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GOVERNMENT OF GOA

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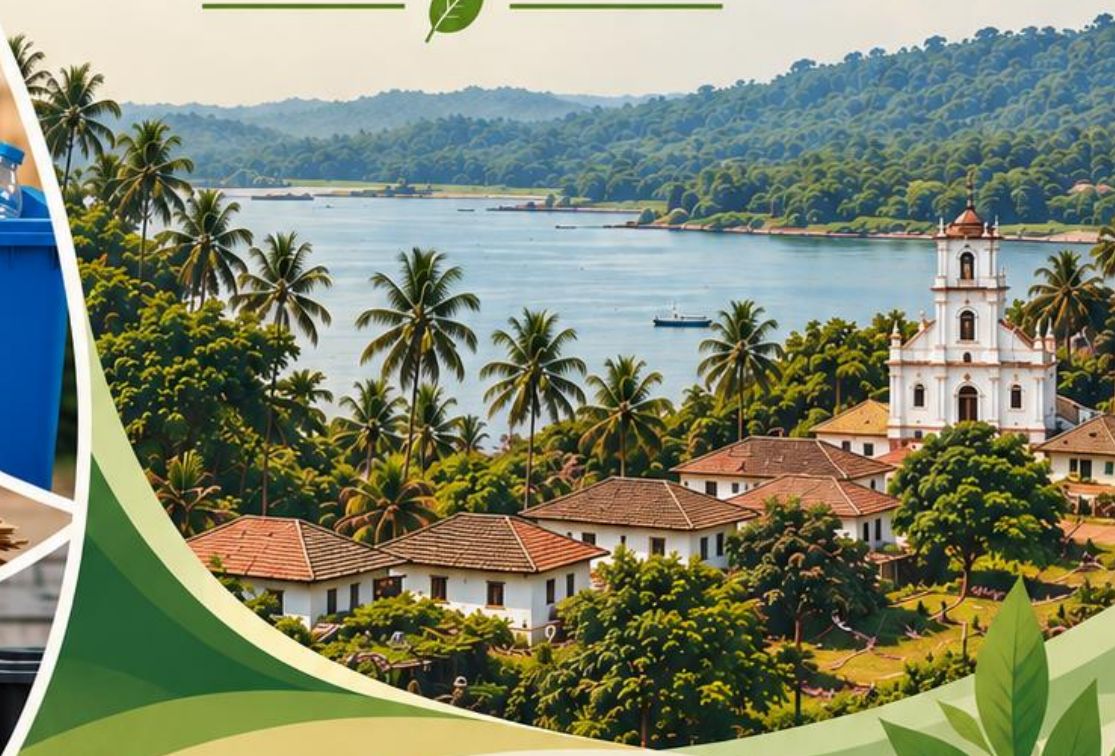
REPORT

CAPACITY BUILDING AND TRAINING PROGRAMME ON

EFFECTIVE HANDLING OF SOLID WASTE

IN VILLAGE PANCHAYATS OF GOA





JULY 2026

GOVERNMENT OF GOA
DIRECTORATE OF PANCHAYATS

in collaboration with

GOA INSTITUTE OF PUBLIC ADMINISTRATION AND RURAL DEVELOPMENT (GIPARD)

— ELLA FARM, OLD GOA —

REPORT

CAPACITY BUILDING AND TRAINING PROGRAMME ON

“Effective Handling of Solid Waste in Village Panchayats of Goa”

A consolidated report of the 14 training batches conducted across Goa

LEGAL FRAMEWORK	TECHNICAL COMPLIANCE	WASTE MANAGEMENT	COMMUNITY ACTION
Solid Waste Management Rules, 2026	EPR • BWGs • EBWGR	Disposal • Circular Economy • OSR	Behavioural Change • IEC Campaigns

Undertaken as a capacity-building initiative for Panchayati Raj Institutions
in the context of the Solid Waste Management Rules, 2026

2026

Goa

ACKNOWLEDGEMENT

The Goa Institute of Public Administration and Rural Development (GIPARD) places on record its sincere appreciation and gratitude to all institutions, officers, resource persons, elected representatives, officials and supporting personnel who contributed to the successful conduct of the “Capacity Building and Training Programme on Effective Handling of Solid Waste in Village Panchayats of Goa.”

GIPARD first and foremost acknowledges the Directorate of Panchayats, Government of Goa, for its initiative, guidance, coordination and continued support in organising the programme across the State. The cooperation extended by the Directorate, under the leadership of the Director of Panchayats, Shri Dashrath Redkar, was instrumental in facilitating the participation of Panchayati Raj representatives and Panchayat functionaries in the various training batches.

GIPARD records its sincere appreciation to its Director General, Smt. Cheshta Yadav, IAS; Director, Shri Vassudev Shetye; Assistant Director, Dr. Seema Fernandes; Faculty members; research and training personnel; and administrative, technical and support staff for their collective efforts in planning, coordinating, implementing, documenting and facilitating the programme across all training batches.

The Institute places on record its special appreciation for the resource persons and expert institutions whose knowledge, professional experience and practical insights enriched the training programme. GIPARD gratefully acknowledges Dr. Priya Onsker and Adv. Disha Sardesai, Assistant Professors, V.M. Salgaocar College of Law, Miramar, Goa, and Adv. Sapresh Devidas, Assistant Professor, VVM’s Govind Ramnath Kare College of Law, Margao, Goa, for their contribution to the sessions on the legal framework governing solid waste management and the directions of the Hon’ble Supreme Court. The Institute also acknowledges Shri Siddhant Desai, Junior Environmental Engineer, Goa State Pollution Control Board (GSPCB), for his valuable contribution towards understanding EPR, digital compliance and the technical and regulatory dimensions of the Solid Waste Management Rules, 2026.

GIPARD further expresses its appreciation to the expert resource persons from the Goa Waste Management Corporation (GWMC) for sharing practical knowledge on scientific waste management, waste processing and disposal, circular economy, resource recovery and linkages with Own Source Revenue generation. Their practical experiences and examples helped participants relate the subject to the operational realities of village Panchayats.

