

Addressing Plastic Waste in Armenia:

An Educational Pilot Sorting System

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Problem Statement

Understanding how to best implement a pilot automated waste sorting system and the mechanisms by which it could reduce plastic waste in Armenia through proper sorting techniques and education.

Background

- ❑ Client: Innovative Solutions for Sustainable Development of Communities
- ❑ Location: Armenia
 - ❑ Ranked 6th in the world for production of waste per capita
- ❑ Challenges:
 - ❑ Accumulation of waste
 - ❑ Lack of education/awareness of waste management
 - ❑ Limited financial resources
 - ❑ Lack of technical expertise



Research Findings

- ❑ Social
 - ❑ Social Psychology and Stimulating Recycling Behaviors
 - ❑ Social problems and demographics
 - ❑ Inadequate institutions and infrastructure
 - ❑ Lack of trust between private sector and municipalities
 - ❑ Larger social concerns
- ❑ Technical
 - ❑ Cambridge Consultants (UK): “Smarter Recycling”
 - ❑ Clean Robotics (US): “Trash Bot”
- ❑ Environmental
 - ❑ Integrated Waste Management Project
 - ❑ Education, capacity building and the construction of a landfill.
- ❑ Economics
 - ❑ Land degradation costs and loss of possible revenue , creation of jobs at recycling plants

