

## Sustainability Accounting-Based Decision-Making in Integrated Organic Waste Management: An Exploratory Study in Balikpapan, Indonesia

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**ABSTRACT** : Urban waste management in developing countries has increasingly become a governance issue involving economic, social, and environmental dimensions simultaneously. The Manggar Landfill in Balikpapan City, as the only final disposal facility receiving 350 to 400 tons of waste per day, has developed an integrated organic waste management system including methane gas utilization, compost production, black soldier fly maggot cultivation, and co-firing, positioning it as one of Indonesia's leading landfills. This study explores how sustainability accounting based decision-making operates within this system through the lens of Goal Setting Theory, with specific focus on goal specificity. A qualitative exploratory case study design was employed, involving in-depth interviews, field observations, and analysis of official documents. Data were analyzed using an interactive model consisting of three coding stages. The findings show that goal specificity operates across three complementary levels, namely normative, operational, and quantitative, each integrating the economic, environmental, and social dimensions of sustainability accounting into a coherent and mutually reinforcing system. The study concludes that goal specificity supported by structured, measurable, and multidimensional sustainability accounting information serves as an empirical foundation for sustainability-oriented decision-making in public sector waste management systems.

**KEYWORDS** : *goal setting theory, goal specificity, integrated organic waste management, decision-making, sustainability accounting, Manggar Landfill*

### I. INTRODUCTION

The problem of urban waste management in developing countries is no longer just a matter of technical disposal, but has developed into a complex governance issue involving economic, social, and environmental dimensions simultaneously, where financing factors, community involvement, and governance capacity also determine the success of its management [1]. In Indonesia, organic waste dominates the national waste composition with a proportion of more than 48%, and its easily decomposed characteristics have the potential to produce significant amounts of methane gas emissions if not managed properly. Gas capture system at the facility *landfill* proven to be able to reduce methane emissions while producing renewable energy, while bioconversion technology uses larvae *Black Soldier Fly* able to reduce the volume of organic waste between 50-70% with by-products in the form of biomass with high economic value. The city of Balikpapan is facing this pressure in real terms, with waste generation increasing from 181,479 tons in 2021 to 197,352 tons in 2024, of which about 42.3% is dominated by organic waste [2]. All of this burden rests on the Manggar Landfill as the only final processing facility owned by the Balikpapan City Government that operates using the *Sanitary landfill* with a land area of about 40 hectares. In the midst of the projected capacity that is expected to reach full capacity in 2026, the Manggar Landfill has actually succeeded in developing the program *Integrated organic waste management* comprehensive includes the utilization of methane gas through the *Wasteco*, compost processing, maggot cultivation *Black Soldier Fly*, as well as the processing of Solid Jumptuan Fuel as a *Co-firing* at PLTU Teluk Balikpapan. Programs *waste to energy* methane gas-based that is proven to provide real economic benefits to the community around the treatment facility [3]. For this innovation, the Manggar Landfill, as reported by Kompas in 2025, was recognized as one of Indonesia's best landfills and was recognized as a national pilot for waste-based waste management *circular economy*. This success raises fundamental questions about the decision-making processes behind it, namely how environmental, social, and economic information is used integratively as the basis for sustainability-oriented decision-making.

This research focuses on decision-based decision-making *Sustainability Accounting* in *Integrated organic waste management* at the Manggar Landfill in Balikpapan City, it is directed to understand how economic, environmental, and social information is used in monitoring, evaluation, and decision-making to achieve the sustainability targets of waste management, analyzed using *Goal Setting Theory* [4]. Based on the phenomena described, the formulation of the problem in this study is how decision-making is based on *Sustainability Accounting* takes place in *Integrated organic waste management* at the Manggar Landfill, Balikpapan City, which was analyzed by focusing on the *goal specificity* indicator, namely the most foundational dimension of *Goal Setting Theory* that directly shapes the clarity and direction of organizational action in sustainability target setting.

This study aims to explore and understand in depth how sustainability accounting-based decision-making takes place in *integrated organic waste management* at the Manggar Landfill, Balikpapan City through the lens of *goal setting theory*, by analyzing the manifestation of the goal specificity indicator in the context of organic waste management in local government public facilities, as well as filling in the limitations of the research *Sustainability accounting* that connects environmental strategy, environmental performance, and economic performance in one integrated framework. Theoretically, this study is expected to expand the application of *goal setting theory* in the context of local government UPTD in the field of environmental management and contribute to the public sector *sustainability accounting literature*, considering that studies in the context of local government UPTD that manage environmental facilities are still very limited. Practically, the findings of this study are expected to be a reference for the manager of the Manggar Landfill, the Balikpapan City Environmental Office, and other local governments in developing *an integrated organic waste management* program that is more effective, field-based, and oriented towards long-term sustainability.

