



पेयजल एवं स्वच्छता विभाग
जल शक्ति मंत्रालय
भारत सरकार

DEPARTMENT OF DRINKING WATER AND SANITATION
MINISTRY OF JAL SHAKTI
GOVERNMENT OF INDIA



Manual for Gram Panchayat: Plastic Waste Management

July 2021



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Preface

The Government of India, in February 2020, approved Phase-II of the Swachh Bharat Mission (Grameen) (SBM [G]) with a total outlay of Rs. 1,40,881 crores to focus on the sustainability of Open Defecation Free (ODF) status and Solid and Liquid Waste Management (SLWM). SBM (G) Phase-II is planned to be a novel model of convergence between different verticals of financing and various schemes of Central and State Governments. Apart from budgetary allocations from Department of Drinking Water and Sanitation (DDWS) and the corresponding state share, remaining funds will be dovetailed from 15th Finance Commission (FC) grants to rural local bodies, Mahatma Gandhi National Rural Employment Guarantee Scheme (MGNREGS), Corporate Social Responsibility (CSR) funds, and revenue generation models, etc., particularly for SLWM.

SBM (G) Phase-II has been uniquely designed to leverage the capacity of individuals and communities in rural India to create a people's movement to ensure that the ODF status of rural areas is sustained, people continue to practice safe hygienic behaviour and that all villages have solid and liquid waste management arrangements.

This manual has been developed to support rural local bodies implement ODF Plus initiatives effectively and efficiently in their settings. It provides detailed information on various technologies, estimated cost, Operation and Maintenance (O&M) arrangements, etc. This manual should be able to provide comprehensive guidance to achieve effective solid and liquid waste management in rural areas.

It is hoped that all implementers of Swachh Bharat Mission Phase-II would find this manual useful and a good guide for achieving ODF Plus objectives in their villages.

Department of Drinking Water and Sanitation

June, 2021

BACKGROUND

Plastic waste can be managed most effectively at the local level. Gram Panchayats (GPs) are best suited for creating awareness on the shunned use of plastic, especially the single use kind and undertake decentralized measures for effective Plastic Waste Management (PWM). Plastic products have become an integral part of our daily lives which has resulted in increased plastic consumption. Plastic waste has also emerged as an important environmental challenge in the rural parts of the country. SBM (G) Phase-II strives to improve rural cleanliness through solid and liquid waste management activities. Plastic waste management has been made a critical criterion for declaring villages ODF Plus.



Swachh Bharat Mission supports Gram Panchayats to create awareness on curbing the use of single use plastic and effective management of plastic waste. For management of plastic waste as per the 4 Rs, the following key steps are suggested — The first three Rs — Recover, Reduce and Reuse — which are the responsibility of the households. For the fourth R — Recycle — the recyclable plastic are to be handed over to scrap dealers for further recycling. Non-recyclable waste having shredded/separated combustible fraction should be recovered at a cement plant or used for road construction or in any other recovery method.





Key Objectives of SBM (G) Phase-II



Sustain the ODF status of villages



Improve the levels of cleanliness in rural areas through solid and liquid waste management activities, making villages ODF Plus

This includes



ODF sustainability



Solid waste management



Liquid waste management



Visual cleanliness

GPs as Leaders of Plastic Waste Management

The GPs will lead the implementation of PWM at the village level. GPs shall be responsible for developing a Village Action Plan (VAP) on plastic waste management in consultation with community and integrate that with Gram Panchayat Development Plan (GPDP). Following specific activities shall be undertaken for PWM in the GP:

- ▶ Create awareness on PWM
- ▶ Pass a community resolution about reducing the use of plastic, especially Single-Use Plastic (SUP)
- ▶ Ensure door-to-door collection of plastic waste along with other waste
- ▶ Ensure that plastic collected is segregated and stored at the common village shed constructed/ available in the village
- ▶ To encourage individual household for aggregation of their plastic waste and sell it directly to the Kabadiwalas
- ▶ Ensure periodic collection of plastic waste
- ▶ Contact details of all Kabadiwalas should be pasted in a prominent location for easy access to all households and Institutions, for e.g., all village panchayat offices, village shed schools, anganwadi centres, health centres, market places, etc.
- ▶ Collaborate with district/block officials for shifting of plastic waste from the village segregation sheds to the Plastic Waste Management Units (PWMU)
- ▶ Support the block in processing of the plastic waste (shredding and baling) at the plastic waste management units and an establishing forward linkages.

