Data Analysis

A. Waste Composition by Weight

The total waste analyzed was categorized into four main streams. **Biodegradable waste** is the dominant category, suggesting that organic is the highest priority.

- **Biodegradable:** 63.8% (3.07 kg) - *High potential for composting.*
- **Recyclable:** 18.1% (0.87 kg) - *Paper, glass, metals.*
- **Non-Biodegradable:** 14.1% (0.68 kg) - *Plastics, masks, synthetic fibers.*
- **E-Waste:** 4.1% (0.20 kg) - *Electronic components.*

B. Source of Waste

Understanding where waste originates helps in targeting interventions:

1. **Households (General):** ~2.3 kg (Largest contributor, mixed waste)
2. **Gardens/Surroundings:** ~1.2 kg (Mostly biodegradable leaves/twigs)
3. **Kitchens:** ~0.9 kg (Food scraps, wet waste)
4. **Commercial/Markets:** ~0.3 kg (Packaging, paper)

C. The "Decomposition Gap"

The analysis highlights a dangerous gap in decomposition times:

- **Short-Term:** Food scraps and paper decompose in **3 days to 2 months**.
- **Long-Term (The Danger Zone):** Plastic bottles, wrappers, and used masks take **100–1,000 years**.
- **Permanent:** E-waste (e.g., old earphones, broken keyboards) is taking **>1 million years**, effectively remaining in the ecosystem forever.