## II. LITERATURE REVIEW

### Goal Setting Theory

Goal setting in an organization is the most direct self-regulation mechanism in driving performance effectiveness, where specific and measurable goals consistently result in higher achievement than general instruction. *Goal Setting Theory* (GST) explained that the effectiveness of achieving organizational goals is influenced by four main dimensions, namely *Goal specificity*, *goal difficulty*, *goal commitment*, and *Feedback* that work integratively in encouraging more targeted organizational actions. In the context of sustainability, organizations that set targets *environmental, social, and governance* (ESG) that is specific and measurable has a higher probability of achieving its sustainability goals [4].

*Goal specificity* plays a role in eliminating ambiguity by directing the organization's attention to actions that are truly relevant to the set targets. Meanwhile, *goal difficulty* encourages effort intensity, perseverance, and the development of new strategies needed to overcome challenges in increasingly complex environmental management. The *goal commitment dimension* emphasizes that an organization's attachment to its goals is evidenced through the consistency of tangible actions, not just policy declarations, and this commitment has proven to be the most critical moderator in the relationship between goals and organizational performance, with a stronger effect on the organizational setting than in the laboratory context. The *feedback dimension* emphasizes that goal setting will not be effective without feedback that periodically summarizes the progress of achievements, because without this information it is difficult to adjust the direction and intensity of efforts. Periodic reporting mechanisms are confirmed as the most critical component for accountability for achieving sustainability goals in the public sector, and local governments that consistently use environmental management accounting information have been proven to have better environmental service performance.

### Sustainability Accounting

*Sustainability accounting* (SA) is an approach that integrates economic, social, and environmental information into the reporting and decision-making processes of the organization. *System Corporate Sustainability Management Accounting* organize these three dimensions of information for the manager's internal use to support decision-making that considers sustainability impacts across the board [5]. A systematic review of 89 studies revealed that environmental management accounting is used for three main purposes of gaining legitimacy, increasing efficiency, and supporting decision-making, with a major contribution in identifying previously unseen environmental costs.

Recent developments show a shift from traditional environmental management accounting to *broader sustainability management accounting*, covering economic, social, and environmental dimensions, and supporting the achievement of *the Sustainable Development Goals*. The application of environmental management accounting in the Asian region, especially in the waste management and carbon accounting sectors, also continues to experience significant development. In this study, *sustainability accounting* is understood as information that includes economic, environmental, and social dimensions that are used as the basis for decision-making in integrated organic waste management at the Manggar Landfill, Balikpapan City.

### ***Integrated Organic Waste Management at Manggar Landfill***

*Integrated organic waste management* is an approach that integrates various organic processing methods in one interconnected system, aiming to maximize load reduction *landfill*, generate economic value from organic waste, and provide social benefits to the community. This system reflects the principle of *circular economy* which emphasizes the sustainable transformation of waste into resources. The success of these systems relies heavily on the quality of managerial decision-making that manages all components synergistically, and organizations that integrate environmental accounting with strategic choices are proven to produce more comprehensive sustainability impacts [6]. Integrated organic waste management shows that the orientation of waste management is not only on reducing volume, but also directed at creating economic, environmental, and social benefits in a sustainable manner.

### **The Relationship between *Goal Setting Theory* and *Sustainability Accounting***

Linkage between *Goal Setting Theory* and *Sustainability Accounting* In the context of decision-making, organic waste management is complementary and mutually reinforcing. Managers need the support of an accounting system to increase awareness of the desired and unintended impacts of organizational activities, so that information *Sustainability Accounting* to be a means for evidence-based goal setting. Environmental management accounting plays a role in developing performance indicators that allow organizations to assess progress toward strategic goals, a function that directly corresponds to the mechanisms *Feedback* in *Goal Setting Theory* [7].

Measurable physical and economic data provide empirical substance for *goal specificity*; identification of barriers through actual data provides a clear context for *goal difficulty*; documentation of program achievements strengthens *goal commitment*; and multidimensional monitoring systems provide *the feedback* needed for decision adjustments. The effectiveness of *Goal Setting Theory* in the context of organizational sustainability depends on the availability of an information system that is able to provide accurate and timely feedback on the progress of achieving sustainability goals. *Sustainability accounting research* in the public sector is still in its early stages and mostly focuses on the external reporting aspect, not on the internal decision-making mechanisms, so that the integrative study of these two frameworks in the real practice of urban waste management is a relevant contribution and needs to be explored in more depth.