The Institute also gratefully acknowledges Mrs. Sharmila Jayesh Valavalkar, Zone Director (Lady JC), JCI Zone 11; Dr. Jorson Fernandes – ENT Surgeon, South Goa District Hospital and Resource Person, GIPARD; and Dr. Vithoba Mhalkar – Associate Professor, Institute of Psychiatry and Human Behaviour (IPHB) for their valuable contribution to the session on behavioural change and positive approaches towards effective garbage disposal. Their interaction with participants and the participatory activities conducted during the session added an important behavioral and community dimension to the programme.

GIPARD also acknowledges with appreciation the cooperation extended by the various colleges, government institutions, Panchayat halls and administrative establishments that made their premises available as training venues during the programme.

The Institute places particular emphasis on acknowledging the participants themselves, the Sarpanches, Deputy Sarpanches, Panch Members, Panchayat Secretaries, elected representatives, officials and other functionaries from Village Panchayats across Goa. Their active participation in discussions, sharing of field experiences, engagement in group activities and willingness to deliberate on local solid waste management challenges contributed substantially to the quality and relevance of the programme.

The Institute further acknowledges the contribution of the Panchayat officials, coordinating personnel, venue teams, technical staff and all other individuals who extended their assistance at different stages of the programme. Many of these contributions took place behind the scenes, yet were essential to ensuring the smooth and effective conduct of the training.

GIPARD extends its sincere gratitude to each and every institution and individual associated with the programme. Their collective support has contributed to strengthening the capacity of Panchayati Raj Institutions and creating a stronger foundation for sustained, informed and effective solid waste management at the village Panchayat level in Goa.

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- Shri. Dashrath Redkar – Director, Directorate of Panchayats
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CONTENTS

Sr. No.	Title	Page No.
1	Background	1
2	Aim & Objectives	4
3	Topics Covered	5
4	Observation	11
5	Conclusion	16
6	Photographs	18

1. BACKGROUND

Solid waste management has emerged as an important environmental, public health and governance challenge in India. Rapid urbanization, changing consumption patterns, increasing generation of waste and growing pressure on land and natural resources have made scientific management of solid waste essential for sustainable development. Effective solid waste management is not limited to the collection and disposal of waste; it involves segregation at source, appropriate collection and transportation, processing and resource recovery, scientific treatment and disposal, public participation, institutional coordination and continuous monitoring. The responsibility for achieving these objectives is therefore shared by waste generators, local authorities, institutions and other stakeholders.

The legal framework for solid waste management in India has evolved progressively in response to these challenges. The Environment (Protection) Act, 1986 provided the broader statutory framework for environmental protection and the formulation of various waste-management regulations. This was followed by the Solid Waste Management Rules, 2016, which strengthened the regulatory framework by placing greater emphasis on source segregation, door-to-door collection, processing of biodegradable waste, recovery of recyclable materials and scientific disposal of residual waste. The Rules also recognized the important role of local authorities and other stakeholders in establishing and maintaining systems for effective solid waste management.

The framework has further evolved with the notification of the Solid Waste Management Rules, 2026 by the Ministry of Environment, Forest and Climate Change on 27 January 2026, which superseded the Solid Waste Management Rules, 2016 and came into force from 1 April 2026. The 2026 Rules provide a strengthened framework for scientific and sustainable management of solid waste, with greater emphasis on segregation, resource recovery, circular economy principles, institutional responsibilities and monitoring. Among the important provisions is the requirement for waste generators to segregate waste at source into four streams: wet waste, dry waste, sanitary waste and special care waste, and to hand over segregated waste to authorised waste collectors or agencies in accordance with the directions of the local authorities.

In the context of Goa, effective implementation of this framework assumes particular significance. Goa is recognized for its beaches, forests, biodiversity, rivers, cultural heritage and tourism. Population growth, tourism, urbanization, changing consumption patterns and increasing commercial activity have contributed to growing waste-management pressures. Improper disposal, littering, inadequate segregation and inefficient handling of waste can adversely affect the environment, public health, tourism and the overall quality of life of communities.

Village Panchayats occupy a critical position in this framework because they are the institutions closest to the communities where waste is generated. Their responsibilities extend beyond collection and disposal to facilitating source segregation, ensuring appropriate collection and transportation, promoting processing and recovery, preventing indiscriminate dumping and burning, creating public awareness and monitoring waste-management practices within their jurisdictions. Effective implementation consequently requires elected representatives and Panchayat functionaries to possess adequate knowledge of the legal provisions as well as the practical mechanisms required for their implementation.

The importance of effective implementation and institutional capacity has been brought into sharp focus by the Hon'ble Supreme Court of India in Bhopal Municipal Corporation v. Dr. Subhash C. Pandey & Others, Civil Appeal No. 6174 of 2023. The proceedings before the Court concerned serious issues relating to solid waste management and the implementation of the applicable legal framework. Through its directions in the matter, the Hon'ble Supreme Court emphasized the need for effective implementation of the Solid Waste Management Rules, accountability of the authorities responsible for waste management, protection of public health and the environment, and strengthening of the institutional mechanisms required for compliance.

The Supreme Court's directions are significant because they recognize that the existence of comprehensive rules alone cannot ensure effective solid waste management. Their successful implementation requires institutional capacity, trained personnel, awareness among elected representatives and officials, regular monitoring and accountability at the local level. The directions therefore place considerable importance on strengthening the capacity of those responsible for implementing the waste-management framework, including functionaries of local self-government institutions. Rural Local Bodies, being directly responsible for delivering and overseeing several waste-management functions at the village level, have an important role in translating the statutory requirements into actual practices.

The Supreme Court's emphasis on capacity building is particularly relevant to the implementation of the Solid Waste Management Rules, 2026, which introduce and strengthen several responsibilities requiring awareness and coordinated action at the local level. Panchayat representatives and officials must understand the different waste streams, responsibilities of waste generators, requirements relating to segregation and collection, management of different categories of waste, community participation, monitoring and the broader objective of reducing waste going to final disposal. Without adequate understanding and institutional preparedness, the provisions of the Rules may not translate effectively into practice.

