(REVIEW ARTICLE)

# Waste disposal knowledge, attitude, and practices of Barangay Poblacion, Compostela, Cebu, Philippines

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## Abstract

Proper waste disposal knowledge, attitudes, and practices are crucial for fostering effective waste management and ensuring environmental sustainability. This study examined household waste disposal in Barangay Poblacion, Compostela, Cebu, Philippines, with the aim of enhancing waste management and developing sustainable initiatives tailored to local challenges. Data were gathered using survey questionnaires involving 38 household respondents. Employing a mixed-method approach, the study analyzed demographics using percentages and simple means to assess knowledge, attitudes, and practices (KAP) alongside the types of solid waste materials present in households. Thematic coding was used to analyze open-ended questions regarding the problems encountered in waste disposal. The analysis revealed that residents are fully aware of proper waste disposal; however, there is a gap in attitudes and actual practices. The main concern of residents was the insufficient materials and resources for waste disposal, and food scraps were the most common type of household solid waste material with a weight of 1.80 kg/s. The recommended solutions include the implementation of an action plan to improve the attitudes and practices of household residents in Barangay Poblacion, Compostela, Cebu, Philippines.

**Keywords:** Waste management; Solid waste; Environmental sustainability; Household

## 1. Introduction

Proper waste disposal reduces the amount of waste in households, which in turn prevents various diseases and protects the environment. Effective waste management practices are crucial for ensuring sustainability and maintaining public health. Compostela is a 3rd-class municipality in Region VII (Central Visayas), Philippines. Barangay Poblacion is a pivotal barangay in the municipality of Compostela, located in the province of Cebu, Philippines. As the central and most populated barangay in Compostela, it plays a significant role in the municipality's activities. According to the 2020 Census, Poblacion has a population of 12,573, which accounts for 22.50% of Compostela's total population [1]. This high population density, combined with its status as the center of commerce, means that Poblacion is a hub of economic activity and community life in Compostela. As such, effective waste management and sustainable practices are particularly important in this barangay to support public health and environmental sustainability.

The key factors influencing proper waste disposal involve knowledge, attitudes, and practices (KAP). Knowledge about waste disposal encompasses understanding the different types of waste, the adverse impacts that incorrect disposal has on the environment and human health, and the advantages of efficient waste management. Research shows that raising awareness and educating people greatly improves how they dispose of waste. Oke and Ayanbode [2] found that better waste segregation and reduction methods were achieved through educational interventions in communities.

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Attitudes towards waste disposal are shaped by individual and collective perceptions of its importance. Positive attitudes towards environmental conservation and sustainability can drive proactive waste management behaviors. Batool et al. [3] found that people's attitudes towards waste disposal are significantly influenced by their level of knowledge. Therefore, fostering positive attitudes is essential for encouraging responsible waste disposal practices.

Practices refer to the actual routines and behaviors that people adopt towards disposing of waste. Waste segregation, recycling, composting, and the appropriate disposal of hazardous waste are some of the most effective procedures. The knowledge and attitudes of the people involved are frequently directly reflected in how these techniques are implemented. Understanding the relationship between K.A.P. allows for the development of effective strategies to establish proper waste disposal and improve overall environmental health.

By understanding these dynamics, the research sought to assess the household waste disposal in the local community in terms of knowledge, attitudes, and practices. Subsequently, the respondents' profile was analyzed in terms of educational attainment, occupation, number of children, and monthly income. This research also evaluated the abundance of solid waste materials and the problems encountered by the respondents with waste disposal.

## 2. Methods and Materials

This research utilized a mixed-method approach, combining quantitative and qualitative data collection methods to gain a comprehensive understanding of waste disposal among households in Barangay Poblacion, Compostela, Cebu. A pre-existing survey questionnaire from the study of Egano et al. [4] was employed to collect data on household waste disposal. The questionnaire included a combination of demographics, a 5-point Likert scale, and open-ended questions, designed to gather detailed information and perspectives on proper waste disposal.

The respondents of the study are the household representatives in Barangay Poblacion. The current population of households was determined using the exponential growth formula, resulting in a projected 2024 population of 3,115 households in Barangay Poblacion, Compostela. The sample size was calculated using the Krejcie and Morgan formula, which determined that 38 households would be representative of the population.