## **III. METHOD**

This research uses a qualitative approach with *an exploratory case study design* that aims to produce a new proposition regarding the application of *sustainability accounting* in the context of UPTD local governments in Indonesia. This design was chosen because the research questions lead more to an in-depth understanding of the phenomena process in a real context, rather than to the measurement of variables alone (Creswell & Poth, 2018). Exploratory case studies are considered appropriate considering that the boundaries between phenomena and research contexts are not always clear, so an in-depth empirical investigation is needed to understand how the sustainability accounting-based decision-making process takes place in *Integrated Organic Waste Management* at the Manggar Landfill, Balikpapan City.

The theoretical basis of this research rests on three main concepts. *Goal Setting Theory* developed by Locke and Latham used as *Grand Theory* to examine how the determination of sustainability targets for organic waste management affects the decision-making process at the Manggar Landfill. This theory includes four core components, namely *Goal specificity*, *goal difficulty*, *goal commitment*, and *Feedback*, each of which is a central theme in the data analysis process of this research. Furthermore, *Sustainability Accounting* is understood as a system that integrates economic, environmental, and social dimensions into organizational reporting and decision-making, which in this study serves as the basis for evaluating organic waste management at the Manggar Landfill [8]. The *Integrated Organic Waste Management* is an integrated waste management approach that combines various processing methods in one system to reduce waste generation while increasing economic, environmental, and social benefits, which is realized through compost processing, maggot cultivation *Black Soldier Fly* (BSF), the use of methane gas, and *Co-firing*.

The object of the research is the decision-making process based on *sustainability accounting* in *Integrated Organic Waste Management* at UPTD TPA Manggar, Balikpapan City Environment Office. The selection of the location was carried out *purposively* by considering the status of the Manggar Landfill as one of the best landfills at the national level, the implementation of *comprehensive Integrated Organic Waste Management*, and the availability of adequate informants and documents. The data source consists of primary and secondary data. Primary data were obtained through semi-structured in-depth interviews, direct observation, and field documentation. Interviews were conducted with two informants who were selected through *purposive sampling*, namely the Head of the Manggar Landfill (MH) who has authority in planning and operational decision-making, and the Supervisor and Field Person in Charge (SY) who has direct technical involvement. Secondary data is sourced from official documents such as the Balikpapan City RPJMD for 2025–2029,

Presidential Regulation Number 97 of 2017, Minister of Environment and Forestry Regulation Number P.75/MENLHK/SETJEN/KUM.1/10/2019, Profile of the Manggar TPA UPTD, and SIPSN data of the Ministry of Environment and Forestry (2025).

Data analysis uses an interactive model that is carried out simultaneously since data collection takes place through three stages, namely data reduction, data presentation, and conclusion drawing [9]. Data reduction was carried out through a three-level thematic analysis *Coding*, namely *Open Coding* to identify the initial category, *axial coding* to connect between categories, and *Selective Coding* to generate four central themes that align with the indicators *Goal Setting Theory*. Data presentation is carried out in the form of descriptive narratives, tables, matrices, and verbatim citations of informants integrated with theoretical analysis. Conclusions are drawn through the interpretation of empirical findings associated with *Goal Setting Theory* and *Sustainability Accounting* to generate research propositions.

The validity of the data is ensured through triangulation methods by comparing and confirming data from the results of interviews, field observations, and documentation simultaneously. The use of several data collection methods simultaneously to examine the same phenomenon has been proven to increase the credibility of the findings and deepen the understanding of the research context (Carter et al., 2014). If a match is found between data from various sources, the data is considered to have adequate credibility; On the other hand, if inconsistencies are found, further clarification is carried out to ensure the accuracy and validity of the overall research findings.

## IV. RESULT AND DISCUSSION

### Results

#### General Description of Research Object

Manggar Final Processing Site (TPA) is the only final waste processing facility owned by the Balikpapan City Government, which has been operating since 2012, located at Jalan Proklamasi RT. 95, Manggar Village, East Balikpapan District, managed by a UPTD under the Environment Agency (DLH) with a total human resources of approximately seventy people. The total land area reaches 40 hectares with seven landfill zones covering 17 hectares. Zones 1–5 have been closed, zone 6 is actively receiving waste, and zone 7 serves as a reserve. The volume of waste received reaches 350–400 tons per day with a daily average of 385 tons based on a weighbridge with a capacity of 20 tons. The operational budget ranges from Rp15–16.3 billion per year from the Regional Budget (APBD). TPA Manggar carries out six operational activities within the Integrated Organic Waste Management (IOWM) system: waste weighing, sanitary landfill disposal, leachate treatment through two wastewater treatment units (IPAL Lama and IPAL Pasopati), compost processing, Solid Jumputan Fuel (BBJP) processing for co-firing with PT PLN, and methane gas utilization (CH<sub>4</sub>) through the Wasteco program for 360–385 household connections. This program is supported by three CSR partners: Pertamina Hulu Mahakam, PT PLN, and Pertamina Kilang together with PT PAMA. The physical condition of the active zone of TPA Manggar can be seen in the following figure.



