

Community Awareness and Social Norms in Household Waste Management: A Qualitative Study in Tanjung Unggat Coastal Settlement

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ABSTRACT

Household waste management remains a persistent environmental issue in Indonesia's coastal communities, where inadequate disposal practices threaten environmental sustainability and public health. This qualitative descriptive study examines the cognitive, affective, and behavioral dimensions of community awareness and the role of social norms in household waste management in the Tanjung Unggat coastal settlement, Tanjungpinang City. Data were collected through non-participant observation, semi-structured in-depth interviews, and documentation. Eight informants were selected purposively, consisting of five coastal residents, one community leader, one village government representative, and one sanitation officer. The findings show that residents generally understand the environmental and health risks of unmanaged waste and express concern about coastal cleanliness, but behavioral commitment remains inconsistent. Direct disposal into coastal waters and open burning persist because they are normalized through long-standing neighborhood practices and reinforced by limited facilities and irregular collection services. Drawing on Émile Durkheim's concept of collective consciousness, the study demonstrates that household behavior is shaped by shared norms and social expectations rather than by individual awareness alone. Sustainable improvement therefore requires coordinated infrastructure, continuous environmental education, community participation, and reinforcement of pro-environmental local norms.

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1. Introduction

Household waste management is a major environmental and public-health challenge, particularly in coastal settlements where improperly discarded waste can move directly from residential areas into marine ecosystems. Plastic packaging, bottles, bags, and other single-use products persist for long periods, accumulate along shorelines, and fragment into microplastics that may enter aquatic food chains (Aqilla et al., 2023; Raveliani et al., 2025; Permana, 2025). For coastal communities whose livelihoods and daily activities depend on marine resources, these impacts extend beyond environmental degradation to settlement quality, fisheries, and community well-being (Handayani, 2025; Simbolon et al., 2025).

Indonesia faces particular difficulty because household waste remains a major component of municipal waste, while collection and treatment services have not expanded evenly across settlements. Unmanaged waste is frequently transported through drainage systems and rivers to coastal waters, contributing to marine pollution and exposing limitations in both infrastructure and local waste governance (Maryati et al., 2025; Firdausi et al., 2024). Technical facilities are therefore necessary, but they do not fully explain why harmful disposal practices persist when residents already recognize that waste damages their environment.

Tanjung Unggat Village, Tanjungpinang City, illustrates this problem. Preliminary observations found household waste around residential areas, drainage channels, shorelines, and beneath stilt houses. Residents use several disposal methods, including placing waste at collection points, burning it in open spaces, and discarding it directly into coastal waters. Direct dumping and burning are often viewed as practical responses to limited bins, irregular collection, and the proximity of the sea. Because these practices have been repeated over time, they are not always understood as violations but as ordinary ways of managing household waste (Butarbutar et al., 2023).

This condition requires a clearer examination of community awareness. In this study, community awareness is understood through three interrelated dimensions: cognitive awareness, referring to knowledge of environmental and health consequences; affective awareness, referring to concern and a sense of responsibility for

coastal cleanliness; and behavioral awareness, referring to consistent waste-reduction, sorting, disposal, and collective clean-up practices. These dimensions distinguish between knowing that waste is harmful, feeling concerned about the problem, and acting consistently to manage waste responsibly. Previous research shows that knowledge and concern do not automatically produce sustainable behavior when facilities, participation, and social reinforcement remain weak (Khusna et al., 2025; Ompusunggu et al., 2025).

Social norms are central to explaining this gap. Waste practices are learned and reinforced through everyday interaction: residents observe how neighbors dispose of waste, assess what is socially tolerated, and adapt their behavior to prevailing community expectations. Long-standing practices can normalize direct disposal and open burning, whereas regular clean-up activities, local role models, and community sanctions can establish alternative pro-environmental expectations. Household waste management should therefore be examined not only as an individual decision but also as socially influenced behavior embedded in community routines.

Émile Durkheim's concept of collective consciousness provides the theoretical framework for this analysis. Collective consciousness refers to shared beliefs, values, and moral expectations that guide individual conduct. When a disposal practice is repeatedly performed and collectively tolerated, it can function as a social fact that exerts pressure on individuals to conform. Conversely, when cleanliness and shared responsibility become dominant expectations, community members are more likely to adopt and maintain responsible practices. This perspective connects the dimensions of awareness with the social norms that enable or constrain behavioral change.