For the data analysis, percentages were used to analyze the demographic profile of household respondents. A simple mean was employed to assess the data on knowledge, attitudes, and practices related to proper waste disposal, as well as the data on solid waste materials in homes. Additionally, thematic analysis was utilized to interpret the responses to the open-ended questions, identifying key themes and insights into the problems encountered in waste disposal.

### 2.1 Scoring Procedure

**Table 1** The scoring procedure of knowledge in waste disposal

| Category | Range | Description |
|---|---|---|
| Fully aware | 4.21 – 5.00 | Households have a very high level of awareness in waste disposal. |
| Aware | 3.41 – 4.20 | Households have a high level of awareness of waste disposal. |
| Neither aware or not aware | 2.61 – 3.40 | Households have an average or neutral level of awareness in waste disposal. |
| Not aware | 1.81 – 2.60 | Households have a low awareness of waste disposal. |
| Fully not aware | 1.00 - 1.80 | Households have no awareness of waste disposal. |

**Table 2** The scoring procedures of attitudes and practices in waste disposal.

| Category | Range | Description |
|---|---|---|
| Fully practice | 4.21 – 5.00 | Households consistently follow the proper waste disposal. |
| Practiced | 3.41 – 4.20 | Households regularly follow the proper waste disposal. |
| Neither practiced | 2.61 – 3.40 | Households sometimes follow the proper waste disposal |

| | | |
|---|---|---|
| Not practiced | 1.81 – 2.60 | Households infrequently follow the proper waste disposal. |
| Fully not practiced | 1.80 | Households do not follow the proper waste disposal. |

## 3. Results and discussion

### 3.1. Demographic profile

The demographic profile of respondents consists of the highest education level of the respondents, occupation, the number of persons in the household, and the average monthly income of the household.

**Table 3** The frequency and percentage of household representatives' education attainment

| Education | Frequency | Percentage |
|---|---|---|
| No formal education | 0 | 0.00 |
| Elementary undergraduate | 1 | 2.63 |
| Elementary graduate | 2 | 5.26 |
| Highschool undergraduate | 3 | 7.89 |
| Highschool graduate | 9 | 23.68 |
| College undergraduate | 10 | 26.32 |
| College graduate | 12 | 31.58 |
| Others | 1 | 2.63 |
| Total | 38 | 100 |

Table [3] revealed the educational attainment of respondents in Barangay Poblacion, Compostela, Cebu. The majority, 31.58% (12 respondents), are college graduates, while 26.32% (10 respondents) have some college education. High school graduates make up 23.68% (9 respondents), and those with some high school education constitute 7.89% (3 respondents). Only 5.26% (2 respondents) have completed elementary school, and a small portion, 2.63% (1 respondent), have some elementary education. Additionally, 2.63% (1 respondent) fall into the 'Others' category. Notably, none of the participants reported having no formal education. Overall, the data indicates a relatively high level of educational attainment among the surveyed households, with the majority having at least some college education.

Residents of Cebu predominantly have high school graduation as their highest educational attainment, including those who pursued further studies beyond high school [5]. However, this contradicts the educational attainment of respondents from Barangay Poblacion, Compostela.

**Table 4** The frequency and percentage of the household representatives' occupation

| Occupation | Frequency | Percentage |
|---|---|---|
| Government | 1 | 2.63 |
| Private | 7 | 18.42 |
| Self | 12 | 31.58 |
| Farmer | 0 | 0.00 |
| Housewife | 9 | 23.68 |
| Others | 9 | 23.68 |
| Total | 38 | 100.00 |

Table [4] presents a diverse array of employment types, highlighting the occupational distribution of household representatives in Barangay Poblacion, Compostela, Cebu. The largest group, comprising 31.58% (12 respondents), are

self-employed. A significant portion, 23.68% (9 respondents), are housewives, and an equal percentage, 23.68% (9 respondents), fall into the 'Others' category. Meanwhile, 18.42% (7 respondents) work in the private sector, and only 2.63% (1 respondent) are employed in government roles. Notably, there are no respondents who identified as farmers. The occupation with the largest frequency or percentage of respondents is self-employment.