It is in this context that the **Goa Institute of Public Administration and Rural Development (GIPARD)**, in collaboration with the Directorate of Panchayats, Government of Goa, undertook the “Capacity Building and Training Programme on Effective Handling of Solid Waste in Village Panchayats of Goa”. As the State Administrative Training Institute, GIPARD has an important role in strengthening the capacities of public institutions and their functionaries. The programme was conceived as a statewide capacity-building initiative to support Village Panchayats in understanding and effectively implementing the requirements of the Solid Waste Management Rules, 2026.

The programme was conducted through 14 training batches covering the Blocks of Goa, beginning with the Tiswadi Block on 14 July 2026 at GIPARD, Ella Farm, Old Goa. It brought together elected representatives and Panchayat functionaries and provided structured exposure to the legal, behavioural, technical, environmental and institutional dimensions of solid waste management. The training combined expert-led sessions with participatory activities designed not only to impart knowledge but also to assess existing awareness, encourage behavioural change and develop practical approaches for community-level implementation.

The programme therefore represents an important capacity-building intervention for strengthening the role of Village Panchayats in the implementation of the evolving solid waste management framework. By equipping elected representatives and Panchayat

functionaries with relevant legal knowledge, practical understanding and community-oriented approaches, the initiative seeks to support effective implementation of the Solid Waste Management Rules, 2026, respond to the concerns highlighted by the Hon'ble Supreme Court, and contribute towards cleaner, healthier and more environmentally sustainable villages across Goa.

2. AIM AND OBJECTIVES

2.1 Aim

The primary aim of the “Capacity Building and Training Programme on Effective Handling of Solid Waste in Village Panchayats of Goa” was to strengthen the capacity of elected representatives and Panchayat functionaries to effectively implement the Solid Waste Management Rules, 2026 at the village level. The programme sought to develop greater awareness, institutional responsibility and community ownership towards scientific solid waste management, while equipping participants with practical approaches for segregation, collection, processing, compliance, resource recovery, community mobilization and sustainable waste-management practices.

2.2 Objectives

The specific objectives of the training programme were to:

- **Develop an understanding of the Solid Waste Management Rules, 2026** and familiarise participants with the roles, duties and responsibilities of Village Panchayats, elected representatives and other stakeholders in their implementation.
- **Create awareness about the directions from the Hon'ble Supreme Court** relating to Solid Waste Management Rules 2026, including the importance of institutional accountability, enforcement, compliance and effective implementation by Rural Local Bodies.
- **Promote behavioural change and community ownership by encouraging Panchayat functionaries and elected representatives** to move beyond a compliance-oriented approach towards active community participation in maintaining clean and sustainable villages.
- **Strengthen practical understanding of source segregation and waste management**, including appropriate handling of different waste streams and the challenges associated with collection, processing and disposal at the village level.
- **Enable participants to understand the role of Panchayats in monitoring and supporting Bulk Waste Generators**, including verification, compliance, enforcement and integration of waste-management responsibilities with village-level planning.
- **Familiarise participants with digital mechanisms for waste-management compliance,** particularly the Central Pollution Control Board’s centralized online EPR Portal, and develop an understanding of Extended Bulk Waste Generator Responsibility (EBWGR) Certification, with emphasis on digital traceability of waste-management activities, enabling monitoring, record-keeping and subsequent verification of compliance.
- **Introduce circular economy approaches to solid waste management**, including composting, recycling, resource recovery, biogas and Refuse Derived Fuel (RDF), with emphasis on reducing the quantity of waste ultimately sent for disposal.
- **Explore opportunities for linking solid waste management with Panchayat finances and Own Source Revenue (OSR)** through mechanisms such as user charges, sale of compost and recyclable materials, appropriate fees and other locally relevant revenue-generation opportunities.
- **Strengthen monitoring, evaluation and follow-up mechanisms** so that the knowledge and practices acquired during the training can be translated into sustained action within Village Panchayats and supported through subsequent monitoring and documentation of good practices

3. TOPICS COVERED

3.1. Dissemination of the Solid Waste Management Rules, 2026 and Key Takeaways from the Hon'ble Supreme Court Judgment

Sr. No.	Resource Person	Designation / Institution
1.	**Dr. Priya Onsker**	Assistant Professor, V.M. Salgaocar College of Law, Miramar, Goa
2.	**Adv. Disha Sardesai**	Assistant Professor, V.M. Salgaocar College of Law, Goa
3.	**Adv. Sapresh Devidas**	Assistant Professor, VVM's Govind Ramnath Kare College of Law, Margao, Goa

The first component of the training provided participants with the legal and institutional foundation for understanding solid waste management under the Solid Waste Management Rules, 2026. The sessions were delivered by Dr. Priya Onsker, Adv. Disha Sardesai and Adv. Sapresh Devidas on different training days. The resource persons began by discussing the growing challenges associated with solid waste, including increasing waste generation, improper disposal, open dumping and burning, plastic waste and their consequences for public health and the environment. The transition from the Solid Waste Management Rules, 2016 to the Solid Waste Management Rules, 2026, which came into force from 1 April 2026, was then explained. Particular attention was given to the broader shift towards source segregation, scientific collection and processing, resource recovery, monitoring, accountability and greater responsibility of local authorities.

A significant portion of the component focused on the Hon'ble Supreme Court judgment in Bhopal Municipal Corporation v. Dr. Subhash C. Pandey & Others, Civil Appeal No. 6174 of 2023. Participants were introduced to the background of the case, which arose from concerns relating to solid waste management at the Adampur Chhawni dumpsite in Bhopal. The resource persons explained that the issues before the Court reflected wider concerns regarding the implementation of solid waste-management requirements across the country. The discussion therefore went beyond the facts of the individual case and focused on the importance of effective implementation, monitoring and accountability by authorities responsible for waste management. **The relationship between proper waste management and the Right to a Clean and Healthy Environment under Article 21 of the Constitution was also highlighted.**

The discussions then brought the legal provisions closer to the responsibilities of Village Panchayats and Rural Local Bodies. Participants were introduced to the responsibilities of waste generators, Bulk Waste Generators and local authorities. The three criteria used for identifying a **Bulk Waste Generator** were explained: **20,000 square metres or more of floor area, 40,000 litres or more of daily water consumption,** or **generation of 100 kg or more of solid waste per day.** The responsibilities associated with such establishments, including registration, segregation, processing of wet waste and handing over other waste streams to authorised agencies, were discussed. The role of panchayats was considered in a wider context, covering collection, segregation, transportation, processing, appropriate disposal, prevention of open dumping and burning, public awareness and coordination with different stakeholders.

