TRASH TO TREASURE
To Latwal Nu Lavwal
Trash to Treasure Team

CO-TRAINER: JAY RAMJUNUN

TEAM LEADER: HAFEЕZA MAMOOJEE KHATIB

ASSISTANT LEADER: SALMAN TARSOO

KESHAV JUNGBADOOR

KISHAN TUPSY

VISHALEЕ JASODA BIKOO

TEJUSVIN LUXIMON
Problem Definition

- With the COVID-19 Pandemic and decrease in income, it became harder for Mauritians to maintain their standard of living.

- Increase in Unemployment rate by 4% 2019→2021

- Inability of housewives to get an 8-5 job

- 3% of textile production are rejected as wastes which end up in landfills creating pollution and financial leakage.
Problem Definition

Hit by 2 waves of the pandemic in 2020-2021, the spectre of unemployment is already looming on the community. In this pandemic era, Mauritians are feeling less secure about their current jobs and sources of income.

Our project aims to attenuate this dilemma!

We are bringing forward a concept where we intend, to not only tackle unemployment but also commit to a better environment and society.

Hold on! Economy, Environment..Society!

You guessed it right we are coming with a Sustainable project where waste is viewed as a resource and upcycling is optimised to create jobs.

TRASH TO TREASURE!
AIM

The aim of this project is to empower people to be economically independent through upcycling of industrial textile waste to create fabrics handicraft.
OBJECTIVES

- To upcycle waste fabrics in the Textile Industry
- To train community people to effectively produce and market fabrics handicrafts from textile waste
- To reduce environmental pollution
- To create employment opportunity and boost the local handicraft industry
MUDA

Muda is a Japanese word meaning "wasteful" and is a key concept in the Toyota Production System (TPS), the precursor to LEAN Manufacturing.

Muda is a process that does not add value. The customer is only willing to pay for work that adds value. Therefore, reducing or eliminating Muda is an effective way to increase profitability and is a fundamental philosophy to LEAN manufacturing practices.

The system identifies and classifies 7 major Muda:

<table>
<thead>
<tr>
<th>Muda</th>
<th>How the process generates Muda</th>
<th>Quantification</th>
</tr>
</thead>
<tbody>
<tr>
<td>W</td>
<td>Waiting</td>
<td></td>
</tr>
<tr>
<td>I</td>
<td>Inventory</td>
<td>Factory space is required to store the waste until disposed of</td>
</tr>
<tr>
<td>D</td>
<td>Defect</td>
<td></td>
</tr>
<tr>
<td>E</td>
<td>Extra processing</td>
<td>Huge amount of energy and manpower required in handling and discarding the waste</td>
</tr>
<tr>
<td>T</td>
<td>Transportation</td>
<td>The trimming are carried from factory to dumping ground</td>
</tr>
<tr>
<td>O</td>
<td>Overproduction</td>
<td></td>
</tr>
<tr>
<td>M</td>
<td>Motion</td>
<td></td>
</tr>
</tbody>
</table>
SCAMPER TECHNIQUE

<table>
<thead>
<tr>
<th>S</th>
<th>Substitute</th>
<th>To bring forward a more environmental friendly material, textile waste, as a substitute of natural rubber in the making of handicraft products such as rugmats, flower pots, bags, etc.</th>
</tr>
</thead>
<tbody>
<tr>
<td>C</td>
<td>Combine</td>
<td>To bring together the fundamentals of sustainability under this project and help in achieving a better society for all.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Environment - Upcycle waste into useful handicrafts</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Society - Bring knowledge and training to the society and untapped labour market.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Economic - Help to bring a revenue in needy families and contribute in building a working community</td>
</tr>
<tr>
<td>A</td>
<td>Adapt</td>
<td>To adapt climate change rising issues by bringing a sustainable project within environmental boundaries.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>To analyse and adapt to market demands for new Fabric handicraft products.</td>
</tr>
<tr>
<td>M</td>
<td>Modify</td>
<td>To change the living standard of unemployed people by training them to become self-independent and change contribution of Textile industries to sustainability.</td>
</tr>
<tr>
<td>P</td>
<td>Put to other uses</td>
<td>To upcycle textile waste that were originally discarded into landfills, into handicraft products.</td>
</tr>
<tr>
<td>E</td>
<td>Eliminate</td>
<td>To eliminate warehouse costs and land pollution</td>
</tr>
<tr>
<td>R</td>
<td>Rearrange</td>
<td>To rearrange the value of waste in the textile manufacturing industries by upcycling them into value added handicrafts.</td>
</tr>
</tbody>
</table>