Previous studies on household waste management have mainly emphasized environmental knowledge, participation, and infrastructure. These studies are important, but relatively limited attention has been given to how the cognitive, affective, and behavioral dimensions of awareness interact with social norms in a coastal settlement. This study addresses that gap by examining Tanjung Unggat as a setting in which household routines, coastal vulnerability, and limited waste services intersect.

Accordingly, this study aims to analyze the cognitive, affective, and behavioral dimensions of community awareness and to explain how social norms shape household waste management practices in the Tanjung Unggat coastal settlement. Using Durkheim's concept of collective consciousness, the study contributes a sociological account of the gap between environmental knowledge and everyday behavior and provides practical insight for community-based education, infrastructure improvement, and collaborative local governance.

2. Method

This study employed a qualitative descriptive design to provide a detailed account of the dimensions of community awareness and the social norms shaping household waste management in the Tanjung Unggat coastal settlement. The design was selected because the study focused on participants' perceptions, practices, and the social context of waste disposal as they occurred in the natural setting, rather than measuring awareness statistically. The analysis remained close to the empirical data and subsequently used Durkheim's concept of collective consciousness to interpret the relationship between shared norms and household behavior (Widnyana et al., 2025).

The research was conducted between February and April 2026 in Tanjung Unggat Village, Tanjungpinang City, Riau Islands Province, a coastal settlement experiencing persistent household waste management challenges. This location was purposively selected because preliminary observations indicated recurring waste accumulation in residential and shoreline areas despite the availability of basic waste collection services.

Informants were selected using purposive sampling, whereby participants were chosen based on their relevance to the research objectives and their direct experience with household waste management practices. A total of eight informants participated in the study, consisting of five coastal residents, one community leader, one village government representative, and one sanitation officer. These participants were considered capable of providing comprehensive information regarding community behavior, environmental awareness, and local waste management practices.

Data were collected through non-participant observation, semi-structured in-depth interviews, and documentation. Non-participant observation was conducted to examine environmental conditions, waste disposal practices, and community interactions related to household waste management within the coastal settlement. Semi-structured interviews allowed participants to describe their experiences, perceptions, and attitudes toward environmental cleanliness while providing flexibility for probing emerging issues during the interview process. Documentation, including photographs, village documents, and relevant policy records, was used to complement and verify information obtained through observations and interviews.

Data analysis followed the interactive model proposed by Miles, Huberman, and Saldaña (2014), consisting of data condensation, data display, and conclusion drawing and verification. Interview transcripts and field notes were first transcribed verbatim and repeatedly reviewed to familiarize the researchers with the data. Meaningful statements were then coded and categorized into themes related to cognitive awareness, affective awareness, behavioral awareness, social norms, community participation, and institutional support. The identified themes were interpreted using Émile Durkheim's theory of collective consciousness to explain how shared values and collective practices shape household waste management behavior within the coastal community.

To ensure the trustworthiness of the findings, the study applied source triangulation and method triangulation. Information obtained from community members was compared with data from the community leader, village officials, and sanitation personnel, while findings from interviews were cross-checked against observational records and supporting documentation. This triangulation process enhanced the credibility and consistency of the research findings by minimizing potential bias across different data sources (Miles et al., 2014).

Prior to data collection, all participants were informed about the objectives of the study and voluntarily agreed to participate. The researchers ensured participants' confidentiality by anonymizing

personal identities throughout the research process. Participation was entirely voluntary, and informants retained the right to withdraw from the study at any stage without consequence.

3. Results and Discussion

3.1. Existing Condition of Household Waste Management in the Coastal Area of Tanjung Unggat

The findings demonstrate that household waste management in the coastal settlement of Tanjung Unggat remains inadequate despite increasing public awareness regarding environmental issues. Field observations conducted throughout the study revealed considerable accumulations of domestic waste along coastal shorelines, beneath stilt houses, roadside areas, drainage channels, and public spaces surrounding residential settlements. Most of the waste consisted of plastic bottles, food packaging, plastic bags, Styrofoam containers, disposable cups, and other household refuse. Similar waste characteristics have been reported in previous studies indicating that plastic waste continues to dominate marine debris throughout Indonesian coastal regions because of its widespread consumption and extremely slow degradation process (Sar'iyyah et al., 2025).