Blocks and districts will support GPs in carrying out the above tasks.

Plastic Waste Management Rules, 2020 (GP reference)

As per the Plastic Waste Management Rules, 2020 every Gram Panchayat either on its own or by engaging an agency shall set up, operationalize and co-ordinate for waste management in the rural area under their control and for performing the associated functions, namely:



A detail list of all existing Kawadawals with contact details be prepared by district. This shall be made available to all the Gram Panchayats



Ensuring segregation, collection, storage, transportation, plastic waste and channelization of recyclable plastic waste fraction to recyclers having valid registration



Block to ensure the disposal of aggregated plastics preferably at household level. Plastic aggregated collected from public places, markets, etc. and kept in village shed should also be linked to Kabadiwalas



Ensuring that no damage is caused to the environment during this process



Creating awareness among all stakeholders about their responsibilities



Ensuring that open burning of plastic waste does not take place





PLANNING FOR PWM

Each village shall prepare a village action plan led by sarpanch/panchayat secretary and supported by Village Water and Sanitation Committee (VWSC) for implementation of SLWM. Plastic waste management shall be a distinct component of this plan. The following shall be done as part of the PWM planning:

- ▶ Assessment of waste (type and quantity) generated at various levels viz. household level, institutions, health care centres, commercial areas and market areas
- ▶ Identification of persons for door to door collection for solid waste (plastic)
- ▶ Identification of space in a common village shed where collected plastic waste shall be stored
- ▶ Segregation of waste in every household, commercial centres, institutions, etc.
- ▶ IEC activities to raise awareness regarding harmful impact of plastic waste and regarding roles and responsibilities of the stakeholders involved
- ▶ Identification of plastic scrap dealers /recyclers
- ▶ All forward linkages to be established for plastic recycling

This plan shall be presented and adopted in a Gram Sabha meeting for integration in GPDP.





IMPLEMENTATION OF PWM

The plan developed by GP shall form the basis for implementation of PWM in villages of the GP.

Step 1: Segregation at Source

Every household shall segregate waste at household level (biodegradable and non-biodegradable).

Segregate waste effectively at source in following ways:



Place different coloured bins in households/ commercial institutions



Develop IEC / IPC material on benefits and procedure of segregation



Initiate regular monitoring of percentage of segregation in each habitation/ ward





Step 2: Collection

The GP/village shall make arrangements for collection of segregated waste including plastic waste from households, commercial areas, restaurants, markets etc. and its transportation to the village segregation shed.

For collection and transportation of plastic waste, the vehicles may be designed with partition of biodegradable and non-biodegradable waste.

Every GP shall provide protective equipment to collectors such as gloves and appropriate tools for ensuring their safety while handling waste.



Note — Village level waste collectors should not collect medical plastic waste generated in hospitals, because it needs to be treated as biomedical waste as per the norms set by the government of India.