The sessions also emphasized that the 2026 Rules should not be viewed merely as a collection of legal provisions. Their effective implementation requires planning, coordination, monitoring and accountability at the local level. Participants were therefore encouraged to understand the responsibilities of elected representatives and other Panchayat functionaries in ensuring that waste-management systems operate properly within their jurisdiction. The discussions also highlighted the importance of compliance with applicable requirements and the consequences of failing to discharge assigned responsibilities.

3.2. Introduction to Extended Producer Responsibility (EPR) and Digital Compliance under the Solid Waste Management Rules, 2026

Resource Person	Designation / Institution
Mr. Siddhant Desai	Junior Environmental Engineer, Goa State Pollution Control Board (GSPCB)

The second component, conducted by Mr. Siddhant Desai, Junior Environmental Engineer, Goa State Pollution Control Board, built upon the legal and administrative understanding developed in the preceding session and moved towards the technical and regulatory implementation of the Solid Waste Management Rules, 2026. **The session focused particularly on Bulk Waste Generators, Extended Bulk Waste Generator Responsibility (EBWGR), waste-processing facilities, Material Recovery Facilities (MRFs), regulatory responsibilities and the growing role of digital systems in waste-management compliance.** The session also revisited the four-stream waste-management framework to explain how different waste streams are required to move through appropriate processing or disposal pathways.

The resource person provided a more detailed and technical explanation of Bulk Waste Generator responsibilities. The three criteria for **identification of a BWG**, which had been introduced during the legal session, were examined from an implementation perspective. Participants were informed about the types of establishments that may fall within the BWG category and the implications of such classification. The discussion covered registration, source segregation, on-site processing of wet waste through methods such as composting or biomethanation, and the requirement to hand over other waste streams to authorised agencies. **The concept of Extended Bulk Waste Generator Responsibility (EBWGR) was also explained, including the certification mechanism for establishments that are unable to establish the required processing facilities themselves.**

The session further dealt with the technical movement of different waste streams through the waste-management system. The responsibilities of Local Bodies and processing facilities were discussed in relation to ensuring that collected waste reaches appropriate registered facilities. Wet waste, dry waste, sanitary waste and special-care waste were considered in terms of their respective processing or disposal routes. Particular attention was given to Material Recovery Facilities (MRFs) and their role in receiving and sorting dry waste, recovering recyclable materials and directing materials to registered processors or recyclers. **This helped participants understand that effective waste management involves not merely collecting waste, but ensuring that each waste stream reaches the appropriate destination.**

A major focus of the session was the Centralised Online Portal for Solid Waste Management and digital traceability. Mr. Siddhant Desai explained how digital systems can connect different stages of the waste-management chain and create a more systematic record of compliance. **Participants were introduced to online registration, reporting requirements, audits, monitoring and the recording of waste-management activities.** A step-by-step demonstration of BWG registration was also provided. The discussion highlighted the importance of digital traceability in allowing waste-related information to be recorded and subsequently verified, thereby strengthening transparency and accountability. Instead of relying entirely on physical records and periodic inspections, digital systems can provide a more continuous record of activities such as registration, collection, processing and compliance reporting.

The session also covered the role of the Goa State Pollution Control Board and other regulatory authorities in the implementation of the Rules. Participants were introduced to regulatory functions such as monitoring compliance, inspections, audits, authorizations, reporting and the application of environmental compensation in cases of non-compliance. The Polluter Pays Principle was discussed in this regulatory context. Annual reporting and audit requirements were also explained, helping participants understand how information submitted by different stakeholders becomes part of the wider compliance and monitoring framework. Overall, this component took the participants from the legal understanding established earlier to a more technical and practical understanding of how the 2026 Rules are implemented, monitored and digitally tracked.

3.3. Waste Disposal Methodology, Circular Economy and Linkages to Own Source Revenue (OSR)

The component was delivered by expert resource persons from the Goa Waste Management Corporation (GWMC).

The third component focused on the practical aspects of waste disposal, processing, resource recovery and the financial opportunities associated with effective solid waste management. Delivered by expert resource persons from the Goa Waste Management Corporation, the session aimed to help Panchayat representatives understand what should happen to waste after it is generated and collected, and how panchayats can move away from a disposal-oriented approach towards a system based on processing and recovery of resources. The component also introduced the relationship between solid waste management and Own Source Revenue (OSR), thereby connecting environmental management with the financial sustainability of Village Panchayats.

The session began by introducing the role of GWMC in Goa’s waste-management system, including its establishment in 2016 as a Special Purpose Vehicle of the Government of Goa and its role in facilitating scientific waste-management facilities across the State. Its relevance to Village Panchayats, particularly in relation to waste-processing infrastructure and access to shared facilities, was explained. The Saligao waste-management facility was discussed as a case study, including the remediation of approximately 75,000 tonnes of legacy waste in around 45 days. This example helped participants understand how scientific management can address legacy waste and gradually replace conventional dumping practices.