These local findings correspond closely with Indonesia's national waste management situation. According to the Ministry of Environment and Forestry through the National Waste Management Information System (SIPSN), Indonesia generated approximately 30.97 million tons of municipal waste in 2023, while nearly 34.76% remained unmanaged, indicating substantial deficiencies in waste collection, transportation, and final disposal systems (Mustika et al., 2025). Household waste contributes the largest proportion of this national waste stream, making behavioural changes at the community level particularly important for improving environmental quality. Therefore, the environmental conditions observed in Tanjung Unggat should not be viewed as an isolated local problem but rather as part of a broader structural challenge facing coastal communities throughout Indonesia.

Interviews with community members revealed that several waste disposal practices have become deeply embedded in everyday life. Many residents admitted that household waste is frequently

discarded directly into nearby coastal waters because tidal movements are expected to carry the waste away from residential areas. Others reported burning domestic waste in open spaces surrounding their homes because this method is perceived as faster, simpler, and less costly than transporting waste to distant collection points. These practices are reinforced by the limited availability of waste bins, irregular waste collection services, and inadequate environmental infrastructure within the coastal settlement. Consequently, residents often prioritize convenience over environmentally responsible waste management.

Although these disposal practices appear to represent individual choices, the findings indicate that they are strongly influenced by shared social norms developed through long-term collective experiences. Residents explained that disposing waste into the sea has been practiced for generations and is therefore commonly perceived as acceptable behaviour rather than environmental misconduct. Such perceptions illustrate how environmentally harmful practices become normalized within everyday social interactions. Similar observations have been reported by Juliawan, Purnamasari, and Jumardan (2023), who argue that persistent environmental degradation in coastal communities cannot be understood solely through individual behaviour but must also be examined within broader social and cultural contexts that shape community practices.

The findings become particularly meaningful when interpreted through Emile Durkheim's concept of collective consciousness. Durkheim argued that individuals do not act independently from society; instead, their behaviour is guided by shared values, norms, and collective beliefs that gradually become social facts governing everyday life. In Tanjung Unggat, repeated waste disposal into coastal waters has evolved into a collectively accepted routine, reducing individual perceptions of environmental responsibility. Because most community members observe similar practices within their neighbourhood, these behaviours become socially legitimate and are continuously reproduced across generations.

Furthermore, the findings also reflect Durkheim's concept of social facts, whereby external social realities exert coercive influences

over individual behaviour. Several interview participants acknowledged that although they understood the environmental consequences of improper waste disposal, they continued following prevailing community practices because such behaviours had become socially normalized. This demonstrates that environmental knowledge alone is insufficient to change behaviour when existing collective norms continue to support environmentally unsustainable practices.

Another important finding concerns the relationship between social behaviour and environmental infrastructure. Residents consistently emphasized that limited waste management facilities significantly constrain their ability to adopt environmentally responsible practices. Waste collection services are not conducted regularly, while public waste bins remain insufficient for the growing residential population. Consequently, many households perceive illegal dumping or open burning as the only practical alternatives. This finding suggests that environmental behaviour should not be interpreted exclusively as an issue of individual awareness but also as an outcome of structural conditions affecting community decision-making. In other words, inadequate public services reinforce existing social norms that tolerate improper waste disposal.

Environmental observations further revealed that plastic waste becomes particularly visible during low tide when debris accumulates beneath houses and along coastal vegetation. This accumulation not only reduces environmental aesthetics but also threatens coastal ecosystems through habitat degradation and potential microplastic contamination. Previous studies have similarly reported that unmanaged plastic waste contributes to declining marine biodiversity, disrupts aquatic food chains, and ultimately threatens coastal livelihoods that depend on fisheries and marine resources (Simbolon et al., 2025). Consequently, ineffective household waste management in Tanjung Unggat represents not only an environmental concern but also a socio-economic challenge affecting community well-being.