BRAINSTORMING OF IDEAS

IDEA DEVELOPMENT

TRASH TO TRESURE
1. Identification of Stakeholders
2. Identification of Training Location
3. Conduct surveys to identify market demand and people willing to enroll for training
4. Recruitment of trainees and briefing of trainees
5. Collection of fabric from factory
6. Delivery of fabric and framing materials to training location/trainees
7. Training for the manufacture of handicrafts
8. Project Conceptualisation: Creation of Logo, Social Media Platforms, Business Model
9. Handicraft products pricing
10. Marketing of handicrafts products through social media, families neighbours, society etc.
11. Recording of production and sales figures
12. Product Disposal
Project Stakeholders

1. Identification of Stakeholders

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SUPPLIERS OF RAW MATERIALS
1) CDL KNITS
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SPONSORS
1) ECOSHOP - Sponsoring in terms of Polybond and banners
2) ISEE - Sponsoring woods for frames and cement for pots
3) VR AGENCY - Sponsoring in 3D Filaments for key rings
4) LIONS SWEETS – Sponsoring in Polybond and Fevicol

BENEFICIARIES
1) TRAINEES
2) HANDICRAFT INDUSTRY
3) TARGETED CUSTOMERS

COMPETITORS
1) MANJOO

PROJECT TEAM MEMBERS AND TRAINERS – PROJECT ENABLERS

CITÉ DUBREUIL, MANGALKHAN, MAHEBOURG WOMEN CENTRES – PROVIDE TRAINING LOCATION
Due to the pandemic, we had to carry out the survey online. Questions asked about the concept of upcycling products and about participating in the training program. 91 respondents from the survey.

Below are important insights gained from the survey:

1. Do you know what is being currently done with those textile waste?
   - Yes: 71.4%
   - No: 28.6%

2. If those textile waste are to be upcycled to other products, would you be interested in purchasing it?
   - Yes: 64.8%
   - No: 31.0%
   - Maybe: 4.2%

3. Below are products which can be made up from textile waste. Which of these products would you be interested to buy?
   - Option 1 - Flower Pots: Applied Pressure (61.4%)
   - Option 2 - Rugmats: Applied Pressure (85.9%)
   - Option 3 - Bags: Applied Pressure (51.1%)
   - Option 4 - Poncho: Applied Pressure (37.5%)

4. Would you prefer to buy these products if they were locally made or imported?
   - Locally Made: 96.6%
   - Imported: 3.4%
Data Analysis

5. How would you be willing to sell your products?
7 responses

- Yourself: 71.4%
- Using a second party (Trash to Treasure Team): 28.6%

8. Would you be willing to buy a locally made product which can be disposed of without causing any environmental damage?
91 responses

- Yes: 98.9%
- No: 1.1%

9. Would you be interested in participating in this project and as whom?
91 responses

- Customer - Buying the locally made products from unemployed persons: 71.4%
- Handicrafts person - After following some training sessions, you will be able to manufacture your own handicrafts. (Kindly proceed to this link after completing this survey’s demographic information: https://forms.gle/KC0kD6qZ2Y1Za5B77 )
- Not interested: 18.7%
- Other: 9.9%

6. How much do you expect to earn when selling one locally made product?
7 responses

- Rs 100 - Rs 200: 14.3%
- Rs 200 - Rs 300: 14.3%
- Rs 300 - Rs 500: 71.4%
- Other: 0%
5. Collection of fabric from factory

TEXTILE WASTES
Training

7. Training for the manufacture of handicrafts

Instructions for making oval rug mats
Start with the chain of the length you need and then turn crochet to the beginning of the chain and back up the other side going around and around. In order for this to lay flat, you have to add a stitch or two at the curved ends as needed.

