New Landscapes India R&D programme first phase (add dates) supported six partnerships between India and UK enterprises. In this showcase, discover the development of new materials, applications and technology that these partnerships have catalysed.

With thanks to the New Landscapes India: Fashion, Textiles and Technology R&D Grant Scheme team from the British Council and the UAL Fashion, Textiles and Technology Institute:

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Top left: Community members sorting textiles for shredding



Top Right: Woven recycled Khadi, made from shredded textile waste



Bottom Right: Shredding machinery at Khamir

Project 1: Circular Khadi

Project partners: Conserve India, India, Khadi London, UK, Khamir, India, Where Does it Come From?, UK

UAL FTTI Academic Mentor: Professor Kate Goldsworthy

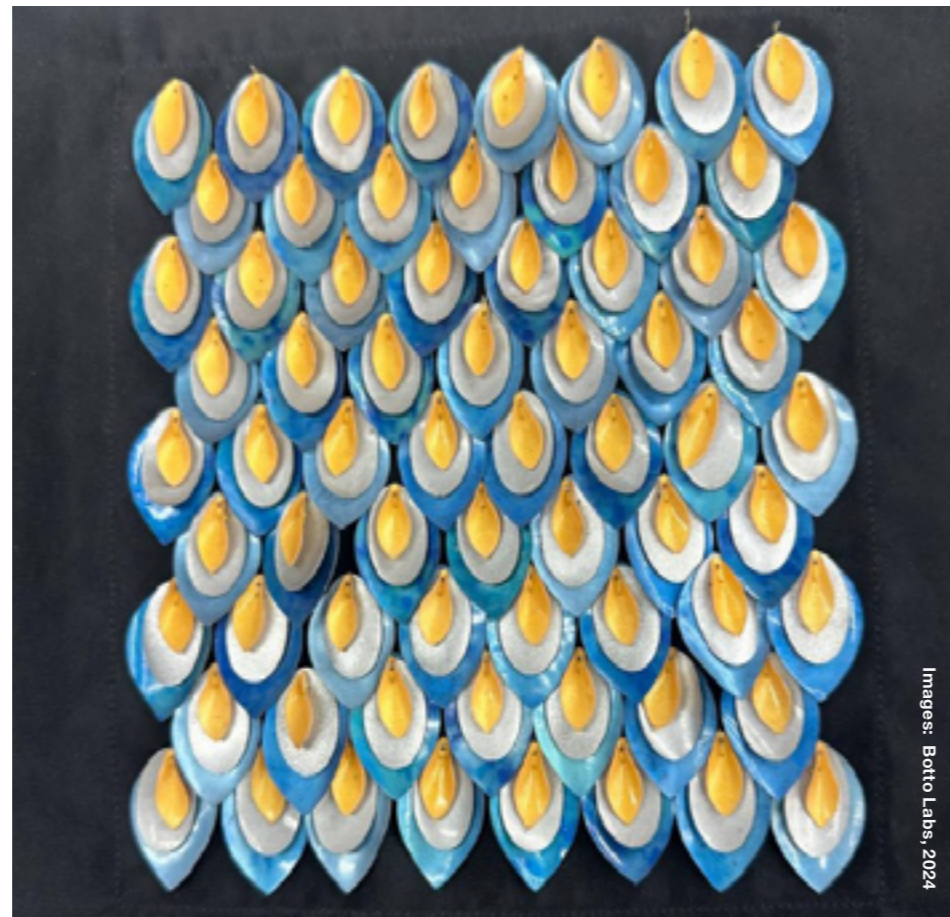
UAL FTTI R&D Fellow: Alice Timmis

Textile waste is a growing global problem. According to Fashion for Good, India generates 8.5% of all global textile waste. This project looked at creating systems to re-integrate waste into the textile value chain using Khadi skills. The decentralised model has additional positive impacts of rural livelihood uplift, preservation of heritage skills and focus on low carbon production methods.

Khamir, an organisation based in Kutch began the process with the collection of 100kg of textile waste from their fabric and garment workshops. Conserve India, based in Delhi, used their expertise in waste management and recycling to develop guidelines for waste sorters. The waste was categorised based on colour, weight and fibre type. The Conserve team managed the shredding (pulling) of the fabric back into fibre which was then sent back to Khamir.

Back at Khamir, skilled women artisans from local villages spun the recycled fibre into yarn using peti charkhas (portable spinning wheel). The local spinners, initially hesitant to work with the recycled fibres, soon adapted and produced significant quantities of 100% recycled yarn. Their participation in the project supported their income and preserved vital textile heritage skills. Once spun, the recycled yarn was handwoven into fabric using traditional pit handlooms.

Where Does It Come From?, a UK based ethical social enterprise and Khadi London, a knowledge hub specialising in regenerative fibres and textiles, supported the Indian partners in team discussions, decision making and managing the project. Khadi London focused on project documentation as well as sharing their expertise on fabric development. Through the delivery of this project, Circular Khadi has identified areas for further R&D and investment, especially access to small-scale shredders. The team also aims to explore the adaptability of the Circular Khadi model to other fibres, such as wool and silk, and replicate the process in different regions, including UK hemp and European linen.