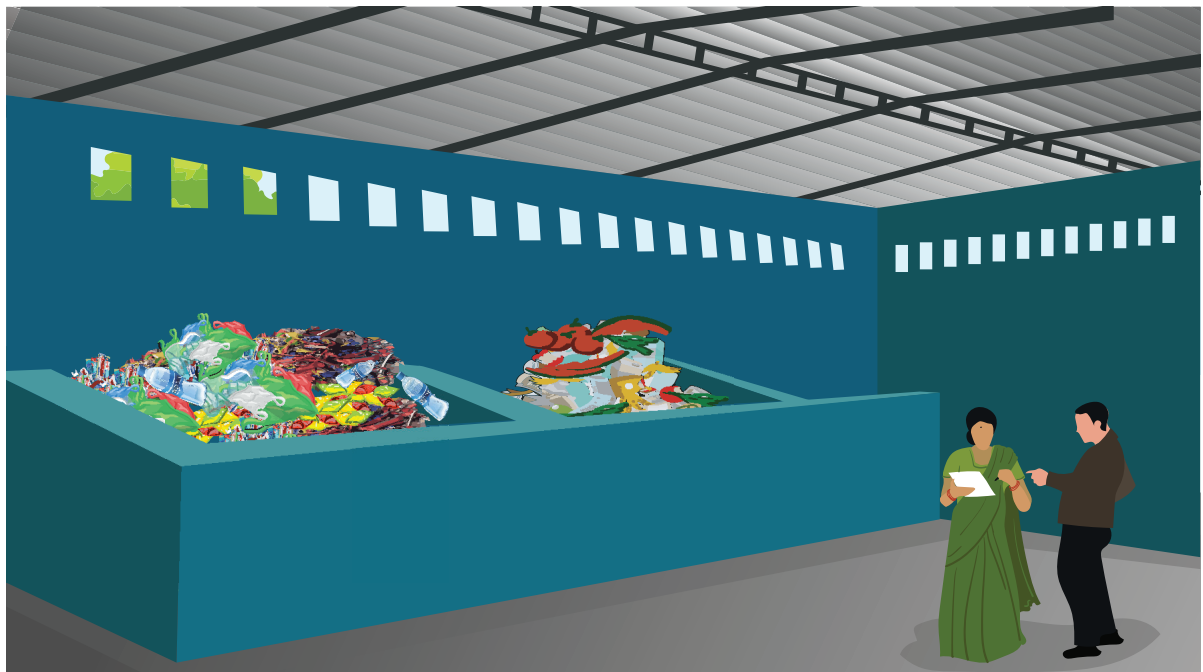
Step 3: Setting up a Village Level Shed

A common shed for bio degradable and non-biodegradable waste will be constructed in villages if one does not already exist. The village shed can be simple and can be made with locally available materials. This shed shall have dedicated space for storage of plastic waste.



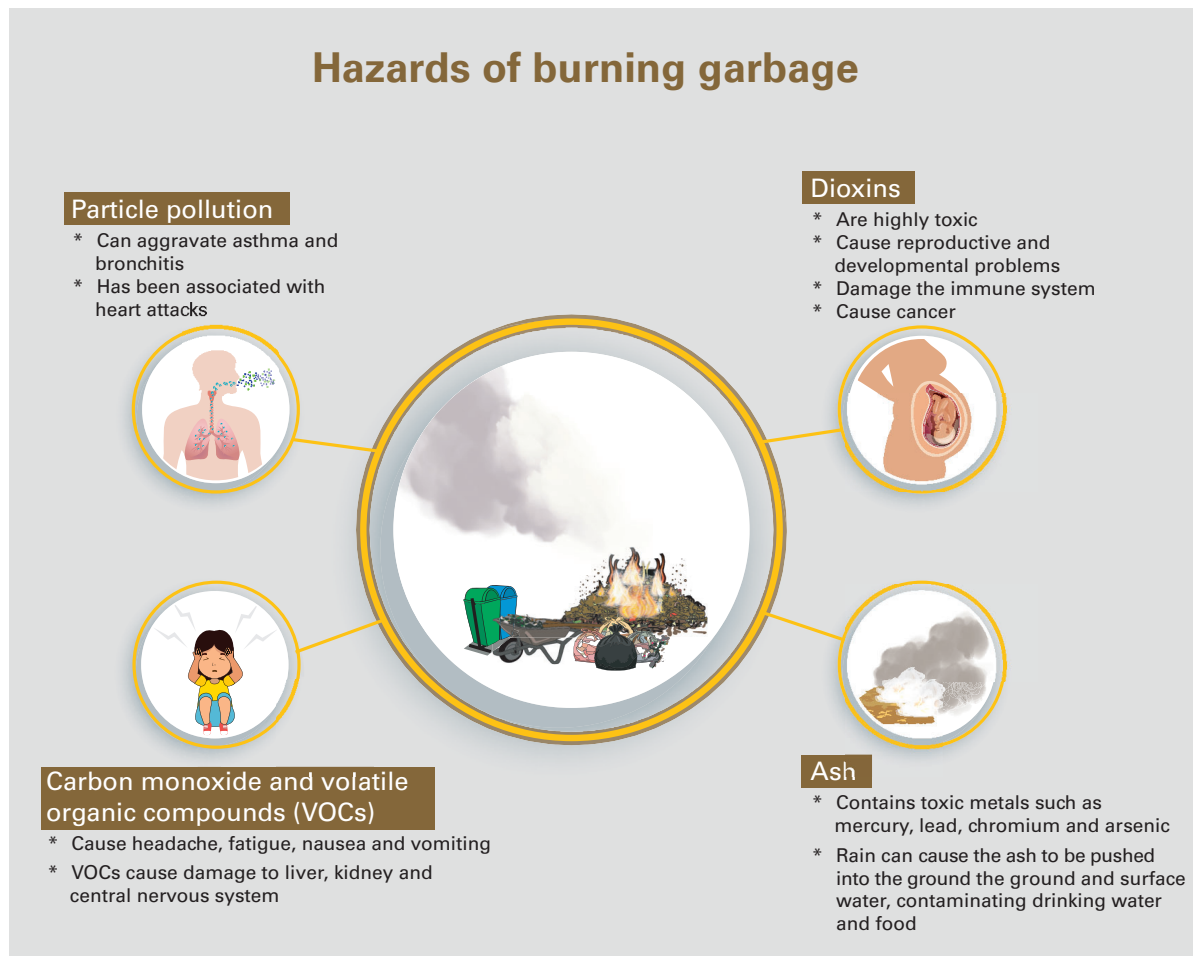
Step 4: Secondary Segregation and Storage of Plastic Waste