Instructions for making rectangle or square rug mats
Start with the chain of the length you want the rug to be wide. Crochet back and forth across that length until the rug is as long as you want it to be. Make to add a single chain stitch to the end of your rows before you turn back so that your edges are straight.

RUG MAT PROJECT
Helping people escape poverty through teamwork.

INSTRUCTIONS TO STEP BY STEP RUG MAT

Step 1
Prepare your materials. Decide on which colours you want to put together and make sure you have enough for the dimension of the rug you want to do.

Step 2
Turn a piece of fabric into a loop by cutting small slit at the end and joining the two loops together.

Step 3
Depending on the look you want to achieve, you can add on other colours.

Step 4
Start crocheting. Wrap the fabric strip around the hook from the front to the back.

Step 5
Hold the fabric with your finger so it does not slip off. Push the tip of the hook through the hole.

Step 6
Grab the yarn with the hook and pull the yarn back through the hole.

Step 7
Continue to pull it through both the loops on the hook.
The lines are the weaving of the rugmat.

The diamond represents the treasure from the upcycle process.

The colours represent our national flag color.

The waste fabric are a mean for the people to navigate towards their financial independence.

Use of creole language to show “mauritianism”.

8. Project Conceptualisation: Creation of Logo, Social Media Platforms, Business Model
Sailboats are powered by sails (LAVWAL) using the force of the wind. Sailors harness the wind to move their boats. The curve of the sails retain the flowing air to provide power and forward drive to the boat. As a result the boat is pulled forward.

Similarly, the recycled textile (LATWAL) is our curved sail that will drive our project to success and give people a means to move forward!
TRASH TO TREASURE: PRODUCT REVEAL

RUGMAT

VASE

BAGS

TRASH TO TREASURE
PRODUCT 1: RUGMAT
# Rugmats Price List

<table>
<thead>
<tr>
<th>Item</th>
<th>Product Id</th>
<th>Description</th>
<th>Price (Rs)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>Small (80 cm x 30 cm)</td>
<td>Medium (60 cm x 90 cm)</td>
</tr>
<tr>
<td>Red Velvet</td>
<td>Mono colour</td>
<td>100</td>
<td>300</td>
</tr>
<tr>
<td>Blue Sapphire</td>
<td>Dual colour</td>
<td>150</td>
<td>400</td>
</tr>
<tr>
<td>Purple Pebbles</td>
<td>Dual colour</td>
<td>150</td>
<td>400</td>
</tr>
<tr>
<td>Vona Corona</td>
<td>Jacquard</td>
<td>200</td>
<td>450</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Item</th>
<th>Style</th>
<th>Price (Rs)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Hibiscus</td>
<td>Fancy</td>
<td>175</td>
</tr>
<tr>
<td>Flamboyant</td>
<td>Jacquard</td>
<td>200</td>
</tr>
<tr>
<td>Shades of Grey</td>
<td>Dual colour</td>
<td>150</td>
</tr>
</tbody>
</table>
PRODUCT 2: Flower Pots
### Flower Pots Price List

<table>
<thead>
<tr>
<th>Item</th>
<th>Product Id</th>
<th>Description</th>
<th>Price (Rs)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Wakashio</td>
<td></td>
<td>Large (Ø 60 cm x 100 cm)</td>
<td>550</td>
</tr>
<tr>
<td>Coralite</td>
<td></td>
<td>Medium (Ø 25 cm x 30 cm)</td>
<td>350</td>
</tr>
<tr>
<td>Snowhite</td>
<td></td>
<td>Small (Ø 18 cm x 20 cm)</td>
<td>125</td>
</tr>
</tbody>
</table>
PRODUCT 3: BAGS
SOCIAL MEDIA & COMMUNICATION

Facebook and Instagram

New Page Likes: 14
Post Reach: 257
Post Engagements: 31

Recent Posts:
- Sep 27: "Presenting you our first product..."
- Sep 26: "Coming soon! Our products!..."