Methodology

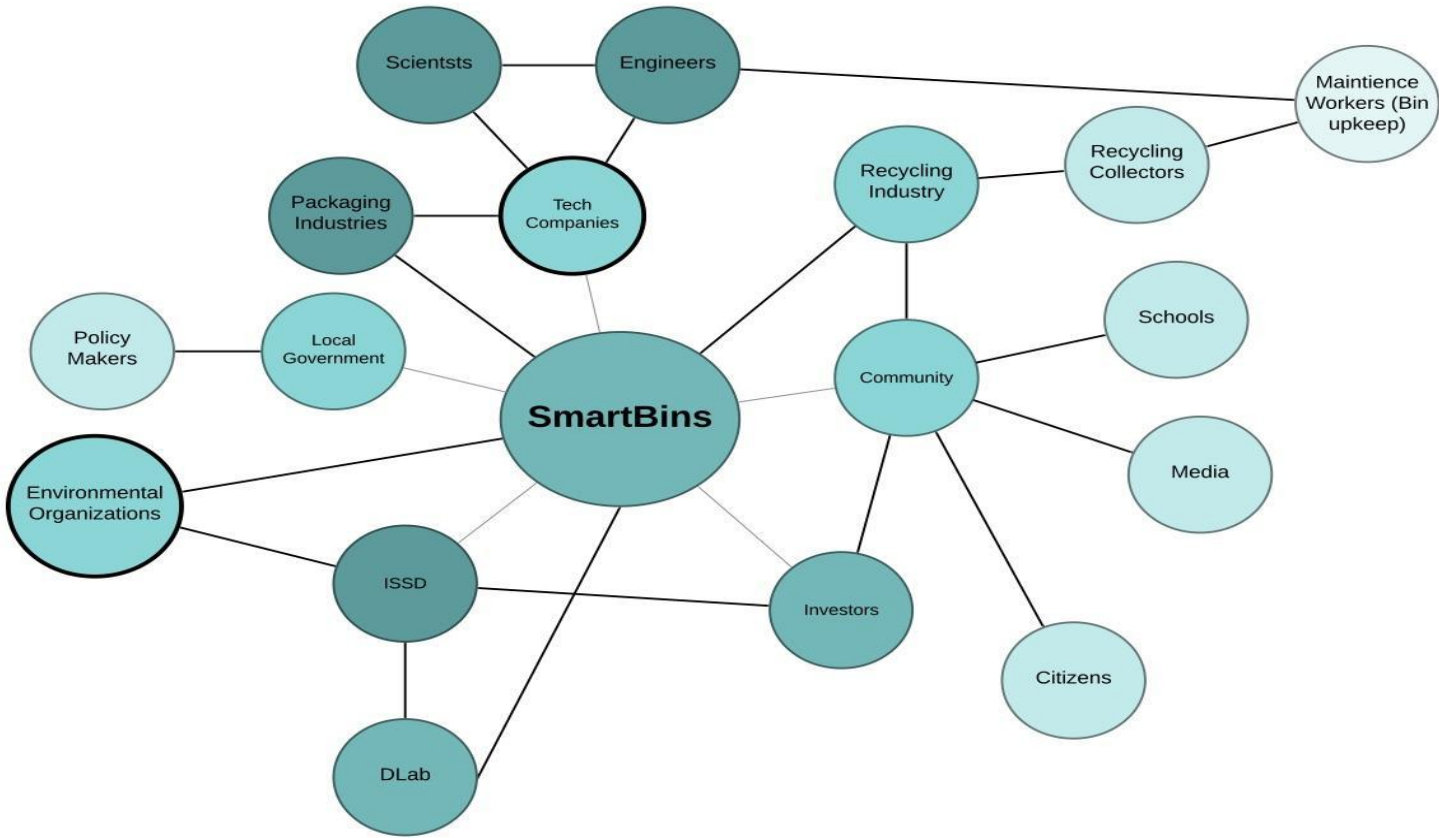
Stakeholder Analysis

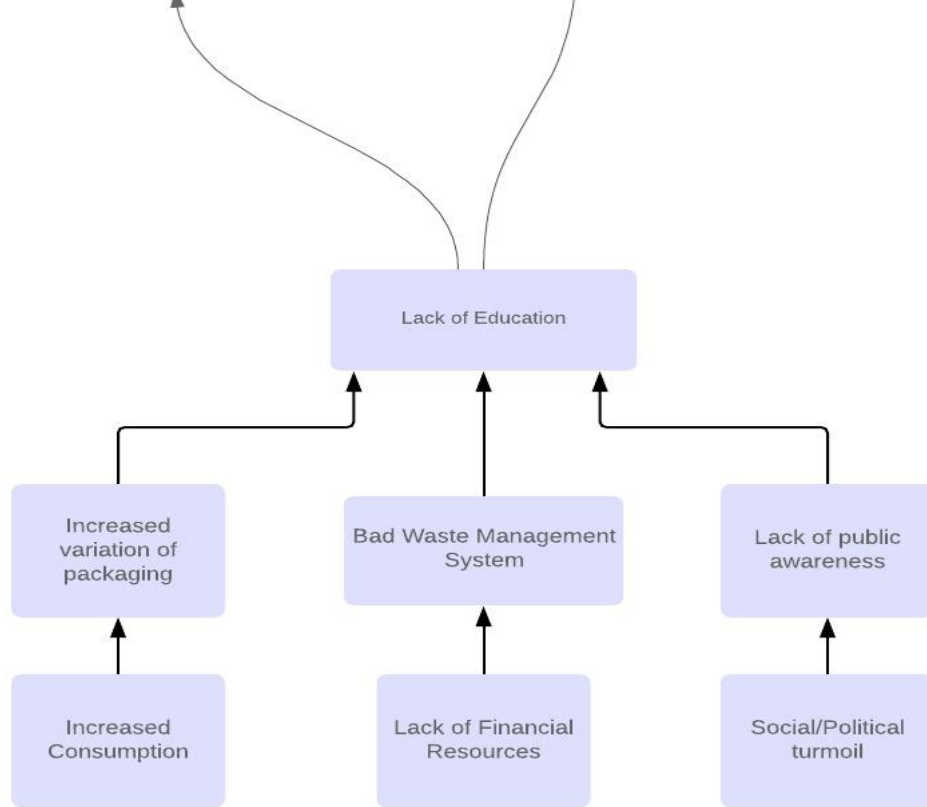
- Wide range of stakeholders to consider: governmental, tech industry, community
- Collaborating with some industries might prove difficult (packaging/food industry for barcode scanning)