The plastic waste collected from households, institutions, businesses and public places can be further segregated into various types of plastics for further processing and disposal. Different categories of recyclable plastic waste can be handed over to the appropriate authorized recycler.





Why Open Burning is Not a Good Idea!



Step 5: Transportation to PWMU

The GP shall coordinate with district/block officials to ensure timely transportation of the collected plastic waste from the village level shed to the plastic waste management unit.



FUNDING PROVISIONS

Based on the concept of convergence a comprehensive plan for plastic waste management shall be prepared as a part of the GPDP. Available financial assistance for Solid Waste Management (SWM) under SBM (G) is as mentioned below:

Population	Financial provision
Upto 5000 population	Solid waste management upto Rs. 60 per capita
Above 5000 population	Solid waste management upto Rs. 45 per capita
Note: ► 30 per cent of this amount will be borne by the GPs from their 15 th Finance Commission (FC) grants. Each village can utilize a minimum of total Rs. 1 Lakh based on their requirements for both solid waste and greywater management	
Plastic waste management unit (one in each block/ district)	Upto Rs. 16 lakh per unit

GPs can source additional funds from other sources besides SBM (G) Phase-II such as 15th FC grants MPLAD/ MLALAD/CSR funds or through convergence with MGNREGS or other schemes of the State or Central Government, etc.

Wages where needed to be paid for collection of waste from households can be sourced from the 15th FC and funds for construction of the shed may be obtained from SBM (G), 15th FC, SFC or other sources.



IEC AND CAPACITY BUILDING

GPs have a very important role in informing and educating village communities on safe management of plastic waste. Creating awareness among the villagers, and changing their orientation and behaviour are necessary. IEC activities should be targeted at ensuring that every village has minimal plastic litter and households adopt segregation of waste. The following IEC material may be used by GPs under PWM work.



Do's and Don'ts of Plastic Waste Management for the Community



Do's

- ▶ Use jute bags, paper bags, cloth bags, glass jars for storage
- ▶ Segregate plastic waste
- ▶ Make sure that bottles, food containers or cans are all free from food residue before disposing them
- ▶ Stuff multiple plastic bags into one to prevent them from flying away and causing litter