The resource persons then explained the waste-disposal chain, beginning with source segregation and followed by collection, transportation, processing, resource recovery and final disposal of only residual and inert material. The treatment of wet and dry waste was discussed through practical examples. Wet waste can be managed through decentralised methods such as composting and vermicomposting, while dry waste can be taken to MRFs for sorting and recovery of recyclable materials. Suitable non-recyclable combustible waste can also be converted into Refuse Derived Fuel (RDF) for appropriate industrial use. **The emphasis throughout was on processing and recovery before disposal, with landfilling being treated as the final option for waste that cannot be otherwise recovered or processed.**

The session also introduced the circular economy approach, encouraging participants to look at waste not simply as material to be discarded but as a potential resource. The conventional linear model of "**take–make–use–dispose**" was contrasted with an approach based on reducing waste, reuse, recycling and recovery. Examples such as converting kitchen waste into compost, recovering recyclable materials through MRFs and using suitable materials as RDF demonstrated how the principles of a circular economy can be applied at the Panchayat level. **This perspective was particularly relevant to local bodies because it links better waste management with reduced disposal requirements and greater recovery of useful materials.**

An important focus of the component was the relationship between solid waste management and Own Source Revenue (OSR). Participants were introduced to the possibility of generating revenue through appropriate user or tipping fees, sale of compost and recyclable materials and suitable arrangements for RDF. The session encouraged panchayats to view waste management not merely as an expenditure but as an area where better systems can help recover value while reducing environmental and disposal-related costs. The discussion therefore connected three aspects—environmental responsibility, resource recovery and Panchayat financial sustainability. The role of panchayats in facilitating collection, processing, appropriate disposal and suitable revenue mechanisms was also emphasized. **Overall, the session demonstrated how a well-planned waste-management system can contribute not only to cleaner villages but also to more sustainable and financially capable panchayats.**

3.4. Behavioural Change and Positive Mindset towards Effective Garbage Disposal

Sr. No.	Resource Person	Designation / Institution
1.	**Mrs. Sharmila Jayesh Valavalkar**	Zone Director (Lady JC), JCI Zone 11; National Trainer, JCI Zone 11; Ex-Sarpanch, Piligao Village Panchayat
2.	**Dr. Jorson Fernandes**	ENT Surgeon; Resource Person - GIPARD
3.	**Dr. Vithoba Mhalkar**	Associate Professor, Institute of Psychiatry and Human Behaviour (IPHB), Bambolim, Goa

The component on Behavioural Change and Positive Mindset towards Effective Garbage Disposal complemented the legal and technical sessions by focusing on the human and community dimensions of solid waste management. The sessions, conducted by the above resource persons on different training days, emphasized that

infrastructure, rules and enforcement can achieve only limited results unless people are willing to change the way they generate, handle and dispose of waste. Participants were encouraged to view cleanliness as a shared responsibility involving households, Panchayat representatives, schools, businesses and the wider community. Through visual examples and discussions, the session explored why people continue to litter even when they are aware that littering is harmful and undesirable.

A major focus was placed on the factors influencing everyday waste-related behaviour, particularly habit, convenience, social influence and motivation. Participants were shown how repeated actions can become habits and how positive practices, such as carrying reusable bags, keeping waste properly stored and segregating waste at home, can similarly become part of everyday behaviour. The session also explained that people are influenced by what they observe around them. When littering becomes socially accepted, it can spread; conversely, when Panchayat representatives, community leaders, children and residents demonstrate responsible practices, they can encourage others to follow. The importance of both internal motivation, such as pride, responsibility and concern for the environment and external motivation through appreciation, competitions, incentives and appropriate penalties was also discussed.

The resource person further explained that behavioural change is a gradual process, moving from awareness to action, repetition and eventually the development of habits and a wider culture of responsible behaviour. **Participants were encouraged to understand that one-time cleanliness drives or awareness programmes are unlikely to produce lasting results unless they are supported by continued communication and community participation.** The session also used examples comparing clean and poorly managed villages to demonstrate how waste-related behaviour can affect health, tourism, the appearance of villages, community pride and even local economic conditions. The discussion was related to the Goan context, including the importance of clean surroundings, responsible tourism, protection of rivers and beaches and community participation in maintaining village cleanliness.

Three group activities were conducted as part of the component to allow participants to apply the ideas discussed during the sessions. **The first activity, "Why do People Litter?", asked groups to identify the reasons behind littering.** Responses reflected a range of behavioural and systemic factors, including lack of awareness, carelessness, habit, convenience, lack of dustbins, irregular collection, inadequate disposal facilities, weak enforcement and a tendency to shift responsibility to the Panchayat or sanitation workers. **The second activity involved waste sorting, in which participants identified different waste items and placed them in the appropriate waste stream.** The exercise provided an opportunity to assess their existing understanding of waste segregation and reinforced the importance of correct identification and handling of different types of waste.

The third activity, "Design Your Clean Village Campaign," provided participants with an opportunity to translate the concepts of behavioural change and community mobilisation into practical village-level initiatives. Groups developed campaign names and slogans and proposed awareness activities, reward mechanisms and school-based activities. Several ideas focused on household and ward-level awareness, street plays, rallies, Gram Sabha engagement, Self-Help Groups, cleanliness drives and public communication. The activity also generated innovative approaches to motivation, including recognition of clean households and wards, appreciation of responsible citizens, awards, certificates, plants and other incentives. School-based suggestions included poster and

drawing competitions, quizzes, Best out of Waste activities, plantation drives, cleanliness drives and awareness programmes.

The campaign-design exercise also reflected a strong understanding among participants that children, schools, Self-Help Groups and community organisations can become important partners in changing waste-related behaviour. A number of proposals sought to take awareness beyond the Panchayat office and into households, schools and public spaces. Participants also suggested the use of street plays, wall paintings, social media, rallies, public announcements and Gram Sabha discussions, showing an appreciation of the need to communicate the same message through different channels. Some of the ideas were particularly practical because they combined awareness with recognition and participation rather than depending only on penalties.

Overall, the behavioural component helped bring together the different dimensions of the training by reminding participants that the success of the Solid Waste Management Rules, 2026 ultimately depends on people's behaviour and community ownership. The activities gave participants an opportunity not only to discuss the reasons behind poor waste practices but also to think about solutions that could be adapted to their own villages. The session therefore reinforced the broader message of the training programme: effective solid waste management requires an appropriate system, but its long-term success depends on responsible behaviour, continuous awareness, local leadership and active participation of the community.

4. OBSERVATIONS

4.1 Participation and Coverage of the Training Programme

The 14 training programmes were conducted covering the different blocks of Goa, with participation from Village Panchayats and elected representatives along with other Panchayat-level functionaries and stakeholders. The block-wise participation and Panchayat representation are presented below.