Problem Tree

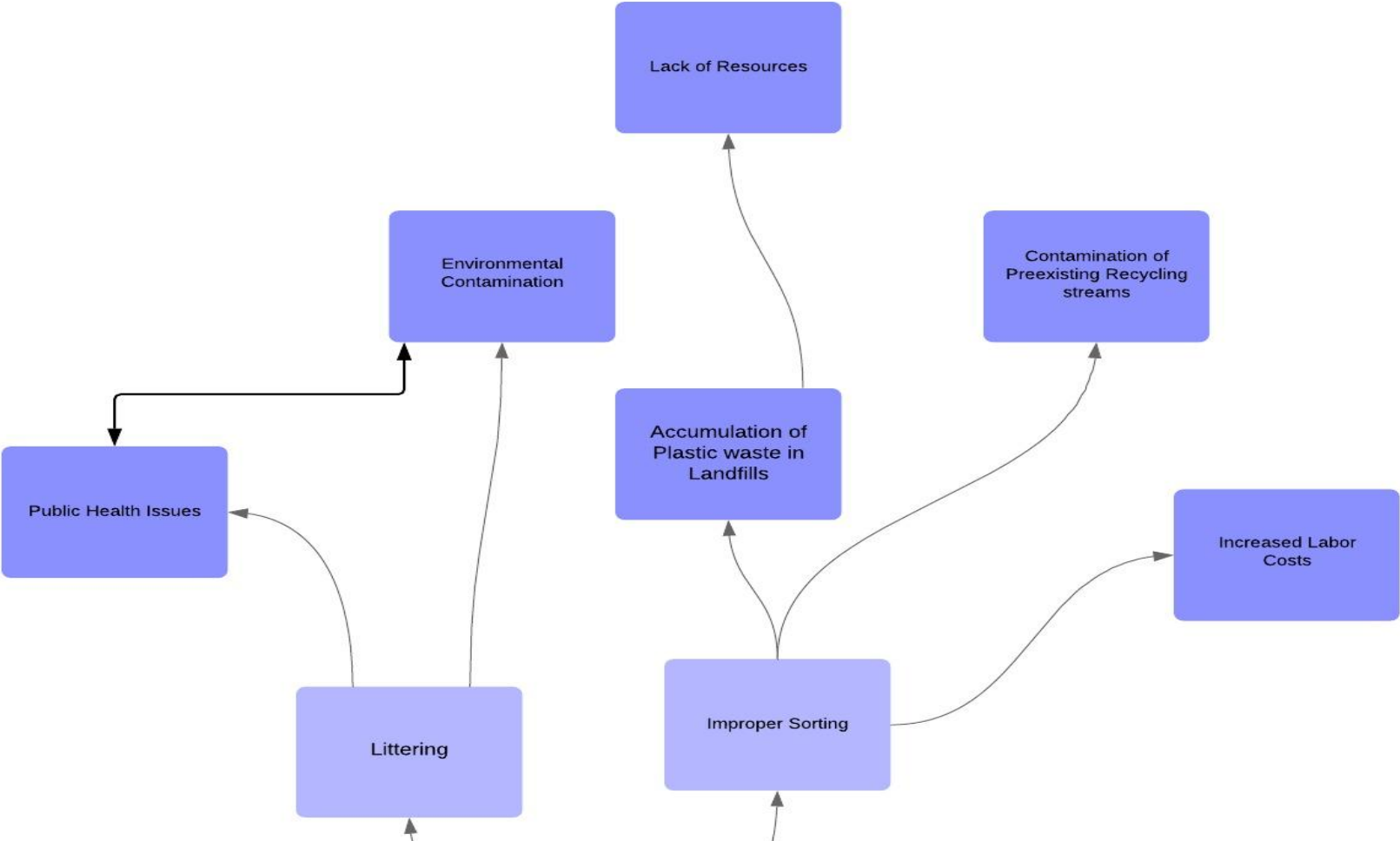
- Lack of waste education leading to poor waste management, poor waste management leading to lack of education
- Effects: environmental contamination, public health issues, dwindling resources, contamination of recycling streams, high labor costs (sorting)

Stakeholder Map





Problem Tree



Moving Forward

- A. What is the tracking system for the waste system?
- B. What is the scale of the bins?
- C. How will the bin incorporate an educational component?
- D. What types of waste are we sorting?
- E. Where in Armenia will this inaugural system be implemented?
- F. What type of grid system will power the smart bin?