Overall, these findings indicate that household waste management in Tanjung Unggat is shaped by the interaction between cultural practices, collective social norms, and structural limitations. From Durkheim's sociological perspective, environmental

degradation cannot be explained merely by insufficient environmental awareness among individuals. Rather, it emerges from collectively institutionalized behaviours that have become socially accepted over time and are reinforced by inadequate public infrastructure. Therefore, sustainable improvement in coastal waste management requires interventions that simultaneously transform collective social norms while strengthening institutional support through improved waste collection systems, accessible disposal facilities, and continuous environmental education programs. Only by integrating behavioural transformation with structural improvements can coastal communities gradually establish a new collective consciousness that supports environmentally responsible household waste management.

Table 1. Existing Conditions of Household Waste Management in the Coastal Area of Tanjung Unggat

Theme	Empirical Findings	Evidence from Field Observations and Interviews	Interpretation
Direct disposal into coastal waters	Household waste is frequently discarded directly into the sea, particularly by residents living along the shoreline	Residents reported that tidal movements were expected to carry waste away from residential areas, making this practice appear practical and acceptable.	Waste disposal into coastal waters has become a socially normalized behaviour reinforced through long-standing community practices.
Open burning of household waste	Burning household waste remains a common disposal method.	Residents considered burning to be the fastest and least expensive alternative because waste collection	Convenience and inadequate public services encourage environmentally harmful disposal practices.

			services are limited.	
Proper disposal	waste	Only a limited number of households consistently dispose of waste through appropriate channels.	A small proportion of participants reported separating waste or transporting it to available collection points whenever possible.	Emerging environmental awareness exists but has not yet become the dominant social norm.
Community participation		Collective environmental activities are conducted occasionally but remain inconsistent.	Community clean-up programmes are generally organized only during specific government initiatives or community events.	Community participation has not yet developed into a sustained collective commitment toward environmental stewardship.

Source: Processed by the authors from field observations and in-depth interviews (2026)

As presented in Table 1, improper household waste management continues to dominate daily practices among coastal residents despite growing awareness of environmental issues. Direct disposal into coastal waters and open burning remain the most prevalent waste management strategies because they are perceived as practical responses to inadequate waste management infrastructure. Meanwhile, environmentally responsible practices are still limited to a relatively small proportion of households and have not yet evolved into collective behavioural norms. These findings suggest that improving physical infrastructure alone will be insufficient unless accompanied by continuous environmental education, strengthened community participation, and institutional efforts to reshape collective environmental consciousness (Widnyana et al., 2025).

3.2. Dimensions of Community Awareness and Social Norms in Household Waste Management

Interview and observational data show that community awareness is multidimensional and uneven across cognitive, affective, and behavioral domains. Cognitively, most informants understood that unmanaged waste pollutes coastal waters, produces unpleasant odors, obstructs drainage, and may affect health and fisheries-based livelihoods. This knowledge indicates that residents do not generally lack basic information about environmental consequences. However, the knowledge was often expressed in general terms and was not consistently connected to specific household routines such as sorting, storing, and disposing of waste through available collection channels.

The affective dimension was reflected in residents' concern about dirty shorelines, waste accumulation beneath houses, and the declining comfort and appearance of the settlement. Some informants expressed embarrassment when the neighborhood appeared unclean and supported communal clean-up activities. Nevertheless, concern was often situational: it became stronger when waste accumulated visibly, when odors emerged, or when a government-led activity was organized. Affective concern had therefore developed, but it had not yet become a stable collective obligation maintained in everyday life.

The behavioral dimension was the weakest and most inconsistent. A limited number of households reported separating waste, carrying it to collection points, or participating in clean-up activities, while direct disposal into coastal waters and open burning remained common. The gap between knowledge, concern, and action shows that awareness cannot be inferred from verbal understanding alone. Consistent behavioral awareness requires repeated practices, accessible facilities, and reinforcement from other community members.

Social norms help explain why environmentally harmful behavior continues despite cognitive and affective awareness. Many informants described direct disposal or burning as long-standing neighborhood practices that were considered practical and socially tolerated. When residents repeatedly observe the same behavior without criticism or sanction, it becomes a normal reference for action.

Behavior is therefore shaped not only by individual awareness but also by what the community collectively accepts and reproduces.

