

Solid Waste Flow Diagram : background info (source: MSc Thesis J. Fritsche, ETHZ 2024)

(The raw data was collected on-site by J. Fritsche in Jan/Feb 2024 on-site in Wobulenzi)

4.2.3 SWFD

Figure 7 and Figure 8 show the SWFD for Wobulenzi in terms of all municipal solid waste, respectively only plastics. From Figure 7 it can be seen, that a lot of the solid waste is not collected and therefore remains unmanaged. Around 40 % is collected by formal service providers and brought to the landfill, where some plastics leak out to the unmanaged fraction. About 3 % of total municipal solid waste is recovered from the informal value chain.

For plastics, SWFD further divides the fate of unmanaged waste in the environment either to land, water, storm drains, or being burned. Figure 8 shows how a large fraction of unmanaged waste already results from waste being uncollected. However, another big part of the unmanaged waste results from plastics, that have been brought to the disposal site, but leak out due to various factors. Only around 9 % of plastics remain on the disposal site, which is an uncontrolled landfill. About 12 % of plastics are recovered by the informal value

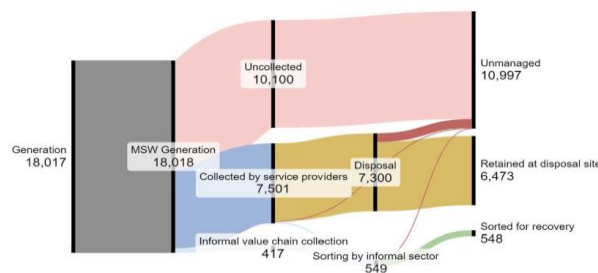


Figure 7: SWFD of Wobulenzi. All municipal solid waste flows are shown in a complex Sankey diagram. Units are in t year^{-1} .

chain. Most of the unmanaged waste remains on land or is diverted to open water bodies, since swamps are very prevalent in the study area and because a large fraction is dumped in storm drains, which eventually reaches open water bodies. The proportion ending in drains is considered to be cleaned out by waste workers, as defined by the SWFD. Around 12 % of plastics are openly burned.

The fraction of the total waste generated is 1 %, 0.1 %, and 11 % for glass, metal, respectively "other" waste. Errors in the *WFD calculation tool* arise, as 110 %, and 1116 %, respectively 131 % of waste is collected compared to the amount generated.

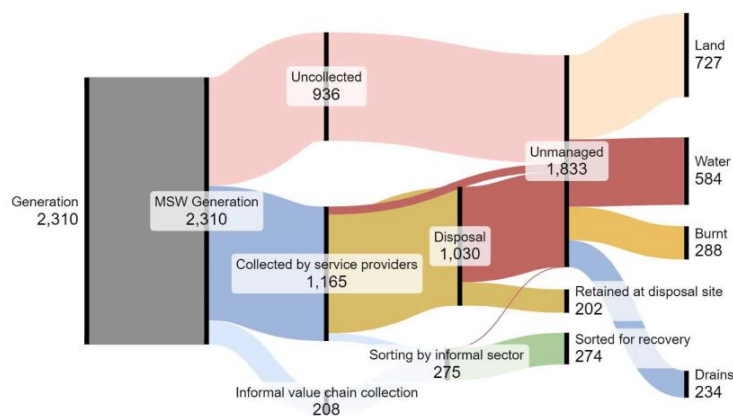


Figure 8: SWFD of Wobulenzi. Plastic flows are shown in a complex Sankey diagram. Units are in t year^{-1} .