According to the Philippine Statistical Authority [6], the majority of employed individuals work as wage and salary workers, with a significant number employed in private establishments. This group constitutes 53.0% of the employed population as of July 2021. However, this contradicts the result of the survey regarding the occupation in Compostela, Cebu, which indicates that it has the highest number of self-employment respondents.

**Table 5** The frequency and percentage of the number of children in households

| No. children | Frequency | Percentage |
|---|---|---|
| 1 | 4 | 10.53 |
| 2 | 13 | 34.21 |
| 3 | 10 | 26.32 |
| 4 | 6 | 15.79 |
| 5 | 3 | 7.89 |
| more than 5 | 2 | 5.26 |
| Total | 38 | 100 |

Table [5] indicates varying family sizes, highlighting the distribution of the number of children in households in Barangay Poblacion, Compostela, Cebu. The most common family size includes two children, represented by 34.21% (13 households). Households with three children constitute 26.32% (10 households). Families with four children make up 15.79% (6 households), while those with one child account for 10.53% (4 households). Households with five children represent 7.89% (3 households), and a minor segment, 5.26% (2 households), have more than five children. This data shows that the majority of households have two children.

The household population in Barangay Poblacion, Compostela, Cebu, with an average of 4.33 members per household [1], mirrors the findings of the survey regarding the number of children in households. This is aligned with the typical family structure comprising two parents and two children, resulting in an approximate total of four members.

**Table 6** The frequency and percentage of households' monthly income

| Income | Frequency | Percentage |
|---|---|---|
| Php 2 000 – Php 4 000 | 7 | 18.42 |
| Php 4 001 – Php 6 000 | 1 | 2.63 |
| Php 6 001 – Php 8 000 | 5 | 13.16 |
| Php 8 001 – Php 10 000 | 6 | 15.79 |
| Php 10 001 – Php 12 000 | 6 | 15.79 |
| Php 12 001 – Php 14 000 | 4 | 10.53 |
| Php 14 001 and above | 9 | 23.68 |
| Total | 38 | 100 |

Table [6] displays the income distribution of a group of 38 individuals. The income category with the highest frequency is "Php 14,001 and above," which includes 9 individuals, accounting for 23.68% of the total sample. Following this, the "Php 2,000 – Php 4,000" category includes 7 individuals, representing 18.42% of the total. Both the "Php 8,001 – Php 10,000" and "Php 10,001 – Php 12,000" categories each have 6 individuals, making up 15.79% each of the total sample. The "Php 6,001 – Php 8,000" category includes 5 individuals, representing 13.16% of the total. Next, the "Php 12,001 –

Php 14,000" category has 4 individuals, accounting for 10.53%. The lowest frequency is seen in the "Php 4,001 – Php 6,000" category with just 1 individual, making up 2.63% of the total. This data highlights that the majority of individuals fall into the "Php 14,001 and above" income category.

In Central Visayas, a household consisting of five members required P14,203 monthly to cover their essential food and non-food expenses [7]. This is lined with the findings of the survey on monthly household incomes, which indicated that households earning fourteen thousand pesos or more per month were in line with this financial requirement.

## 3.2. KAP in waste disposal

The key factors influencing proper waste disposal involve knowledge, attitudes, and practice. This indicates to what extent the respondents are well-informed about solid waste management.

**Table 7** The households' average level of knowledge in waste disposal

| Knowledge indicators | Mean | Interpretation |
|---|---|---|
| Cleaning the streets is important to avoid drainage clogging. | 4.68 | Households have a very high level of awareness in waste disposal. |
| A clean environment is beneficial for all families living in Poblacion, Compostela, Cebu. | 4.66 | Households have a very high level of awareness in waste disposal. |
| Maintaining the healthy condition of the surroundings to avoid diseases. | 4.63 | Households have a very high level of awareness in waste disposal. |
| Cleaning the drainage is very important to avoid water pollution. | 4.58 | Households have a very high level of awareness in waste disposal. |
| A clean environment will provide a friendly and attractive atmosphere. | 4.47 | Households have a very high level of awareness in waste disposal. |
| Overall | 4.61 | Households have a very high level of awareness in waste disposal. |

The data in table [7] shows the households' average level of knowledge in waste disposal, focusing on five key knowledge indicators, arranged from highest to lowest mean scores. The importance of cleaning the streets to avoid drainage clogging received the highest mean score of 4.68. The belief that a clean environment benefits all families in Barangay Poblacion, Compostela, Cebu, scored 4.66. The significance of maintaining a healthy condition in the surroundings to avoid diseases scored 4.63. Cleaning the drainage to prevent water pollution scored 4.58. Finally, the perception that a clean environment provides a friendly and attractive atmosphere scored 4.47. The overall mean score is 4.61, indicating a very high level of awareness among households regarding waste disposal and its impact on their environment.

