Plastic Bag Recycling

Red A
Overview

• Product: Rope Weaver
• Customer Needs
• Marketing Considerations
• Critical Systems/Key Risks
Rope-Weaver

Waste LDPE bags → Light-duty rope

- Fuse bags
- Shred plastic
- Twist into rope
Customer Needs

Rope Weaving Machine:

• Remove plastic bags from streets
  
  Bags/linear ft. : 6-8 bags/ft. rope

• Low Power
  
  Heating Power: ~200 W
Customer Needs

Woven Rope:

• Immediate usability for end product

Variety of uses: 5+ applications

• Flexibility in applications

Test Strength: 50-100 lb force
Marketing Considerations

Fixed Costs
~$200

Variable Costs
• Energy
• Labor

NOT competitive

Goal: Social Impact
Critical Systems

Rollers

- Components overheating
- Feed-through system non-functional
- Power consumption

Rollers with Enclosed Heating Elements

Human Powered Crank
Critical Systems

Weaver

- Difficult manipulation
- Strength of rope
Next Steps

Temperature Control

Cutting bags into strips

Non-stick roller

Length of rope limited
Summary

• Clean up the streets of Lome
• Produce useful product with low power
• Resolve key issues