**Figure 1.** Manggar Landfill Balikpapan City

Source: DLH Balikpapan (2025)

Figure 1 presents the condition of the active landfill zone of TPA Manggar showing the implementation of a sanitary landfill system with geomembrane infrastructure, gas ventilation pipes, and leachate drainage channels as the operationalization of measurable and verifiable environmental targets.

### Goal Specificity

#### Establishing Waste Management Goals Across Three Dimensions of Sustainability Accounting

The first finding from the coding of MH's data is the establishment of goals that explicitly cover all three dimensions of sustainability accounting simultaneously in one cohesive statement. MH, as Head of UPTD TPA Manggar, stated:

*"The point is so that the waste can be managed properly. Then it does not cause disturbances or complaints from the community, or does not cause environmental pollution, whether water, air, or land. And also, the landfill serves as one of the educational sites, especially related to waste management in Balikpapan City."*

This single statement simultaneously contains all three dimensions of sustainability accounting: the environmental dimension manifested through the commitment to not pollute water, air, and land; the social dimension manifested through the commitment to not disturb residents and to serve as an educational site for waste management; and the economic dimension manifested through the commitment to manage operations efficiently according to established procedures and budgetary provisions. What is particularly notable is that MH did not articulate these three dimensions separately or sequentially, but rather in one integrated statement that reflects a holistic understanding of sustainability in waste management. This finding is consistent with the proposition of [10], that organizations setting specific and measurable environmental, social, and governance targets have a higher probability of achieving their sustainability goals, because the specificity of goals eliminates ambiguity and directs all organizational actions precisely toward the defined targets. In the context of public sector organizations such as TPA Manggar, this specificity of goals that spans three dimensions simultaneously represents a significant advancement compared to conventional waste management approaches that tend to focus only on the technical and operational dimensions.

The articulation of these three-dimensional goals by MH is not merely rhetorical, but is operationalized concretely through the six official operational activities of TPA Manggar, each of which can be traced to at least one of the three sustainability accounting dimensions. Waste weighing and sanitary landfill disposal represent operationalization of environmental targets; the Wasteco methane gas program represents operationalization of economic and social targets simultaneously; compost processing, BBJP co-firing, and maggot cultivation represent operationalization of all three dimensions in an integrated manner. This interconnection between stated goals and actual operational activities is the fundamental characteristic of effective goal specificity as described in the Goal Setting Theory framework [11].

#### Sanitary Landfill System as Operationalization of Environmental Targets

MH further elaborated on the technical operationalization of environmental targets through the sanitary landfill system, which serves as the foundation of the entire waste management system at TPA Manggar:

*"We still use sanitary landfill, almost one hundred percent of waste we landfill in disposal zones that we have designed in such a way. The disposal site has been prepared, lined with a waterproof layer, geomembrane, so that the waste water does not seep and contaminate the soil or groundwater."*

The sanitary landfill system with geomembrane, gas ventilation pipes, and leachate drainage pipes, as confirmed in the official DLH Balikpapan profile (2025), represents the operationalization of highly specific and verifiable environmental targets. The goal of "not contaminating soil and water" is translated into concrete technical procedures: geomembrane installation to prevent leachate seepage, vertical and horizontal pipe networks for methane gas capture, and leachate channeling systems to the wastewater treatment units. Each of these technical elements can be inspected, tested, and verified qualities that are fundamental to effective goal specificity.

This finding aligns with the assertion that specific goals consistently lead to higher performance because specification eliminates ambiguity and directs attention to relevant actions [12]. In the context of public sector environmental management, specific technical procedures such as geomembrane installation function as organizational goal specificity operationalized into daily operational standards. Furthermore, the existence of two wastewater treatment units with monthly external laboratory testing represents an institutionalized environmental monitoring mechanism that continuously provides feedback on whether environmental targets are being achieved creating a dynamic link between goal specificity and the feedback mechanism in the Goal Setting Theory framework. This integration of specific targets with systematic monitoring mechanisms reflects what [13], describe as the integration of environmental accounting information with strategic choices that produces more comprehensive sustainability impacts.