Trash to Treasure
Team of 6: Promote upcycling of Textile Wastes
trashtotreasuremauritius@gmail.com

#handicraft #diy #trash #treasure
#trashtotreasure #environment #sustainability
#rugmat #mauritius #madeinmauritius

Marketing of handicrafts products through social media, families neighbours, society etc.
10. Marketing of handicrafts products through social media, families neighbours, society etc.

SOCIAL MEDIA and COMMUNICATION
# Roles of Team Members

<table>
<thead>
<tr>
<th>Actions</th>
<th>Hafeeza</th>
<th>Salman</th>
<th>Keshav</th>
<th>Tejus</th>
<th>Vishalee</th>
<th>Tepsy</th>
</tr>
</thead>
<tbody>
<tr>
<td>Stakeholders identification</td>
<td>Leader</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Training location identification</td>
<td>support</td>
<td>Leader</td>
<td></td>
<td></td>
<td></td>
<td>support</td>
</tr>
<tr>
<td>Survey build up and analysis</td>
<td></td>
<td></td>
<td></td>
<td>Support</td>
<td>Leader</td>
<td></td>
</tr>
<tr>
<td>Onboarding of candidates</td>
<td>Leader</td>
<td>Support</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Training preparation and delivery</td>
<td>Leader</td>
<td></td>
<td></td>
<td>support</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Product pricing</td>
<td>support</td>
<td></td>
<td>Leader</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Social media platform creation and management</td>
<td>support</td>
<td>support</td>
<td></td>
<td>Support</td>
<td>Leader</td>
<td>Support</td>
</tr>
<tr>
<td>Testimonial recordings</td>
<td>Leader</td>
<td>support</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Project documentation</td>
<td>support</td>
<td>Leader</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
## CHALLENGES

<table>
<thead>
<tr>
<th>Challenges</th>
<th>Actions taken to overcome challenges</th>
</tr>
</thead>
<tbody>
<tr>
<td>Difficulty to get contact with the person interested and eligible for the</td>
<td>Linked to the people through NGOs</td>
</tr>
<tr>
<td>project (Covid situation)</td>
<td>Caritas and mediators</td>
</tr>
<tr>
<td>Getting contact with people for survey (Covid situation)</td>
<td>Development of online survey and get</td>
</tr>
<tr>
<td></td>
<td>through people through social medias</td>
</tr>
<tr>
<td>Difficulty to meet team due to covid gathering restriction and tight work</td>
<td>Online meeting through zooms</td>
</tr>
<tr>
<td>schedule</td>
<td></td>
</tr>
<tr>
<td>Conducting onsite training</td>
<td>Special arrangement for covid protocol</td>
</tr>
<tr>
<td></td>
<td>organized with mask and sanitizer</td>
</tr>
<tr>
<td></td>
<td>sponsored by factory</td>
</tr>
<tr>
<td>Keeping the ladies momentum and encouragement for training, manufacture</td>
<td>Giving the materials and training</td>
</tr>
<tr>
<td>and sales of their handicraft</td>
<td>without any liabilities to the people</td>
</tr>
<tr>
<td></td>
<td>The concept of zero risk for them and</td>
</tr>
<tr>
<td></td>
<td>all expenditures and support from us</td>
</tr>
<tr>
<td></td>
<td>have been key to keep the eagerness</td>
</tr>
<tr>
<td>The project required some specific skills such as handling cement to</td>
<td>Learning through online free videos,</td>
</tr>
<tr>
<td>create vase, sowing of the textile wastes, artistic expertise. (which is</td>
<td></td>
</tr>
<tr>
<td>not in our field expertise)</td>
<td>compilation of manuals for the training helped to gain confidence and ease the skill transfer process</td>
</tr>
<tr>
<td>video making and social media handling were required.</td>
<td></td>
</tr>
<tr>
<td>Not getting male trainees</td>
<td>Add flower vases in portfolio of</td>
</tr>
<tr>
<td></td>
<td>products</td>
</tr>
<tr>
<td>Trial for composting not successful</td>
<td>Produce bags as an alternative</td>
</tr>
</tbody>
</table>
PROJECT RESULTS

• Over 100 Rugmats produced
• Average income per trainee: Rs 2,500
• 10 Trainees and 1 Trainer