Top left: Sewing tests with prototype BEQUIN bio sequins.

Top Right: BEQUIN bio-sequin preparation tests.

Bottom Right: Embellishment samples using multiple colours of BEQUIN bio-sequins.

Project 2: BEQUIN

Project Partners: The Stitch Archive, UK, Botto Labs, India, Vashishtha Luxury Exports, India

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This collaboration brought together bio-material innovation, luxury fashion and craftsmanship, to develop a sustainable alternative to sequins which can be effortlessly implemented in the luxury fashion market. Embroidery is a key element of luxury fashion design. However, most embellishments such as sequins and beads are petroleum based, making them difficult to recycle and harmful to the environment. Luxury fashion brands are seeking sustainable alternative materials and manufacturing processes that they can incorporate into their products, but often these alternatives are not as attractive, affordable, or well performing as conventional embellishments.

Botto Labs, based in Goa, led on bio-material development exploring by-products of local resources such as algae and cellulose to create a bio-based, sequin-like material with lustre and stability and in a range of colours. The Stitch Archive, textile design specialists based in the UK, provided consultancy and guidance to ensure the material developed met certain design criteria, such as glossiness and flexibility, to make it a viable, attractive alternative for their clients within the luxury fashion sector. Vashishtha Exports, based in Mumbai, are an embroidery house specialising in couture hand embroidery techniques. Their team rigorously tested the bio-material embellishments to ensure they were fit for purpose and can be handled, cut, pierced and manipulated as existing sequin material.

The resulting material is called BEQUIN, in reference to its bio-material origin. It is a lightweight pliable sheet material with lustre and gloss, which can be machine cut and applied by hand. Its pliability makes the material versatile in a way that is different to existing sequin material, since the sheet can be manipulated with undulations to create organic 3D relief and softly reflect light.

The project also aims to reduce the carbon footprint of the sequin manufacturing process, eliminating the need for materials to be imported from the Far East and Europe. Importantly, the project aims to work with local communities and provide them with an alternate revenue stream by both procuring raw 'waste' materials directly from them and utilising them in the processing and creation of the material. The processes adopted are low-tech and accessible for communities that may want to set up their own production workshops in the future.



Top left: Example of mended trousers

Top Right: Professional mender in Chawari Bazaar

Bottom Right: Professional mender Yashoda, at her home-based mending space

Project 3: Darn It

Project Partners: The Right Project, UK, Circular Design India, India, Iro Iro Zero Waste, India, Esthetica, UK.

**UAL FTTI
Academic
Mentor:
Professor Jane
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Project Darn It aims to tackle the climate crisis by integrating traditional mending practices with modern fashion consumption. The project sought to create a digital platform that connects consumers with a vast network of skilled menders across India, making garment repair accessible and reviving craft-based textile repair. Reusing, upcycling and repairing textiles was traditionally commonplace in an Indian regular household. There are diverse mending practices from each corner of the country; from Kantha in Bengal and Katab in Gujarat to Rafoogari in Kashmir. Facing a rapid decline, most artisanal families today are the last people to practise their craft.

The first phase of the project revealed an urgent need to bridge the gap between consumers and indigenous menders. The project developed a directory of trusted menders, an educational platform, and an accessible guide for repair services. The team implemented strategic data collection methods to identify trusted menders across India's diverse social, economic, and geographical regions.

Bangalore, a cosmopolitan city with a significant immigrant population and abundant tech resources, became an ideal testing ground for the project's methodology. Circular Design India, a Bangalore-based enterprise specialising in circular design, and Iro Iro, a Jaipur-based craft apparel brand prototyped digital and in-person tools for gathering data, developing scalable processes for replication in other cities. The team established a strategic data collection method to capture the geographical, social, and economic diversity of India's mending community. This included both formal businesses and informal menders. Esthetica, a UK-based agency that works with brands and services to help them adopt sustainability practices, played a pivotal role in showcasing the environmental and cultural importance of repair practices. The Right Project, a responsible fashion advisory based out of London supported the ethical documentation of these crafts and their practitioners.

By documenting these processes, Darn It provides a model for reconnecting consumers with repair services and preserving mending as an essential, undocumented craft of India.



Top left: Cotton farmer Vincent, with raw Desi cotton that has been harvested.

Top Right: Preparation of prototype underwear at Mila, Tamil Nadu.

Bottom Right: Final prototype of Desi cotton underwear.

Project 4: Regenerative Underwear

Project Partners: Pico Store, UK, Kaskom, India, Mila, India

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This collaborative project focussed on the design and production of a prototype of 100% organic and regenerative cotton underwear that is fully biodegradable at the end of its life. Every year, the entire apparel industry, including lingerie, generates 15 million tons of textile waste. Underwear can be difficult to recycle outside of carefully monitored textile supply chains, as re-use is limited due to the element of personal hygiene.