A recent study published by Jou et. al, [8], examined the community perception of proper waste disposal in San Jose, Occidental Mindoro, Philippines. This research, utilizing Structural Equation Modeling (SEM), explored factors affecting waste disposal behaviors among 300 respondents. The study found that environmental knowledge significantly influences personal values and environmental attitudes, which in turn affect waste management behaviors. The intention to properly dispose of waste was influenced by personal attitudes and convenience. The findings highlight the importance of community participation in effective waste management strategies to mitigate environmental and health impacts.

Table [8] presents the residents' attitudes towards waste management practices in Brgy. Poblacion, Compostela, Cebu. The data, arranged from highest to lowest mean scores, shows that residents becoming good examples for their children in proper garbage disposal received the highest mean score of 3.79. Similarly, barangay officials using their leadership skills to facilitate waste management seminars also scored 3.79. Residents promoting good habits to protect the natural environment scored 3.74, while their willingness to be trained as waste collection/disposal volunteers scored 3.53. Supporting the waste management program for the community's benefit also scored 3.53. The overall mean score is 3.67, indicating that these practices are generally followed by the residents.

A related study from Fadhullah [9] in San Carlos City, Philippines, highlighted similar findings where community positive attitude and behavior significantly contributed to effective waste management practices. This study underscored the importance of education and leadership in waste management, aligning with the high scores for leadership and example-setting in the study.

**Table 8** The households' average level of attitudes towards in waste disposal

| Attitudes indicators | Mean | Interpretation |
|---|---|---|
| Barangay officials use their leadership skills to conduct and facilitate seminars regarding waste management system. | 3.79 | Households regularly follow the proper waste disposal. |
| Residents become good example for their children on how to dispose garbage properly. | 3.79 | Households regularly follow the proper waste disposal. |
| Residents promote a good habit of protecting the natural environment from any harmful activities. | 3.74 | Households regularly follow the proper waste disposal. |
| Residents are willing to be trained on how to become a volunteer on waste collection/disposal. | 3.53 | Households regularly follow the proper waste disposal. |
| Residents support the waste management program at Poblacion, Compostela, Cebu for the benefit of every resident. | 3.53 | Households regularly follow the proper waste disposal. |
| Overall | 3.67 | Households regularly follow the proper waste disposal. |

**Table 9** The households' average level of practices in waste disposal

| Practices indicators | Mean | Interpretation |
|---|---|---|
| Barangay Poblacion, Compostela, Cebu provide collection services available for residents | 4.03 | Households regularly follow the proper waste disposal. |
| Barangay Poblacion, Compostela, Cebu has sufficient ordinances governing collection systems. | 3.97 | Households regularly follow the proper waste disposal. |
| Residents throw all wastes based on the identified category. | 3.32 | Household sometimes follow the proper waste disposal. |
| The residents categorize their waste into Biodegradable, Non-Biodegradable, and Special or Hazardous Waste. | 3.29 | Household sometimes follow the proper waste disposal. |
| Residents re-use plastic bottles, canisters cans of soft drinks/ any other drink as plant boxes | 2.97 | Household sometimes follow the proper waste disposal. |
| Residents discourage the use of clean or scratch papers as tablemat | 2.92 | Household sometimes follow the proper waste disposal. |
| Residents observe proper labeling of waste bins/containers with cover using three categories of waste. | 2.84 | Household sometimes follow the proper waste disposal. |
| Residents collect and label (plastic, styro, etc.) non-biodegradable waste every end of workweek. | 2.84 | Household sometimes follow the proper waste disposal. |
| Residents observe composting of biodegradable waste and use the compost for planting garden or vegetable plants whenever possible. | 2.76 | Household sometimes follow the proper waste disposal. |
| Residents segregate non-biodegradable waste into re-usable and those that can be sold to the junk shop/NGO. | 2.74 | Household sometimes follow the proper waste disposal. |
| Residents adopt the waste color scheme in waste segregation used by barangay Poblacion in Compostela, Cebu. | 2.42 | Household infrequently follow the proper waste disposal. |

| Residents shred trash papers before throwing to the trash bins for eventual disposal. | 2.11 | Household infrequently follow the proper waste disposal. |
|---|---|---|
| Overall | 3.00 | Household sometimes follow the proper waste disposal. |