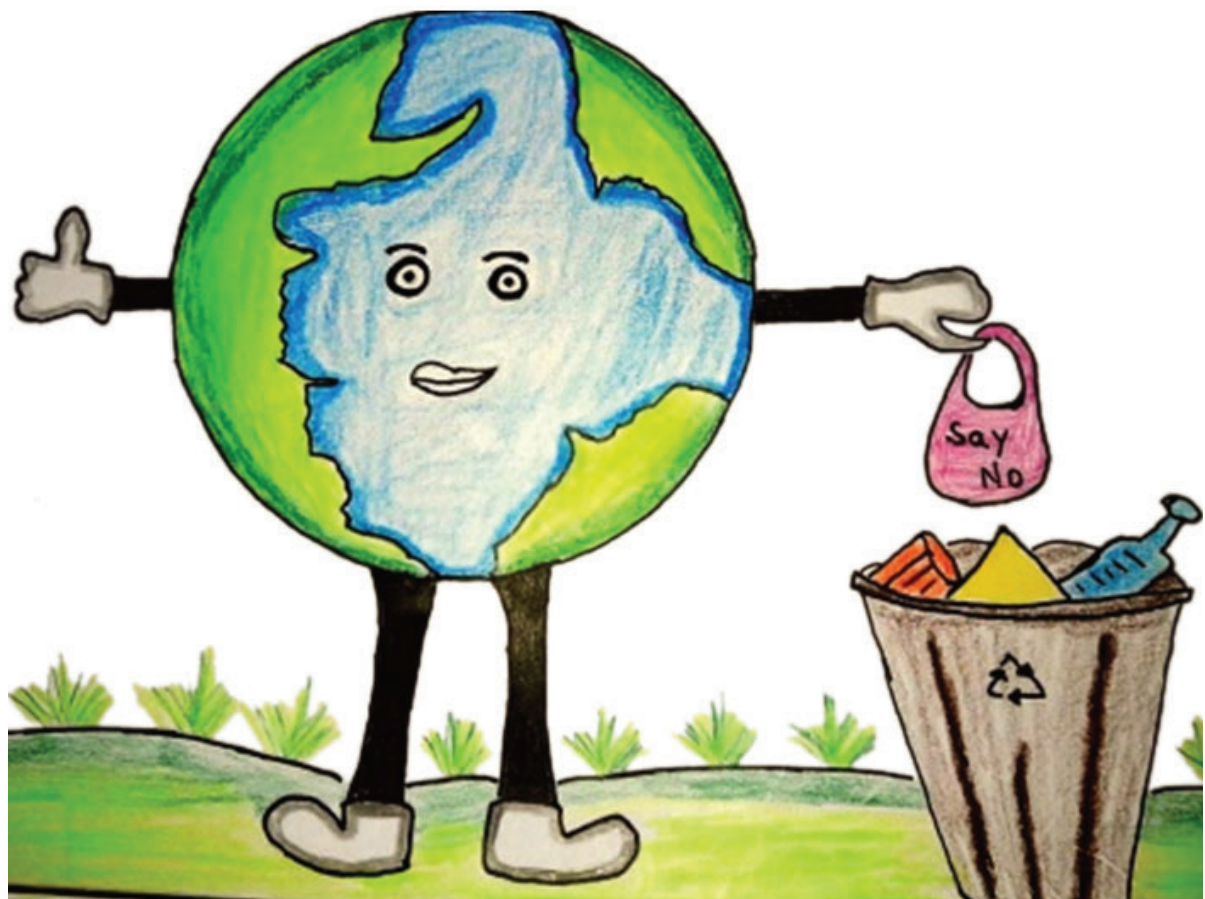
Don'ts

- ▶ Use single-use plastic
- ▶ Dump plastic waste in open/litter public places
- ▶ Indulge in open burning of plastic waste
- ▶ Send non-recyclable plastic for recycling
- ▶ Recycle toxic plastic material such as paint cans, pesticide containers, etc.
- ▶ Mix e-waste, glass, metal, etc. with plastic waste