Sr. No.	Block / Training Batch	Village Panchayats Participated	Elected Representatives (ERs)	Total Participants
1	**Tiswadi**	13/19	19	38
2	**Pernem**	15/20	15	29
3	**Ponda**	15/19	31	49
4	**Bicholim**	15/18	26	35
5	**Sattari**	9/12	9	19
6	**Bardez**	15/33	13	34
7	**Mormugao**	8/10	14	32
8	**Salcete**	12/30	8	27
9	**Quepem & Sanguem**	13/18	4	23
10	**Dharbandora**	5/5	6	11
11	**Canacona**	3/7	5	13
Total		**123/191**	**150**	**310**

Table 4.1: Block-wise Participation of Elected Representatives and Village Panchayat Representatives in the Training Programme

The block-wise participation shows that 123 of the 191 Village Panchayats represented across the training batches participated in the programme. The chart below presents the actual coverage in a more meaningful manner by showing both the total number of Village Panchayats in each block and the number that participated. This makes it possible to assess coverage block-wise rather than looking only at the overall percentage.

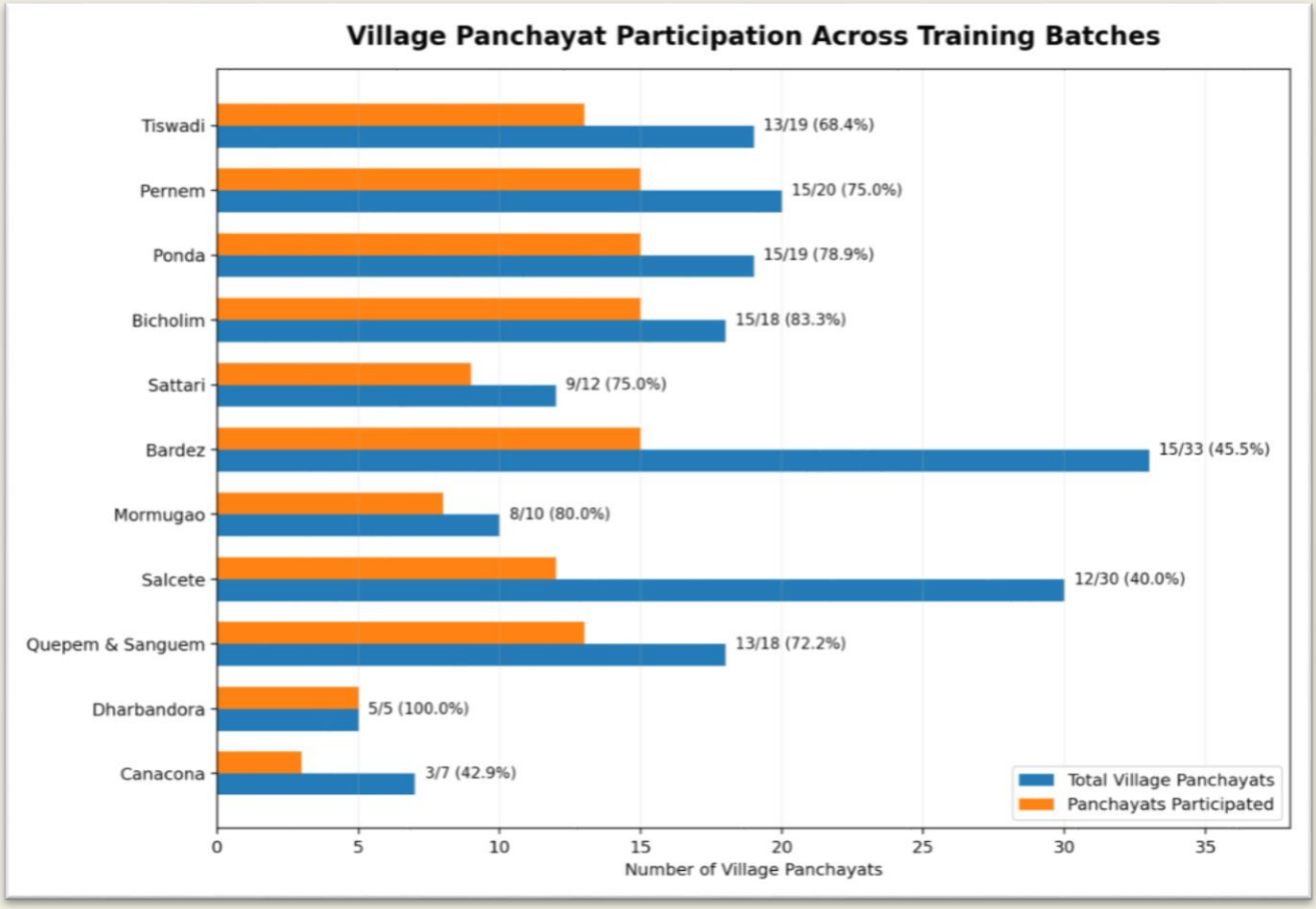


Figure 4.1: Village Panchayat participation across training batches

The bar chart presents a clear block-wise comparison between the total number of Village Panchayats in each training batch and the number that participated. The level of participation was particularly strong in **Dharbandora, where all 5 out of 5 panchayats (100%) were represented. Among the larger blocks, Bicholim recorded 15 out of 18 (83.3%), while Mormugao recorded 8 out of 10 (80.0%) and Ponda 15 out of 19 (78.9%). Pernem and Sattari also recorded 75% coverage, with 15 of 20 and 9 of 12 panchayats participating respectively.**

The chart also brings out the differences between blocks more clearly than the absolute participation figures alone. **Quepem & Sanguem recorded 13 out of 18 panchayats (72.2%), placing it above Tiswadi, where 13 out of 19 panchayats participated (68.4%).** In contrast, the **larger blocks of Bardez and Salcete, despite having 33 and 30 panchayats respectively, recorded participation of only 15 (45.5%) and 12 (40.0%).** This is an important distinction: a block may contribute a relatively high number of panchayats to the training while still having a lower proportion of its panchayats covered.

The paired-bar format is particularly useful for this comparison because the reader can see both the size of the block and the actual reach of the training at the same time. For example, the gap between expected and participating panchayats is very small in Dharbandora, whereas it is considerably wider in Bardez and Salcete. Canacona, with 3 out of 7 panchayats participating (42.9%), also shows a relatively wide gap. The percentage labels alongside the bars further strengthen the chart by making these differences immediately visible without requiring the reader to calculate the coverage from the raw numbers.