Table [9] details the households' average level of practices in waste disposal, with most practices falling into the category of "Neither Practiced nor Not Practiced" or "Not Practiced." The highest scores indicate better adherence to certain practices. Compostela's garbage collection services received the highest mean score of 4.03, followed closely by ordinances governing collection systems with a score of 3.97, indicating that these services are well-practiced. Throwing all wastes based on identified categories scored 3.32, and categorizing waste into biodegradable, non-biodegradable, and hazardous received a score of 3.29, reflecting a moderate level of practice. Reusing plastic bottles and cans scored 2.97, while discouraging the use of scratch papers scored 2.92. Both collecting and labeling non-biodegradable waste weekly and labeling waste bins scored 2.84. Observing composting practices had a mean score of 2.76, and segregating non-biodegradable waste into reusable items or items that can be sold scored 2.74. Adopting the waste color scheme for segregation had a mean score of 2.42, and shredding trash papers scored the lowest at 2.11. The overall mean score for these practices is 3.00, suggesting a general lack of consistent practice in household waste disposal methods.

Castillo et al. [10] supports the findings of this study, highlighting that the national waste collection rate in the Philippines ranges from 40% to 85%. This statistic indicates that between 15% and 60% of generated waste is inadequately disposed of, often ending up as litter due to inefficient waste management practices. This significant gap in proper waste disposal underscores the pressing need for improved waste management infrastructure and practices in the country.

### 3.3. Abundance of solid waste disposal

The abundance of solid waste disposal indicates the type and volume (in kilogram/s) of solid waste materials used at home, namely, food scrap, clothes, cans, plastics, glass, paper, and grass trimmings.

**Table 10** The abundance of solid waste material in respondents' homes

| Solid waste | Kilogram/day |
|---|---|
| Food scrap | 1.80 |
| Clothes | 1.44 |
| Cans | 0.91 |
| Plastic | 0.52 |
| Glass | 0.46 |
| Paper | 0.37 |
| Grass trim | 0.16 |

Table [10] reveals that the waste composition data highlights that food scraps, at 1.80 kg/s, constitute the largest portion of waste, surpassing all other categories combined. This significant amount of organic waste indicates a crucial area for waste management efforts, such as composting, to reduce the solid waste stream effectively [11]. Clothes are the second-largest category at 1.44 kg/s, reflecting the increasing consumption and disposal of textiles. This trend points to the need for initiatives promoting textile recycling and sustainable fashion [12]. Non-organic recyclables, including cans (0.91 kg/s), plastic (0.52 kg/s), glass (0.46 kg/s), and paper (0.37 kg/s), form a considerable part of the waste stream, highlighting the potential for enhanced recycling practices. Better segregation and recycling of these solid materials could significantly reduce landfill contributions [13]. Grass trimmings, at 0.16 kg/s, make up the smallest portion of waste, suggesting that while grass trimmings are not a major component, proper management of this waste type can still contribute to overall waste reduction.

According to NSWMC [14], biodegradable waste, encompassing organic waste, forms 52 percent of the nation's disposed waste. The survey result revealing that food scraps rank as the most prevalent solid waste material resonates with the findings presented by the NSWMC (National Solid Waste Management Commission). This underscores the substantial contribution of food scraps to the overall solid waste volume. The survey outcome is indicative of a broader trend across

the Philippines, where food scraps hold a prominent position in the solid waste landscapes. This emphasizes the critical necessity for implementing effective waste management strategies, notably composting, to tackle this prevalent issue.

### 3.4. Problems encountered in waste disposal in Barangay Poblacion, Compostela, Cebu, Philippines

The insights came from the respondents' responses to the questions regarding the problems encountered in waste disposal in Barangay Poblacion, Compostela, Cebu, Philippines.