Pico Store, a UK-based brand that sells organic cotton underwear used their existing Full Brief style of organic cotton underwear as a foundation and worked with a technical pattern cutter to alter the design and remove the need for elastane (synthetic) in the fabric. Kaskom, a social enterprise that works to revive the value chain of native Indian cotton, developed a first-of-its-kind knitted 'Desi' (indigenous) cotton fabric specifically suited for underwear using Karunganni cotton grown in Tamil Nadu. This was challenging due to the short staple length of the desi cotton and the need for a fabric that balances comfort, durability, and wearability.

Mila, a fair trade certified enterprise based in Tamil Nadu, produced prototypes combining all the elements including biodegradable threads and elastic. The prototypes were stitched together with biodegradable lyocell thread, which is strong enough to replace the polyester thread previously used. The team explored historical garment designs and alternative fastening methods. This research and development towards an alternative fully biodegradable fastening system, to replace elastane, remains a priority for future exploration. The insights gained from this project will be used to improve Pico's existing range of underwear, incorporating practices like local fibre sourcing, natural dyeing, and full biodegradability wherever possible.

Images: Kaskom, 2024, Project Pico, 2024



Top left: An aggregator, sorting through wool fibres.

Top Right: Raw wool before being carded and spun.

Bottom Right: A community member spinning Desi oon wool on a traditional spinning wheel.

Project 5: Desi Oon Wool Traceability Framework

Project Partners: Centre for Pastoralism, India, Here We Are, UK

UAL FTTI Academic Mentor: Steph Rolph

UAL FTTI R&D Fellow: Alice Timmis

This project aimed to create a digital toolkit to improve traceability and transparency in the Indian wool supply chain, drawing insights from UK wool and fashion industry frameworks. By leveraging technology, the toolkit will allow stakeholders to track wool from source to product, ensuring quality, sustainability, and bridging the gap between local communities and global markets.

India — with the world's second-largest sheep population — discards up to 80% of its indigenous wool (Desi Oon) while importing significant quantities. Desi Oon has long been a source of income for herders and artisans, sustaining community economies for generations. However, these crafts have sharply declined in a globalised market. There is a need to raise awareness about the value of Desi Oon and provide transparent, trustworthy information on its sustainability and ethics.

The Centre for Pastoralism (CfP), based in Delhi, engaged stakeholders—including shepherds, artisans, processing mills, and B2C and B2B customers—to understand their needs and expectations. Two regions, the Deccan and Himachal Pradesh, were sampled, and unique parameters were customised to suit the pastoral systems in these areas. The team mapped material flows, supply chains, and key stakeholders across both geographies.

Here We Are, a community organisation in Scotland, and the Suffolk-based eco-friendly brand Where Does It Come From? conducted interviews with stakeholders from the UK wool and fashion industries. Their insights helped refine the traceability toolkit, which is now designed to meet both B2C and B2B needs.

The proof of concept showed that a digital tool could effectively track the Desi Oon value chain across India.



Project 6: Climate Positive Microbial Colours

Project Partners: Truetone Ink, India, Colour Ashram, India, Post Carbon Lab, UK

UAL FTTI Academic Mentor:
Professor Mohammad Mahbubul Hassan

UAL FTTI R&D Fellow:
Laura Solomon

Industrial dyeing processes contribute to around 20% of global water pollution (Business Insider 2019). The textile industry needs more sustainable & scalable colour sources to reduce its negative impacts, but there is inertia against change towards natural colours due to misconceptions of compromised performance inconvenience.

This collaboration between Post Carbon Lab, a London based biotech/ textile tech company and True Tone Ink Pvt Ltd, industrial expert on Herbal Dyes based in Ahmedabad, fostered cross-border co-learning from nature to develop sustainable, regenerative, and environmentally friendly colours. Their approach offered alternatives to carbon-intensive, non-biodegradable, and hazardous synthetic dyes commonly used in the textile and fashion industry.

By blending plant-based phytochemicals, green chemistry and microbial colours, the collaboration yielded 14 cost-competitive hues. These formulations use zero petrochemicals nor non-biodegradable ingredients, and thus are friendly to human skin and the planet. All colours reach the industrial performance standards and are ready for fashion and apparel use. Post Carbon Lab and True Tone Ink researched, collated and calculated the environmental impact data of the botanical and microbial colours to quantify the carbon footprint and water impact. The environmental impact data was also benchmarked against synthetic colour systems within an impact assessment report. Initial data shows that through this project, nearly 40 kg CO2 was captured in the developed microbial pigments, as well as a 95.5% reduction in water use compared to synthetic colour systems.

The project has been exhibited at high-profile industry events including the Future Fabrics Expo 2024 and the London Design Festival 2024, reaching approximately 3,500 people.



Top left: Natural dyes undergoing testing.

Top Right: Post Carbon Lab and Truetone Ink colleagues testing dyes.

Bottom Right: Final swatches of prototype natural dyes.