Durkheim's concept of social facts is relevant to this pattern because collective habits operate outside the individual and exert pressure to conform to established community routines. Even residents who understood the environmental consequences of improper disposal sometimes followed prevailing practices because acting differently required additional effort and received limited social reinforcement. In this context, shared norms mediate the relationship between awareness and actual household behavior.

The data also reveal emerging pro-environmental norms. Some residents encouraged neighbors to keep shared spaces clean, joined communal clean-ups, or attempted basic waste sorting. Although these actions were not yet dominant, they demonstrate that collective expectations can change. Local leaders, sanitation personnel, and residents who model responsible practices can make clean behavior more visible, legitimate, and socially valued.

Norm change, however, is constrained by structural conditions. Informants consistently connected their disposal choices to insufficient bins, distant collection points, and irregular collection services. These findings complement studies that emphasize infrastructure and participation by showing that facilities are necessary but insufficient: new behavior is difficult to sustain when responsible practices are not simultaneously feasible and socially reinforced.

The findings should also be interpreted with caution because interview responses may be affected by social desirability bias. Informants may overstate responsible behavior or underreport improper disposal to align with perceived researcher expectations. The use of observation and source triangulation reduced this limitation, but the results remain a context-specific qualitative account rather than a measurement of the prevalence of each behavior.

Overall, sustainable household waste management in Tanjung Unggat depends on the interaction between the three dimensions of awareness and prevailing social norms. Cognitive knowledge and affective concern provide a foundation, but behavioral commitment develops only when responsible practices are collectively reinforced

and supported by adequate infrastructure. Effective intervention should therefore combine environmental education, visible community role models, regular collective activities, norm reinforcement, and reliable waste collection services.

Table 2. Dimensions of Community Awareness and Social Norms in Household Waste Management

Dimension/Category	Empirical Findings	Interpretation
Cognitive awareness	Residents recognize the environmental, health, drainage, and livelihood impacts of unmanaged waste.	Basic knowledge exists, but it remains general and is not consistently linked to household waste routines.
Affective awareness	Residents express concern about dirty shorelines, odors, comfort, and the appearance of the settlement.	Environmental concern is present but situational and has not yet become a stable collective obligation.
Behavioral awareness	Some households sort waste, use collection points, or join clean-ups, while dumping and burning persist.	Behavioral commitment is the weakest dimension and requires accessible services and repeated social reinforcement.
Social norms	Waste disposal often follows long-standing neighborhood practices, although alternative clean practices are emerging.	Prevailing norms normalize improper disposal, while role models and collective action can establish pro-environmental norms.

As presented in Table 2, community awareness cannot be treated as a single condition. Residents generally possess cognitive knowledge and affective concern, but behavioral commitment remains inconsistent. The table also shows that social norms connect these dimensions to everyday practice: prevailing neighborhood routines can normalize improper disposal, while visible role models and collective activities can support alternative behavior. Accordingly, sustainable improvement requires simultaneous attention to

individual awareness, community expectations, and the reliability of public waste-management services.

4. Conclusion

This qualitative descriptive study demonstrates that community awareness in Tanjung Unggat comprises cognitive, affective, and behavioral dimensions. Residents generally possess environmental knowledge and concern, but behavioral commitment remains inconsistent because long-standing social norms normalize direct disposal and open burning, while limited infrastructure reduces feasible alternatives.

Theoretically, the findings reinforce Émile Durkheim's concept of collective consciousness by showing that environmental behavior is socially embedded and regulated through shared norms that function as social facts. The study therefore explains the gap between awareness and action as an interaction between individual understanding, collective expectations, and structural conditions.

Practically, improving waste management requires more than infrastructure provision. Effective intervention should integrate continuous environmental education, reliable collection services, strengthening of community-based institutions, visible local role models, and reinforcement of norms that support responsible household practices. Collaborative governance involving residents, community leaders, sanitation personnel, and local authorities is essential to reshape behavioral patterns in the coastal settlement.

This study is limited by its context-specific sample of eight informants and its reliance on qualitative self-reported data, which may be influenced by social desirability bias. Future research may use mixed-method or longitudinal designs to examine changes in the three dimensions of awareness and to test the relationship among infrastructure, social norms, and household waste behavior across broader coastal settings.

Declaration of Conflicting Interest

The authors declare that there is no conflict of interest regarding the publication of this article.

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