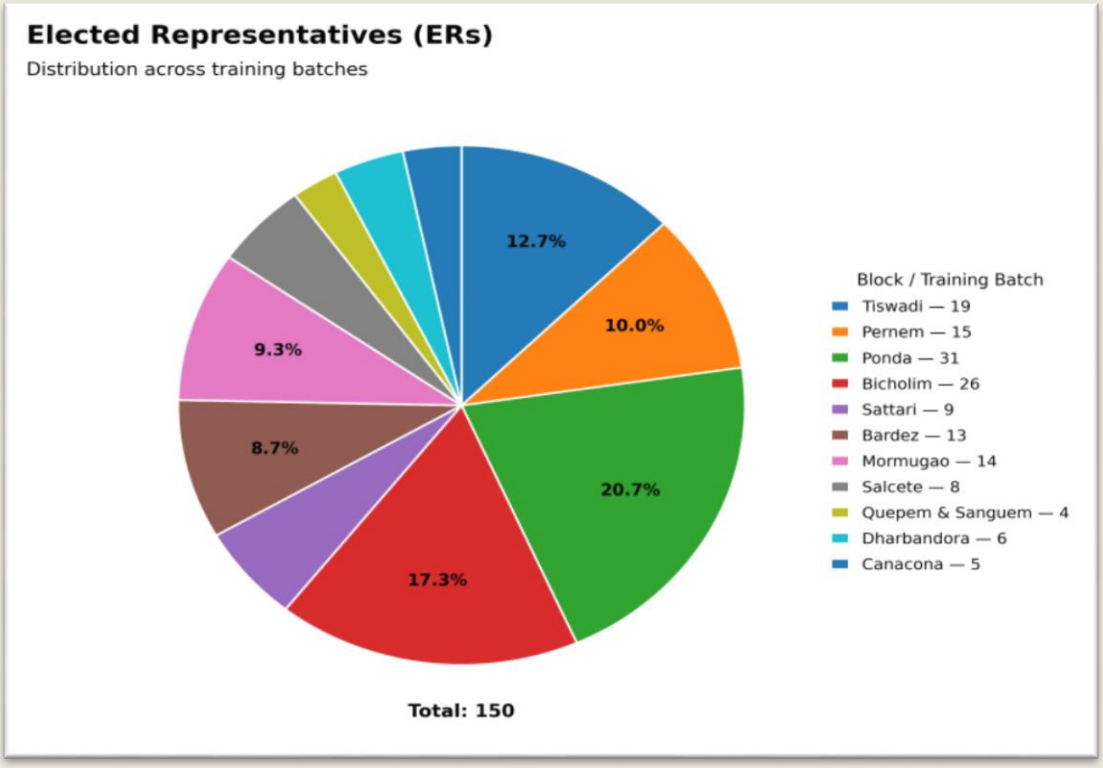


Figure 4.2: Distribution of elected representatives

The pie chart shows the distribution of the 150 Elected Representatives (ERs) who participated across the 14 training batches. Ponda recorded the highest ER participation, with 31 representatives (20.7%), followed by Bicholim with 26 (17.3%) and Tiswadi with 19 (12.7%). Together, these three batches accounted for 76 ERs, or just over half (50.7%) of the total ER participation. Pernem contributed 15 ERs (10.0%), while Mormugao recorded 14 (9.3%) and Bardez 13 (8.7%).

The remaining batches contributed comparatively smaller shares. Sattari recorded 9 ERs (6.0%), followed by Salcete with 8 (5.3%), Dharbandora with 6 (4.0%), Canacona with 5 (3.3%), and Quepem & Sanguem with 4 (2.7%). While the number of ERs varied across the batches, the figures collectively show that the programme succeeded in bringing together elected representatives from different parts of Goa, ensuring that the training was not limited to a few blocks.

It is also important to read these figures alongside the Panchayat-coverage data rather than treating ER numbers alone as an indicator of block-level participation. For instance, Dharbandora had 100% Panchayat coverage (5 out of 5 Panchayats) despite having only 6 ER participants, whereas larger blocks may have contributed more ERs simply because they had a greater number of panchayats and participants.

At the same time, the programme was not limited to elected representatives. The remaining participants included Panchayat Secretaries, students, members of Village Development Committees, Garbage Management Committees and other associated stakeholders. Their participation was useful because effective solid waste management requires coordination between elected representatives, Panchayat functionaries and community-level stakeholders. The presence of these different groups therefore helped create a broader platform for discussion and exchange of practical experiences.

4.2 Participant Awareness, Engagement and Learning

The participants showed a generally good level of familiarity with the practical challenges associated with solid waste management. This was evident not only during the behavioural-change discussions but across the different components of the programme. During the sessions on the Solid Waste Management Rules, 2026 and the Hon'ble Supreme Court judgment, participants were able to relate the legal provisions and responsibilities of Rural Local Bodies to situations encountered in their own panchayats. They also raised questions and sought clarification on provisions that had direct relevance to their work.

The technical sessions further showed that participants were interested in understanding how the requirements are actually implemented. Discussions on Bulk Waste Generators, EPR, digital compliance, waste-processing facilities, resource recovery and other technical aspects provided opportunities for participants to clarify practical issues. The GWMC component, in particular, helped connect waste disposal and processing with the realities of Panchayat-level operations and the possibility of resource recovery and Own Source Revenue. **The questions and interactions during these sessions indicated that participants were not approaching solid waste management only as a theoretical subject, but were relating it to problems they encounter in their respective areas.**

4.3 Clean Village Campaign Activity

The "Design Your Clean Village Campaign" activity provided the clearest opportunity to observe how participants could translate the learning from the programme into possible action at the village level. Groups were able to develop campaign names and slogans and, more importantly, propose specific awareness activities, reward mechanisms and school-based interventions. The responses varied considerably, showing that participants were able to approach the same task from different perspectives and relate it to the circumstances of their own communities.