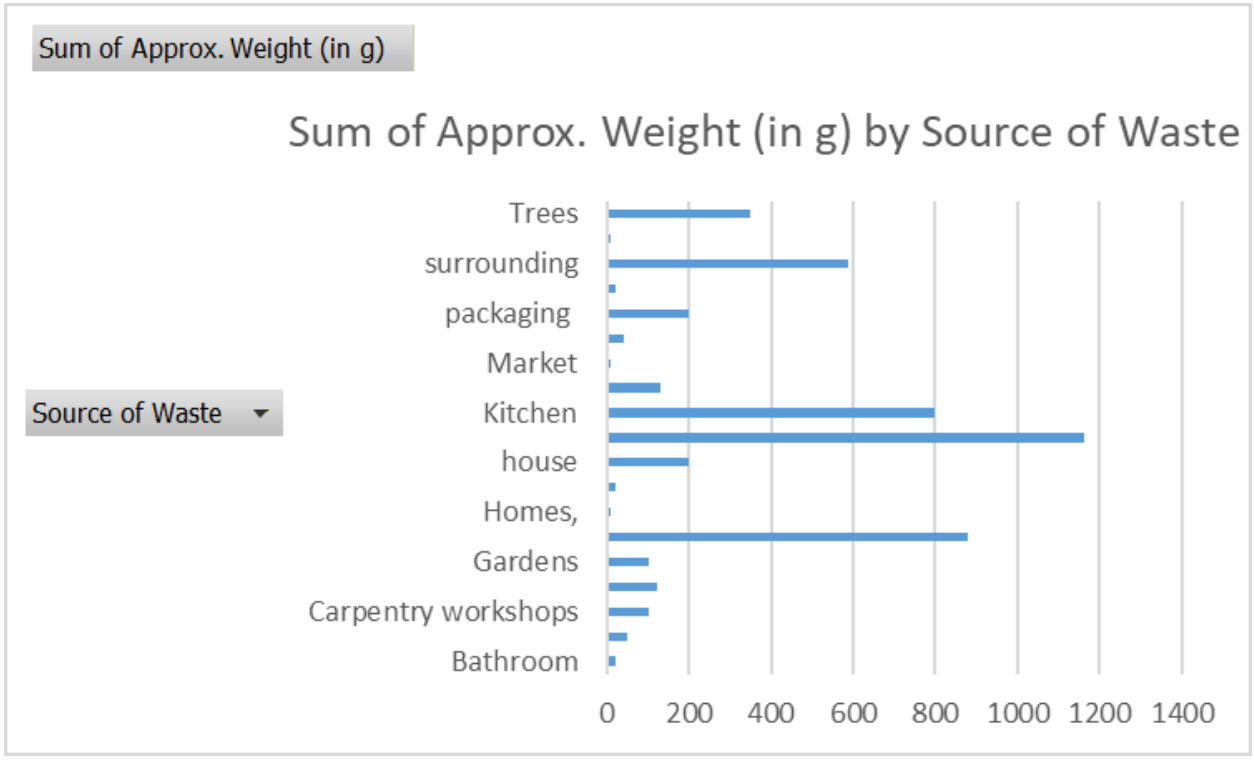
D. Wet vs. Dry Waste Balance

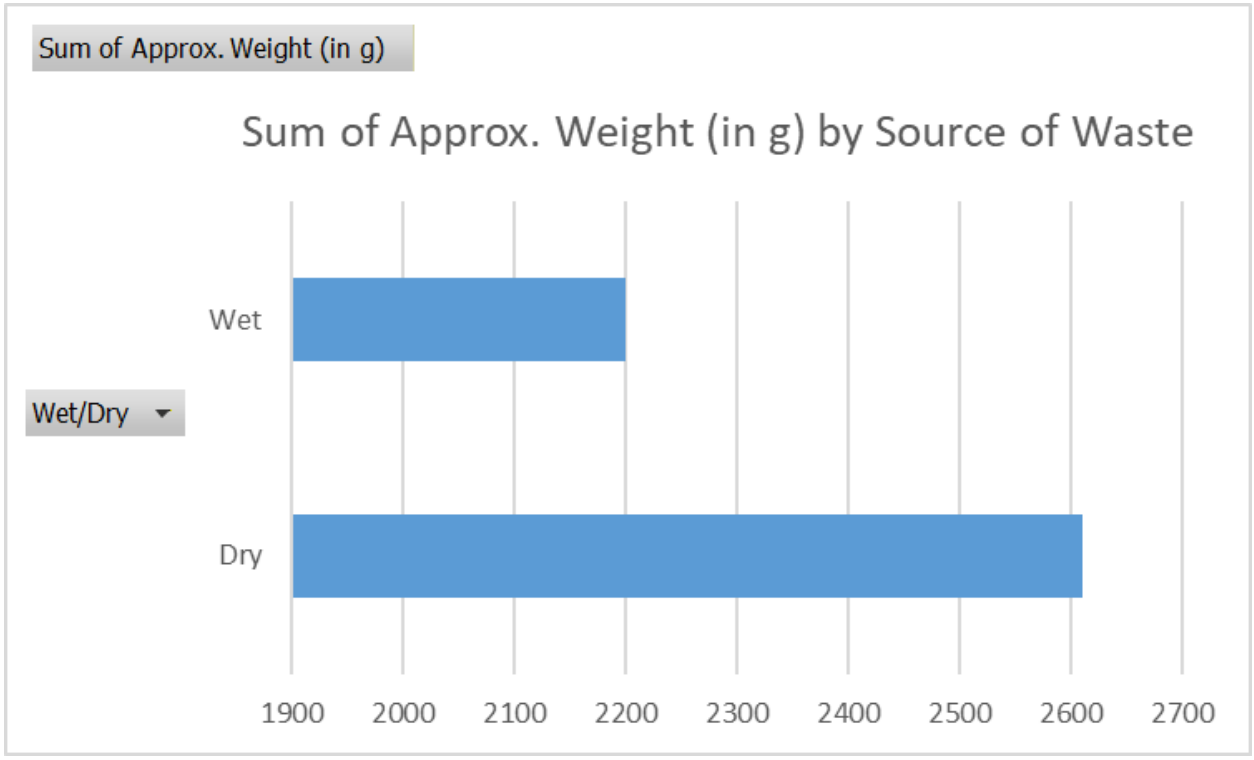
- **Dry Waste:** 64% of individual items (requires sorting/recycling).
- **Wet Waste:** 36% of individual items (requires immediate processing/composting).

