

UN SDGs

(3) Good Health & Wellbeing
(12) Responsible Consumption & Production
(6) Clean Water & Sanitation

NATURE INSPIRATION

Kangaroo: Protect from temperature + pathogenic microbial infection
Bee + Plants: Optimise materials + Manage Impact

NEEDS

- Textiles expert adviser
- Graphene expert adviser
- Regular lab space to carry out biofiber R&D
- Seed funding for biofiber R&D (please see Next Steps)

FOUNDING TEAM

- Shivani Jain - Team Lead
- Jacqueline Olness - Technical Lead
- Russell Golding - Business Lead

CONTACT INFO

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Swadaroo is developing textiles for the 21st century. Building on an initial idea of a swaddling pouch for newborns, we are testing how composite materials perform together. We aim to reveal novel apparel, public health, and construction applications.

PROBLEM & OPPORTUNITY

These three industries are under increasing pressure to change as consumers demand sustainable products. In apparel and fashion, the global ethical fashion market is forecast to grow from \$6.35 billion in 2019 to \$15.17 billion in 2030 at a CAGR of 9.1%.

SOLUTION

Banana stem is an ideal biofiber to replace incumbents like cotton. It grows around the world, transforms waste from banana harvests into revenue and has properties that outperform cotton. We are testing how the fiber's performance is enhanced when combined with graphene's strong hexagonal structure.

BIOMIMICRY IN PRACTICE

Like newborns, Kangaroo Joeys are vulnerable. Their mothers are equipped with a pouch that secretes antimicrobial agents, has insulating fur, and a thermally regulating vasculature. Our initial design mimicked these functions: a pouch made of a banana fiber outer and a graphene composite inner to conduct heat.

REVENUE MODEL

The application we settle on will determine our business model. We plan to license use of our IP to manufacturers. To facilitate access to our product, we will use a hybrid NFP/for-profit model.

TRACTION

We are currently working with Auckland University of Technology's Textile and Design Lab to prototype compositions, production methods and test performance material.

TEAM

Shivani Jain has worked internationally in public health and is currently working toward her medical degree. Jacqueline Olness has experience in engineering design for medical devices and wearable sensors. Russell Golding has experience in the social enterprise sector and has secured our prototyping partner. Our key mentor is Jacques Chirazi, a leader in the clean tech sector.

NEXT STEPS

Heading into 2021, we are testing the performance properties of banana fiber and graphene composites. To fund this early-stage R&D, we are seeking to raise \$10,000 in seed funding.