A strong feature of the responses was their emphasis on direct community engagement. Street plays, rallies, Gram Sabha discussions, household visits, Self-Help Group involvement, school programmes, public announcements and social-media campaigns were among the approaches suggested. **The reward ideas also showed an understanding of the importance of encouraging good practices through recognition, including cleanest household or ward awards, certificates, felicitation, plants and other incentives.** Several groups proposed more targeted ideas such as recognising proper segregation, rewarding responsible citizens and encouraging the identification of littering or violations.

The school-related suggestions further demonstrated that participants viewed children and educational institutions as important partners in creating long-term behavioural change. **Poster and drawing competitions, quizzes, Best Out of Waste activities, cleanliness drives, rallies, street plays, wall painting and plantation activities** were among the ideas proposed. Some groups also suggested field visits to waste-management facilities and involving students in developing solutions for their own areas.

4.4 Overall Observations on the Training Methodology

The four-part training structure provided a balanced coverage of the different dimensions of solid waste management. The legal sessions established the responsibilities and obligations arising from the Solid Waste Management Rules, 2026 and the Hon'ble Supreme Court

judgment. The technical session brought greater depth to regulatory compliance, digital systems and monitoring, while the GWMC component dealt with practical waste-processing methods, resource recovery, circular economy and OSR. The behavioural-change component complemented these subjects by addressing the role of people, habits and community participation. **This progression helped present solid waste management as a responsibility that involves law, systems, infrastructure, finances and human behaviour together.**

The choice of resource persons was appropriate to the subjects covered. Legal professionals, an environmental engineer, experts from GWMC and resource persons dealing with behavioural change and community engagement brought different areas of expertise into the same programme. This allowed participants to encounter the subject from perspectives that would not have been possible through a single-resource-person approach.

The methodology also benefited from visual presentations, discussions, practical demonstrations, and group exercises. These methods encouraged active interaction among participants and resource persons, moving beyond conventional classroom-style lectures. The activities were particularly effective in helping resource persons assess existing awareness levels and address doubts in real time. **A key observation across batches was that participants already possessed substantial practical knowledge of local solid waste management issues.** Having personally encountered challenges related to littering, segregation, collection, and disposal in their own panchayats, they were able to draw upon first-hand experience during discussions. The training, therefore, served not as an introduction to an unfamiliar subject, but as an opportunity to strengthen, organize, and broaden their existing knowledge.

5. CONCLUSION

The Capacity Building and Training Programme on Effective Handling of Solid Waste in Village Panchayats of Goa provided a structured platform for strengthening the understanding of elected representatives, panchayat functionaries and other stakeholders on the changing requirements of solid waste management. **Conducting the programme through 14 training batches across different blocks of Goa was significant because solid waste management is ultimately implemented at the local level, where the nature of waste, available infrastructure, community practices and operational challenges can vary considerably from one Panchayat to another.** The programme therefore went beyond a single State-level orientation and attempted to take the subject directly to the functionaries responsible for its implementation.

The programme also brought together different dimensions of solid waste management that are often treated separately. **The legal sessions familiarised participants with the Solid Waste Management Rules, 2026 and the directions of the Hon'ble Supreme Court, while the technical sessions dealt with EPR, digital compliance, waste processing, circular economy and OSR generation. The behavioural change component added another important dimension by addressing the human side of waste management.** This combination was particularly relevant because effective implementation cannot depend solely on rules or infrastructure, it requires the panchayats to understand their legal responsibilities, make appropriate operational arrangements, engage with communities and encourage sustained behavioural change.

The participation figures indicate that the programme reached out to a decent number of panchayats and elected representatives. **Across the training batches, 123 out of 191 Village Panchayats were represented, along with 150 elected representatives among 310 participants.** The block-wise variation, however, is equally important to recognise. While some batches recorded strong Panchayat representation, others had comparatively lower coverage. At the same time, the complete participation of all five Panchayats of Dharbandora demonstrates that smaller blocks can achieve full coverage even with a relatively modest number of participants. These differences suggest that **future rounds may benefit from targeted follow-up with panchayats that were not represented, rather than treating participation merely as a numerical achievement.**

A key strength of the programme was the opportunity it created for participants to relate the training sessions to real-world problems they encounter in their own panchayats. The discussions, questions, group exercises and practical activities indicated that participants were not unfamiliar with solid waste management issues; many had already encountered challenges relating to segregation, collection, disposal, public behaviour and community participation. The training therefore served not merely to introduce a new subject, but to connect existing field experience with the legal, technical and behavioural approaches required under the present framework. The creativity displayed during the village campaign activity also showed that participants were capable of developing locally relevant ideas when given an opportunity to work beyond a purely lecture-based format.

At the same time, the scale of the programme points towards an important consideration for future implementation. Fourteen training batches should not be viewed as an end in themselves. The real measure of the programme will be whether the learning from these sessions translates into improved practices within the panchayats, better segregation at source, more systematic collection and transportation, appropriate processing and disposal,

stronger compliance by waste generators and greater community participation. Training can create awareness and build capacity, but sustained implementation will require continued guidance, monitoring, handholding and follow-up. The panchayats may also face different constraints relating to manpower, infrastructure, finances and local conditions, and these cannot necessarily be addressed through a one-day training programme alone.

The programme consequently provides a foundation for a longer-term capacity-building approach to solid waste management in Goa. **The knowledge gained by elected representatives and Panchayat functionaries needs to be carried into Gram Sabhas, Panchayat meetings, Garbage Management Committees, schools, community groups and day-to-day waste-management operations.** Periodic refresher programmes, sharing of successful Panchayat practices, focused technical support and monitoring of implementation could further strengthen the impact of the initiative. The significance of the programme, therefore, lies not simply in the number of batches conducted or participants trained, but in its potential to create a more informed and accountable panchayat system in which solid waste management is treated as a continuing governance responsibility and not merely as a sanitation activity. From the perspective of the training intervention itself, no significant component was left unaddressed, the training module was comprehensively designed to cover the required legal, technical, operational, financial and behavioural aspects of solid waste management, thereby providing participants with a well-rounded foundation for effective implementation at the panchayat level.

6. PHOTOGRAPHS











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