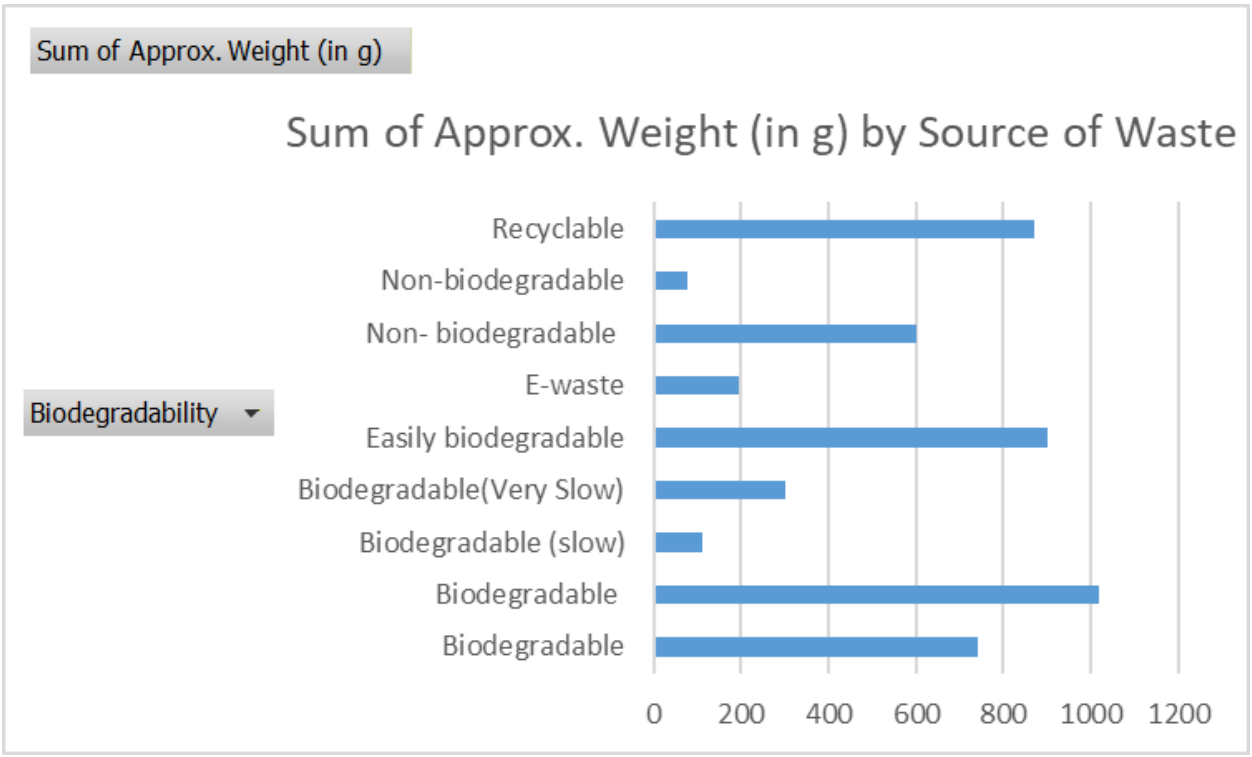
E. Conclusions

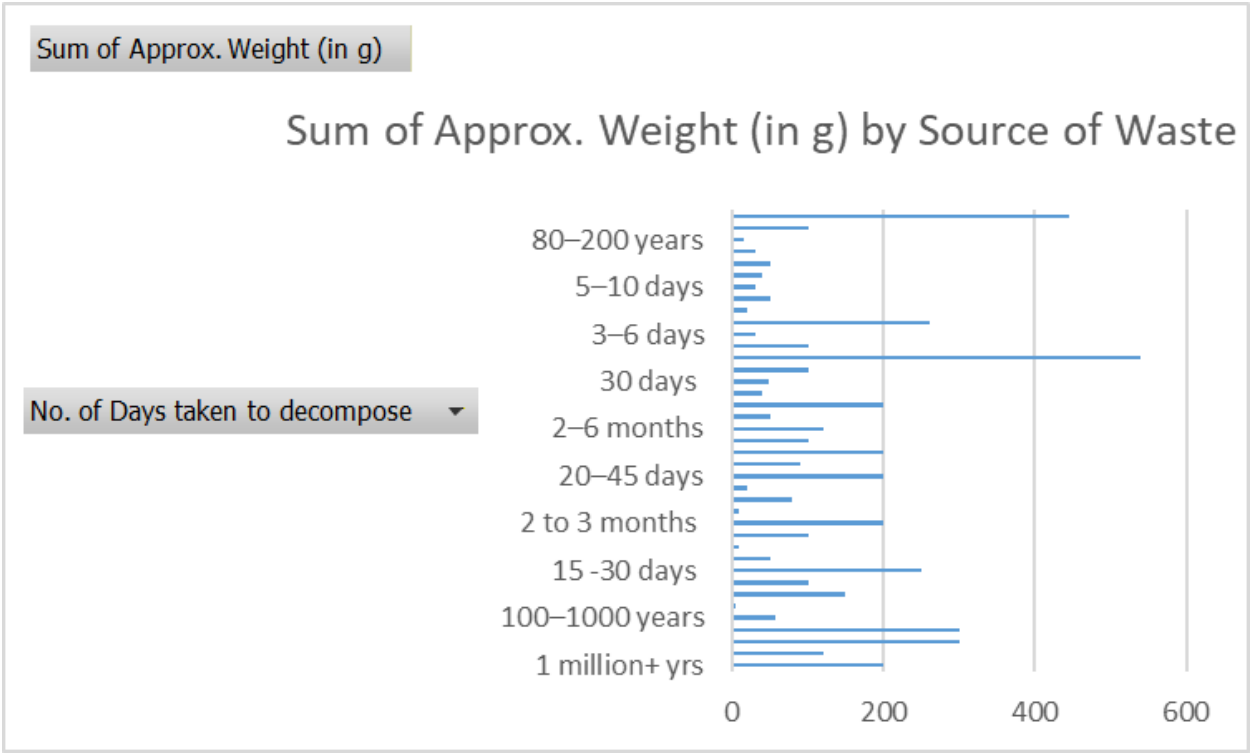
1. **Composting is Critical:** With nearly 64% of the waste weight being biodegradable, a composting solution would divert the majority of the waste mass from landfills immediately.
2. **E-Waste is a Silent Threat:** Though only 4% by weight, items like "Old Earphones" and "Broken Keyboards" represent the highest long-term toxicity and persistence.
3. **Segregation is Key:** The mix of "Wet" kitchen waste and "Dry" long-term plastics in the

"Household" source category indicates a lack of segregation at the source.






Sum of Approx. Weight (in g)
Sum of Approx. Weight (in g) by Source of Waste
Biodegradability
Recyclable
Non-biodegradable
Non- biodegradable
E-waste
Easily biodegradable
Biodegradable(Very Slow)
Biodegradable (slow)
Biodegradable
Biodegradable
0
200
400
600
800
1000
1200


Sum of Approx. Weight (in g)
Sum of Approx. Weight (in g) by Source of Waste
No. of Days taken to decompose
80–200 years
5–10 days
3–6 days
30 days
2–6 months
20–45 days
2 to 3 months
15 -30 days
100–1000 years
1 million+ yrs
0
200
400
600