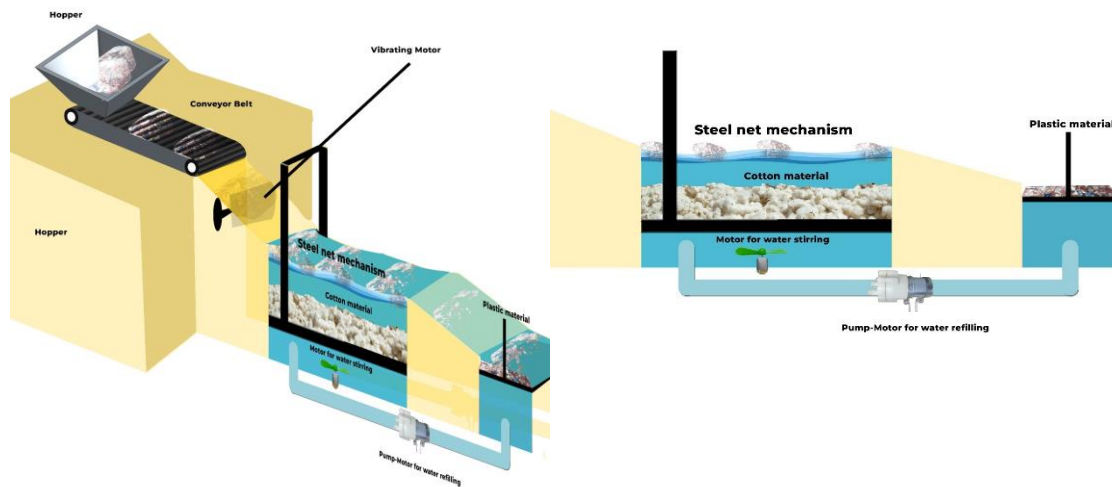


## System architecture and design:



## Key components and modules

### 1. Collection and Disposal Module

- **Smart Disposal Bins:** Install sensor-equipped bins that detect when they are full and notify maintenance staff for timely collection. These bins can be designed specifically for menstrual waste, promoting hygiene.
- **Segregated Waste Collection:** Ensure waste is segregated at the source by providing dedicated menstrual waste bins in public restrooms, schools, and other facilities.
- **User Awareness and Instructions:** Include instructional labels or digital interfaces on disposal bins, guiding users on proper waste disposal practices.

### 2. Treatment and Processing Module

- **Incineration Units:** Implement small-scale, low-emission incineration units designed specifically for menstrual waste. These units can be installed on-site in large institutions or at central collection facilities.
- **Sterilization:** Employ autoclaving technology to sterilize the waste before further processing, ensuring the reduction of harmful pathogens.

### 3. Sustainability and Recycling Module

- **Recycling of Materials:** For products with recyclable components (e.g., plastic applicators), separate and recycle the plastic after sterilization.
- **Eco-Friendly Product Integration:** Promote the use of biodegradable menstrual products by providing disposal facilities that support composting.