LIFAFFA

Pioneering in upcycling plastic waste to create new and unique materials.

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Creating pioneering and proprietary technologies to create new materials (for example, vegan leather) from “non-recyclable” plastic waste (particularly LDP and MLP).

These materials can be used across industries to create a whole new vertical which can rival the plastic packaging (a $330 billion industry) and the leather industry (a $600 billion industry) and grow even further to create sustainable home furnishings and construction materials.

IMPACT CREATED

Upcycled over **12,000kgs** of plastic waste
Trained **1400** urban poor
Increased incomes of urban poor by **150%**
PLASTIC BAGS
How convenience is killing our planet

THE PROBLEM

1 Trillion
Number of plastic bags produced worldwide in 1 year.

3012
1,000 Years
Time taken for 1 plastic bag to fully degrade.

3.5m
Tonnes
Net weight of plastic bags discarded in a year.

INDIA'S PLASTIC WASTE (IN TONNES)
15,000 Approx generated daily

Challenges

- Thin plastic breaks down, gets mixed with soil and water
- Releases toxins in air and soil
- Affects flora and fauna in water and land

Breakdown: how packaging waste is managed

60.1% Non-packaging
39.9% Packaging

27.8% Unaccounted
31.0% Landfill
20.6% Recycling
20.6% Incineration

Source: CIEL
Value Proposition

- A Circular solution to create materials from plastic waste – LDP, HDP, MLP
- World’s first proprietary upcycled plastic material with a patented process for upcycling.
- The materials are highly durable, easily recyclable and waterproof!
- They can be used as Vegan Leather, Floor Tiles and Wallpapers and even to create Solids like Trays, Toilets and Stools!

We have first successfully proven the material in the Fashion world as an alternate for Leather.
Each iteration of the circular loop can be utilised to produce further products of greater value and longevity.

<table>
<thead>
<tr>
<th></th>
<th>Packaging</th>
<th>Fashion</th>
<th>Home</th>
<th>Construction</th>
</tr>
</thead>
<tbody>
<tr>
<td>Input value (in kgs of plastic used to produce 1sq m)</td>
<td>0.15</td>
<td>0.5</td>
<td>0.65</td>
<td>0.85</td>
</tr>
<tr>
<td>Cost for plastic used (in INR)</td>
<td>5.25</td>
<td>17.5</td>
<td>22.75</td>
<td>30</td>
</tr>
<tr>
<td>Selling price of product (in INR)</td>
<td>10</td>
<td>600</td>
<td>1000</td>
<td>1400</td>
</tr>
<tr>
<td>Value Addition</td>
<td>90%</td>
<td>3329%</td>
<td>4296%</td>
<td>4606%</td>
</tr>
<tr>
<td>Longevity</td>
<td>1 day</td>
<td>3 years</td>
<td>5 years</td>
<td>10 years</td>
</tr>
<tr>
<td>Project Status</td>
<td>Prototyped</td>
<td>Implemented</td>
<td>Prototyped</td>
<td>Under R&amp;D</td>
</tr>
</tbody>
</table>
# Buyers and End-Customers

<table>
<thead>
<tr>
<th>Brand</th>
<th>Country</th>
<th>Brand</th>
<th>Country</th>
</tr>
</thead>
<tbody>
<tr>
<td>Crate &amp; Barrel</td>
<td>USA</td>
<td>GEPA</td>
<td>Germany</td>
</tr>
<tr>
<td>Globo</td>
<td>Germany</td>
<td>The Body Shop</td>
<td>UK</td>
</tr>
<tr>
<td>Urban Outfitters</td>
<td>USA</td>
<td>Fab India</td>
<td>India</td>
</tr>
<tr>
<td>Habitat</td>
<td>UK</td>
<td>Banana Tree</td>
<td>Singapore</td>
</tr>
<tr>
<td>Oxfam</td>
<td>Australia</td>
<td>Global Girlfriend</td>
<td>USA</td>
</tr>
<tr>
<td>Adolfo Dominguez</td>
<td>Spain</td>
<td>Serrv</td>
<td>USA</td>
</tr>
<tr>
<td>Rag Bag</td>
<td>Netherlands</td>
<td>Paper High</td>
<td>UK</td>
</tr>
</tbody>
</table>
OUR BRAND - LIFAFFA
Our Supply Chain: Focus on the Urban Poor

Ragpickers in Urban Slums

- The technology was created with a vision to empower ragpickers working in landfill sites.
- Ragpickers in India are one of the most exploited classes of the society and are traditionally referred to as “the untouchables”.
- Living in the harshest conditions with malnutrition, violence, sexual abuse and diseases running rampant.
- Most of this population are migrants who have been displaced from cities.

Low-income Refugee Artisans

- India has had an influx of refugees since Independence but there is a growing resistance towards Refugees.
- Refugees are finding it difficult to procure jobs, enroll in schools or lease houses.
- Many refugees are women-headed families who have lost their husbands and brothers in wars.
- Refugee artisans are skilled in traditional handicraft techniques and general stitching.

We have trained over 1200 ragpickers to create upcycled materials from plastic waste.

Working with refugee and local artisans for product fabrication.
<table>
<thead>
<tr>
<th>Social Impacts</th>
<th>Environmental Impacts</th>
<th>Economic Impacts</th>
</tr>
</thead>
<tbody>
<tr>
<td>• Livelihoods creation for Bottom-of-the-pyramid communities.</td>
<td>• Reduced plastic waste in the waste stream.</td>
<td>• Increased income for BoP communities by 150%.</td>
</tr>
<tr>
<td>• Jobs of dignity for ragpickers.</td>
<td>• Use of traditionally “non-recyclable” plastics like LDP and MLP.</td>
<td>• Value addition of 3000% from raw material to end-products.</td>
</tr>
<tr>
<td>• Creating urban artisans – skilling the unskilled.</td>
<td>• Climate positive – avoids the release of 60kgs of CO2 per kg of plastic recycled.</td>
<td>• Demand Side: Overall market potential of $85 billion by 2025 (only Vegan</td>
</tr>
<tr>
<td>• High value addition enables fair wages, transparency and yet be financially</td>
<td>• Environment positive alternate to leather.</td>
<td>Leather industry)</td>
</tr>
<tr>
<td>profitable.</td>
<td>• Extended value chain for plastics.</td>
<td></td>
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<tr>
<td></td>
<td>• Can be easily repaired or recycled – creating Circularity.</td>
<td></td>
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</table>
Roadmap 2020

1. Expand plastic-to-fabric project nationally and to other developing countries where plastic waste and unskilled labour are twin problems.
   
   Update: Grant received to replicate the project in Uganda, Africa.
   
   In conversation with Ganga Mission, Government of India to create a livelihoods project which utilises plastic waste from the Ganga river.

2. R&D on creating upcycled plastic packaging.
   
   Update: In conversation with Excel Rise, France for infrastructure support.

3. Set up of unit to produce construction bricks and tiles from plastic waste.
   
   Update: Grant received to set up a pilot plastic-to-bricks project in India.

4. Further market access for sales of upcycled products
   
   Update: Ongoing business development to increase wholesale orders from Europe via the World Fair Trade Organization.
SUMMARY

• Created different proprietary upcycled materials from plastic packaging waste.
• Established market acceptance of over 10 years for upcycled plastic made fashion products.
• Now looking into diversifying into the Packaging and Construction industry.
• Looking for key partnerships with **Technical and Funding organizations** to produce plastic-waste based upcycled materials.
• Looking for partnerships to create a National roll-out of the the plastic waste-to-fabric technology to create microenterprises to empower unskilled labour.
Thank you

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