Firstly, the respondents frequently highlighted the insufficient number of trash bins and the absence of composting in the area as a significant challenge. It emphasized how this scarcity impedes their ability to dispose of waste properly and conveniently, leading to increased littering and improper disposal practices [15]. Additionally, the inadequate size and security of existing bins, as reported by the respondents, worsen the problem by making them prone to being scattered by stray animals and overflowing with garbage, thereby contributing to unsanitary conditions and widespread waste dispersion.

Secondly, the respondents voiced concerns about the poor condition of existing trash bins, citing foul odors and unhygienic conditions. This issue not only discourages proper waste disposal but also poses health risks to residents and contributes to environmental pollution such as mosquitoes, bad odor and other infections [16].

Lastly, the respondents identified pollution and clogging of drainage canals as significant problems. They attributed this issue primarily to improper waste disposal practices, such as dumping waste into drainage canals. According to Sojobi, et al. [17], this practice not only harms the environment but also poses risks to public health.

In addition to these primary concerns, the respondents reported various other challenges, including garbage on the streets, improper waste segregation, inconsistent garbage collection services, and the burning of solid waste. These insights provided by the respondents underscore the multifaceted nature of waste disposal challenges faced by the community and highlight the urgent need for comprehensive waste management interventions.

### 3.5. Solutions to the problems

To address the issues, it is recommended to increase the number of trash bins throughout the area to ensure that residents have ample and convenient options for waste disposal. The trash bins should be upgraded in size and designed with secure lids to prevent them from being scattered by stray animals and to minimize overflow. Consider using bins with a smaller opening to discourage littering of bulkier items as it also provides ample and conveniently located bins throughout the area to encourage proper waste disposal by residents [18].

Introducing a composting program would also be beneficial, as it would provide an environmentally friendly way to manage organic waste, reducing the overall amount of waste requiring disposal. Composting offers an environmentally friendly solution to manage food scraps and yard trimmings, reducing the overall amount of waste requiring disposal [19].

It is recommended to regularly maintain and clean the existing trash bins, as well as collect the garbage from time to time to avoid stocking the waste at home and to address the foul odors and unhygienic conditions reported by the respondents. This includes emptying them regularly to avoid overflowing bins [20].

It is also advisable to establish regular cleaning and maintenance schedules for drainage canals to help prevent blockages and reduce the accumulation of waste. This helps prevent blockages and the accumulation of waste, which can contribute to flooding and unsanitary conditions [21]. Enforcing stricter regulations and penalties for illegal dumping can also serve as deterrents and encourage compliance with waste management guidelines. Enforce stricter regulations and penalties for illegal dumping. This can serve as a deterrent and encourage compliance with waste management guidelines [22].

### 3.6. Action Plan

The action plan addresses the gap in proper waste disposal management in Barangay Poblacion, Compostela, Cebu, Philippines. It focuses on improving local attitudes and practices.

**Table 11** The action plan for solid waste management in the year 2025-2026

| Solid Waste Management: Action Plan 2025-2026 | | | | | | |
|---|---|---|---|---|---|---|
| **Problem** | **Objective** | **Action** | **When** | **Who** | **Budget (PHP)** | **Remark** |
| Support for Waste Management Program | Increase Community Support for Waste Management Program | Conduct Seminars and distribute Campaign poster | January 2025 | Barangay Officials, SK Officials, Environmental NGO's, Residents | 15,000 | |
| Residents Setting a Good Example for Children | Educate Residents on Proper Garbage Disposal | Organize workshops and distribute educational materials on waste segregation like posters and brochures. | February 2025 | Barangay Officials, SK Officials, Environmental NGO's, Residents | 15,000 | |
| Volunteerism in Waste Collection | Train Residents as Waste Management Volunteers | Develop and implement a volunteer training program for waste collection and disposal. | March 2025 | Barangay Officials, SK Officials, Environmental NGO's, Residents | 15,000 | |
| Leadership in Waste Management Education | Enhance Leadership Skills of Barangay Officials in Waste Management | Facilitate leadership training seminars focusing on waste management strategies. | April 2025 | Barangay Officials, SK Officials, Environmental NGO's, Residents | 30,000 | |
| Promoting Environmental Protection Habits | Promote Environmental Protection Practices Among Residents | Launch a campaign encouraging eco-friendly habits, including tree planting and clean-up drives. | May 2025 | Barangay Officials, SK Officials, Environmental NGO's, Residents | 15,000 | |
| Knowledge on Waste Segregation | Promote Proper Waste Categorization Among Residents | Conduct educational workshops on waste categorization (Biodegradable, Non-Biodegradable, Special/Hazardous Waste). | June 2025 | Barangay Officials, SK Officials, Environmental NGO's, Residents | 15,000 | |
| Adopting waste color scheme in waste segregation | Implement Color-Coded Waste Segregation Scheme | Distribute color-coded sacks and metal hanger for sacks. Conduct community orientation on their use. | July 2025 | Barangay Officials, SK Officials, Environmental NGO's, Residents | 20,000 | |

