

## FACILITY Daur-Ulang (recycling) BALIGE

Jalan Somba Debata  
Kelurahan Balige III  
Kecamatan Balige  
Regency Toba  
North Sumatra  
Indonesia



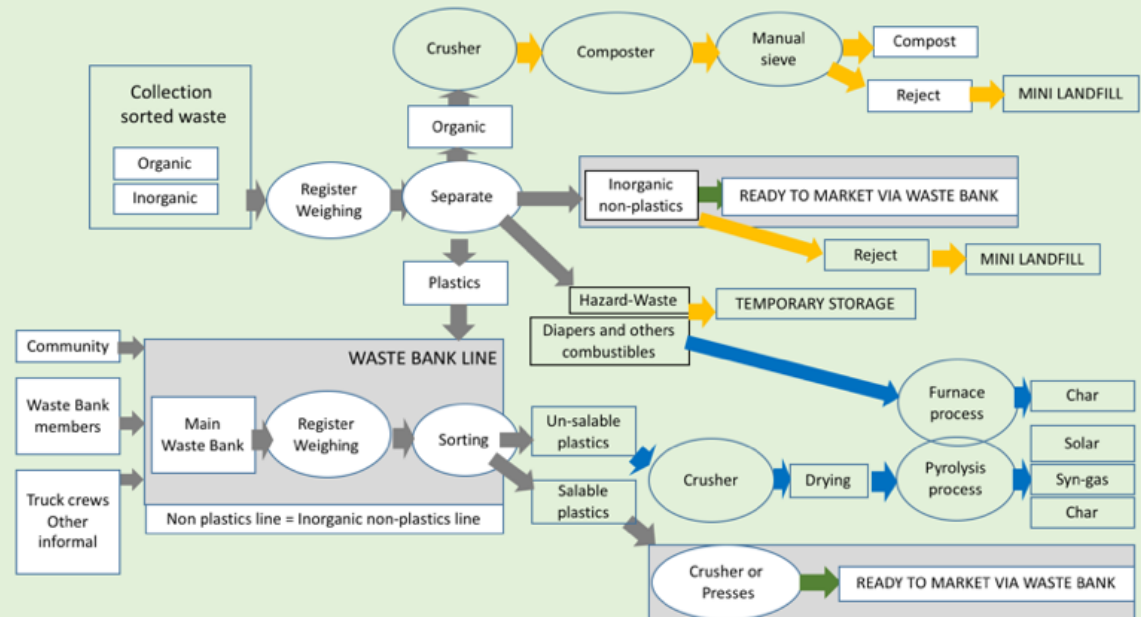
## THE FACILITY

The Balige Recycling pilot was built from a grant of the Japan *Global Environment Strategy Institute* (IGES) which has a collaboration center with UNEP, the *Center for Cooperation in Environmental Technology* (CCET). The IGES/CCET study center was established with the aims of assisting local, national, and regional governments in developing waste management systems that are able to reduce the negative impacts on health and the environment, and seek a transition to more efficient and sustainable resources. Coordinating with the *Ministry of Environment and Forestry* (KLHK), the recycling pilot is located in Tobasa Samosir Regency, North Sumatera Province, Indonesia. The realization of the recycling facility development was in collaboration with the *Solid and Hazardous Waste Laboratory, Institut Teknologi Bandung* (ITB).

The Balige Recycling Facility is under the management of the Tobasa Regency Environmental Agency, which aims to:

- Provide waste collection services around the area, with a maximum capacity of 1.5 tonnes/day.
- Treat the incoming organic waste by hollow brick composting method.
- Separate the inorganic valuable waste, especially plastics waste.
- Treat the unsaleable plastics waste into diesel fuel like.
- Temporarily store the household hazardous waste in collected container waste such as batteries, fluorescent lamps, mosquito spray cans until special facilities for handling this specific waste are available.
- Dispose off the rejects and residues that are not treated in a mini landfill, waiting for a proper landfill available in the area.

## Waste Management Scheme



# WASTE PROCESSING FACILITIES

the waste processing in this facility uses the *Tuntas* (completed) - *Efektif* (effective) - *Sehat* (healthy) - *Aman* (safe) approach:



Waste motorbike



Weighbridge



Waste shredder



Hollow brick composter



Waste press machine



Furnace Pyrolysis



Syn-gas container



Mini Landfill

furPIRO-ED140



# MAIN WASTE BANK

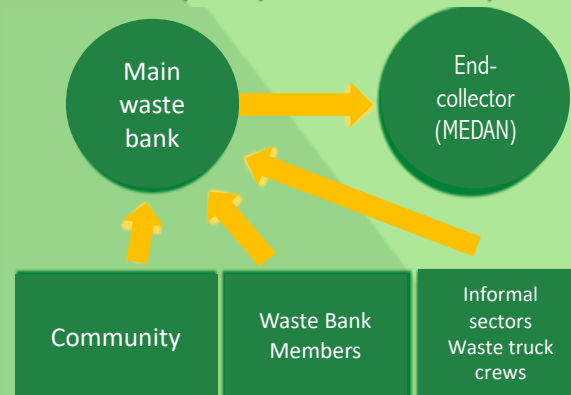
To market the inorganic wastes that are saleable, especially the plastics waste such as PET-bottles and PP-glasses, a waste bank has developed that will managed independently by the community, under the name:

## BANK SAMPAH INDUK - IAS TOBA *indah - Asri - Serasi*

Under the auspices of the Tobasa Regency Government, which as an effective program in the effort to reduce waste systematically. This Main Waste Bank functions are to:

- Receive valuable wastes from the surrounding community
- Receive valuable wastes from other sources such as from the informal sectors, from the Lake Toba recreation area in Balige City, or from waste collection crews, especially PET-bottles and PP-glasses.
- Develop the member waste banks, especially in Balige Sub-Regency.
- Receive deposits for sales of plastic waste, especially the PET- bottles and the PP-glasses from the member waste banks.

By utilizing the available processing equipments at the Balige Recycling facility, the saleable wastes, especially PET-bottles and PP-glasses, is processed so that the selling price will be better, and can be marketed directly to buyers who need it (recyclers).



Several parties have contributed to the development of this waste bank, especially the Danone-Indonesia.

**TUNTAS** (complete):  
almost all waste is handled in one place:

- unsaleable plastics;
- sauce plastics wrap and the like, instant noodle wrap;
- multi-layer wrap;
- diapers and the like;
- rejects are stored in mini landfill.

**EFEKTIF** (effective):  
be a useful product:

- saleable wastes are marketed;
- bioprocess technology for biodegradable waste;
- un-saleable combustible wastes are converted into energy (solar-diesel, charcoal, syngas)
- specific waste that so far has no solution in Indonesia (diapers and the like) can be treated

**TESA**<sub>system</sub>  
the real integration  
the real zero waste

**SEHAT** (healthy):  
work safety, and local pollution are minimized

**AMAN** (safe):  
building design, on-site infrastructure, process equipment used are safe for the environment:

- using NON-COMBUSTION technology (no dioxin);
- BTEX-aromatic are converted into CO<sub>2</sub> by flaring;
- specific wastes that are not treated in Indonesia (diapers and the like): are processed;
- rejects not thrown anywhere;
- infiltration wells as the reservoir for runoff.

Further information:  
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