

Baru Sahib: A Model Township for Waste Management

- Innovations for **Lana Bhalta** Panchayat in Himachal
- Segregation of Waste at 99% accuracy levels
- Insect and Pollution free Zone
- Earthworm Hybrid for faster Decomposition

“Baru Sahib” nestled in a serene valley in Rajgarh town in Himanchal Pradesh, rediscovered by ‘Sant Attar Singh ji’ not only imparts value based modern education but has gone a long way in proving their quote, **“It’s Very Easy to Teach, We Practice What we Preach”**; and have taken commendable initiatives to **‘Go Green’**.

Pollution, be it Air, Soil, Water or Sound, is managed with state of the art means and Innovative methods and machines uniquely designed by the ‘Sevadars’ of Divine Valley to retain its tranquility. Liquid and Solid Waste of the entire region in **Lana Bhalta Gram Panchayat in Sirmour Distt.** is managed by ‘Baru Sahib’ staff in a very efficient manner.

The waste generated by the population in this belt is approx 800 to 1000 kg/ day which comes from houses and from roads. To collect this waste we have placed **2 types of Bins**; which is for WET WASTE & DRY WASTE. With a help of a trolley it is brought into Akal Waste Management Unit where **Dichlorvos 76 % ec** is sprayed onto entire waste to make it bacteria free. Thereafter this waste is again manually segregated in various containers, their weight is measured and recorded in Register of the Unit and then is decomposed or sold to Trash agents.

Dry Waste is further segregated in 5 categories have defined list of items:

1. **Naturally degradable Waste:** Food items, Paper, Plants, Vegetation & Grass
 - a. **Oily waste:** It is first put in a **Rotary Drum Composter** having a capacity of approx 175kg/ day, then dried in a **Dryer and** then mixed with Wood Powder and Cowdung mixture which is again put in Rotary Drum Composter. This mixture gets converted to **Manure** in a week’s time which is used in our Gardens.
 - b. **Oil free waste:** the raw vegetables are converted into small pieces by a **Crusher**. Other oil free food, like cooked rice, roti etc are transported by a closed trolley to a **Vermicomposting** pit where earthworms are put above it and covered with wet jute cloth. In a span of 60 to 80 days, the waste gets converted to Manure.

2. **Recyclable Waste:** Glass, Tin, Paper, Shoes etc.

All these are segregated manually accuracy and sold to Trash buyers.

3. **Reusable Waste:** Building Material, stones, Bricks, rubble etc. is put into a separate bin and further used for construction of upcoming buildings/ complexes at Baru Sahib.

4. **Mixed Waste:** Trashed Clothes, Tetra Packs, Waste Plastic, Toys etc. they are sold by weight for recycling to Trash Buyers.
5. **Toxic Waste:** Medicines, Paint, Bulbs, Fluorescent Tubes, Spray Cans, Shoe Polish, Disinfectant containers etc.

This waste is quite hazardous therefore is very carefully managed. Bio Medical waste at Akal Charitable Hospital is segregated initially in various categories by colour coded bins. Thereafter it is sprayed (as all other waste is done) with **Dichlorvos 76 % ec** and the dry Toxic waste is burnt in an **Incinerator (again one custom designed for Baru Sahib)** . Liquid Toxic waste mixed with caustic solution is put in a cemented pit. Disinfectant containers, Spray cans, Paint cans, shoe polish cans etc are immersed in 2% bleach solution for 48 hours, after which they are spray with **Dichlorvos** and sold by weight to recyclers.

E waste is sprayed with 2% bleach solution and then sold.

6. **Sanitary Pads** have a separate bin in the Academy where they are transferred to **Incinerator** by a trolley and burnt.

Segregation Process: It is done manually to maximum possible accuracy. This model is only one in Himanchal Pradesh where proper safety measures for workers are taken. They are equipped and protected with masks, gloves, Gum boots etc. Besides, time to time medical checkup of the workers is done.

Compost Machine: we have latest machine that as per defined process converts food waste into manure.

Incinerator Diposal System: This is one of the best technically designed Gas free **Ventury Incinerator**. The smoke emitted from it is not hazardous as before releasing, it is chemically treated. The Incinerator is constructed at a height and is bordered for protection. The pollution department inspects the area regularly and has rated us as one of the best zones in the State.

The Incinerator Ash is collected at put in a covered cemented pit that is built at a height away from population and any of the pipelines in the region. No water logging happens in this area during monsoon.

Earth Worm Farming: Our dedicated team at Baru Sahib, with zeal of giving best to Divine Valley, keep constantly evolving with holistic solutions that are intended for inclusive growth. We have brought a specie of Earthworm from Madhya Pradesh which decomposes organic matter in 120 days and other local specie decomposes in 100 days. The **cross breed** of both species we got does the same task in 40 days which is the least calculated time for breaking

compost material. This is another innovation of Baru Sahib. These earth worms are used in our Vermicomposting unit / pit.

Vermicomposting pit where earthworms are put above it and covered with wet jute cloth. In a span of 60 to 80 days, the food waste mixed with paper gets converted to Manure.

Syringe Crusher (Innovated at Baru Sahib): This is a unique model, crafted at Baru Sahib. The Unit Comprises of a hollow pipe with an opening at the side from where the disinfected / treated plastic syringes are put in pipe. Then they are crushed by a solid metal pipe with a thrust, which is governed by a lever. The crushed plastic material is expelled from another opening at the bottom and then sold as per weight.

The above practice ensures to restrict misuse of syringes; secondly they acquire very little space when carried down.

Autoclave / Microwave Unit: This is used to treat Bio medical waste of category 3, 4, 6 and 7. Daily the waste is disposed where it is kept for about 15 - 20 minutes in the machine in a temperature measuring 121 degree Celsius. This kills all the micro organisms present in the waste.

Sharp Disposal: Needles, blades, glass etc. colour coded as red in hospitals are disposed in this unit by two methods.

- a. First they are immersed in 2% bleach solution for 48 hours, then put in Autoclaving machine for disinfecting. They are put in brick making mould above a layer of cement, then further covered with layer of cement again. After drying these bricks are used near Incinerator or others places.
- b. First they are immersed in 2% bleach solution for 48 hours, then put in Autoclaving machine for disinfecting. Then put in **Sharp Disposal** Unit which is a cemented pit constructed at a height at which is away from vicinity of any of the pipeleines. A four inch covered pipe is put in this pit where all these sharp items are put and is covered with a heavy lid.

Maintaining records: the waste disposed in all above categories is recorded with detailed accuracy. The disposal areas are guarded properly and cleanliness of these demarcated areas from normal population and animals too is maintained under strict norms.