| Labeling of Waste Bins/Containers | Ensure Proper Labeling of Waste Bins/Containers | Provide labels for metal hangers and educate residents on their correct usage. | August 2025 | Barangay Officials, SK Officials, Environmental NGO's, Residents | 10,000 | |
|---|---|---|---|---|---|---|
| Disposal of Waste Based on Identified Categories | Ensure Residents Properly Dispose of Waste According to Identified Categories | Implement a monitoring and feedback system to ensure residents are disposing of waste correctly. | September 2025 | Barangay Officials, SK Officials, Environmental NGO's, Residents | 10,000 | |
| Segregation of Non-Biodegradable Waste | Promote Reuse and Recycling of Non-Biodegradable Waste | Conduct a community workshop on segregating and identifying reusable and recyclable non-biodegradable waste. | October 2025 | Barangay Officials, SK Officials, Environmental NGO's, Residents | 15,000 | |
| Labeling of Non-Biodegradable Waste | Implement Regular Collection and Labeling of Non-Biodegradable Waste | Establish a schedule for the collection of waste (every end of the workweek). | November 2025 | Barangay Officials, SK Officials, Environmental NGO's, Residents | 15,000 | |
| Shred trash paper before throwing | Encourage Paper Shredding Before Disposal | Provide shredders in community centers and educate residents on the benefits of shredding paper waste. | December 2025 | Barangay Officials, SK Officials, Environmental NGO's, Residents | 30,000 | |
| Underutilization of Plastic Waste | Promote the Reuse of Plastic Containers for Planting | Organize workshops on reusing plastic bottles and making into another useful materials like plant boxes | January 2026 | Barangay Officials, SK Officials, Environmental NGO's, Residents | 15,000 | |
| Wasteful Use of Paper | Reduce the Use of Clean or Scratch Paper as Table Mats | Educate residents on alternative uses for clean/scratch paper to reduce waste. | February 2026 | Barangay Officials, SK Officials, Environmental NGO's, Residents | 10,000 | |
| Composting Practices | Encourage Composting of Biodegradable Waste | Conduct training sessions on composting biodegradable waste and its benefits for gardening. | March 2026 | Barangay Officials, SK Officials, Environmental NGO's, Residents | 20,000 | |
| Waste Collection Services | Ensure Efficient Waste Collection Services | Improve and maintain regular waste collection | April 2026 | Barangay Officials, SK Officials, Environmental | 15,000 | |

| | | services for residents. | | NGO's, Residents | | |
|---|---|---|---|---|---|---|
| Enforced Ordinances | Strengthen Ordinances Governing Waste Collection Systems | Review and update local ordinances to ensure effective | May 2026 | Barangay Officials, SK Officials, Environmental NGO's, Residents | 10,000 | |

## 4. Conclusion

Most households in Barangay Poblacion, Compostela, Cebu are well-educated, self-employed, typically have two children, and earn at least fourteen thousand pesos monthly and had full awareness of proper waste disposal. The households had insufficient materials and resources, such as trash bins and composting areas, which obstruct effective waste disposal and management practices, especially for the most common type of solid waste in households which contributed to bad odors and unhygienic environmental conditions. Addressing these barriers requires targeted interventions, namely, the implementation of action plan for solid waste management to facilitate the adoption of proper waste management towards attitudes and practices in Barangay Poblacion, Compostela, Cebu.

## Compliance with ethical standards

*Disclosure of conflict of interest*

No conflict of interest to be disclosed.

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