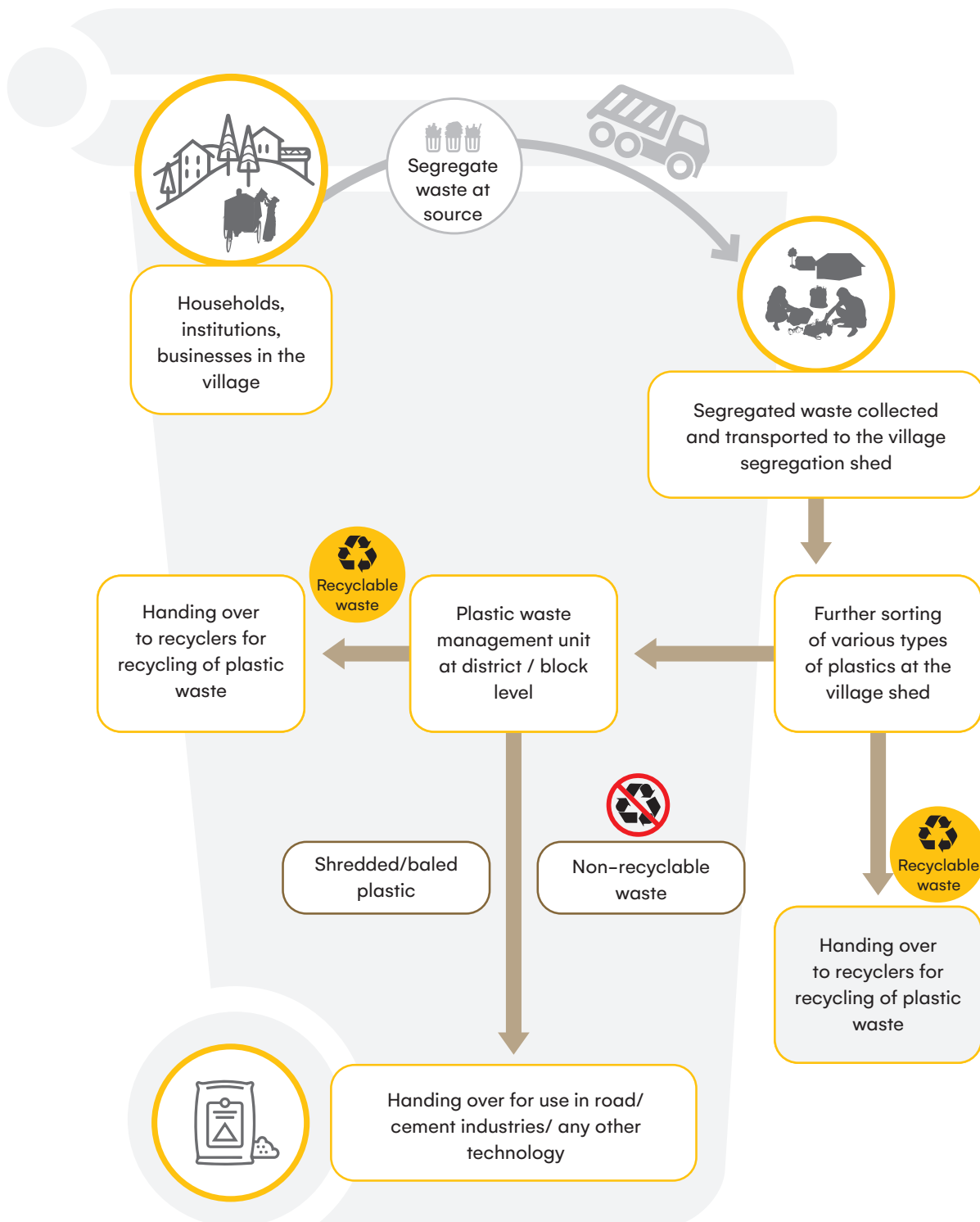
PWM Issues for which IEC Activities can be Carried Out

- ▶ Curbing the use of single-use plastic
- ▶ Harmful impacts of plastic waste and its importance
- ▶ Importance of segregation of waste at source
- ▶ Harmful effects of burning plastic waste
- ▶ 4 Rs of plastic waste management — Recover, Reduce, Reuse, Recycle
- ▶ Ways to minimize the plastic waste generated by homes and villages
- ▶ Alternatives to plastic
- ▶ Do's and Don'ts regarding plastic waste management





PLASTIC WASTE MANAGEMENT CYCLE



UNDERSTANDING DIFFERENT TYPES OF PLASTIC AND THEIR USES



PETE



Converted back to polymer and used for making apparel



HDPE



Converted to pellets and used to produce new HDPE



PVC



These are used to produce new PVC or as feed for other manufacturing processes or as fuel for energy recovery



LDPE



Converted to pellets and used to produce new LDPE



PP



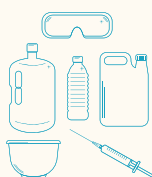
Converted to pellets and used to produce new PP



PS



Not recyclable



OTHERS



Not recyclable — However, multilayer packaging could be crushed and turned into sheets and boards for roofing, using adhesives



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