### Volume of 350-400 Tons Per Day as Quantitative Decision Basis

A critical dimension of goal specificity at TPA Manggar is the use of precise quantitative data as the empirical foundation for all operational and strategic decisions. MH explained:

*"Based on the weight entering the landfill, around 385 tons per day. If we want to find generated data, we have the formulation from the Minister of Environment or Minister of Public Works to estimate waste generated, 0.7 kilograms per person per day."*

The figure of 385 tons per day mentioned by MH is within the range of 350-400 tons per day recorded in the official DLH Balikpapan profile (2025), measured using a weighbridge with a capacity of 20 tons. The consistency between interview data and the official profile constitutes source triangulation confirmation that strengthens the validity of this finding. More importantly, this quantitative data does not merely serve as a historical record but functions as a living decision-making tool: it informs capacity planning decisions (which zone to open, when to transition between zones), resource allocation decisions (how many heavy equipment units are needed daily), and partnership development decisions (how much methane gas can be distributed to community connections).

The use of the ministerial formula of 0.7 kg per person per day alongside actual weighbridge data reflects a sophisticated approach to quantitative goal specificity that combines normative standards with empirical field data. This dual quantitative basis provides TPA Manggar with both a benchmark against which to measure performance and actual operational data with which to plan and adjust a combination that is central to the sustainability accounting framework as described by [5], who confirm that environmental management accounting contributes primarily to identifying costs and benefits that were previously invisible, thereby strengthening the empirical substance of organizational goal specificity. In the public sector context, this quantitative specificity is particularly significant because it provides an objective, auditable basis for budget proposals, CSR partnership negotiations, and national assessment submissions.

### Three SOP Components as Operational Target Framework

SY (Field Supervisor) provided a complementary perspective on goal specificity at the operational level, identifying three core SOP components that together constitute the operational target framework of TPA Manggar:

*"At TPA Manggar there are three components that need to be considered: the first is gas, the second is leachate, the third is recycling techniques. These three, if we truly follow the SOP, waste management standard procedures, God willing, there will be a reduction."*

The three SOP components articulated by SY methane gas management, leachate treatment, and organic recycling techniques directly correspond to the six official operational activities documented in the DLH Balikpapan profile (2025). This correspondence between field-level SOP articulation and official institutional documentation represents a high degree of alignment between individual understanding and organizational goal specificity, a condition that Goal Setting Theory identifies as critical for effective goal pursuit [14]. The phrase "if we truly follow the SOP" reflects SY's understanding that goal achievement is contingent on procedural compliance, a form of goal commitment that is grounded in specific operational standards.

The institutionalization of these three components is evident in the physical infrastructure of TPA Manggar: the vertical and horizontal pipe networks for gas capture and leachate drainage, the two wastewater treatment units with monthly external laboratory analysis, and the designated processing areas for compost, maggot cultivation, and BBJP production. Each physical installation represents a tangible operationalization of a specific organizational goal, creating what can be understood as a "goal architecture" embedded in the physical infrastructure of the facility. This goal architecture ensures that even in the absence of explicit goal articulation in day-to-day operations, the facility's infrastructure continuously guides operational activities toward the stated sustainability targets. This reflects the broader observation that in the public bureaucratic context, goal specificity is formed not only internally but through multi-level interaction between national regulations, regional policies, and field operational conditions [10].

### Integration of Three Organic Processing Methods That Cannot Be Separated

SY articulated a principle of integration that fundamentally shapes the goal specificity of the IOWM system at TPA Manggar:

*"The way to reduce it: organic waste is used for compost, then used for maggot, the third is co-firing solid jumputan fuel in cooperation with PLN. All are effective, all are interrelated. If one zone is not managed well, it will cause environmental impact. Everything must be managed, they cannot be separated."*

This statement "they cannot be separated" encapsulates the integration principle that distinguishes TPA Manggar's approach from conventional waste management facilities. Rather than managing compost, maggot cultivation, and BBJP co-firing as three independent programs with separate targets and metrics, TPA Manggar treats them as an integrated system in which the performance of each component affects the overall performance

of the system. This integration means that goal specificity at TPA Manggar is not merely additive (three separate goals) but synergistic (one integrated goal expressed through three interconnected mechanisms).

The official DLH Balikpapan profile (2025) confirms this integration in detail: the BBJP program consists of two types of products pellets from dry leaves processed over seven days and mixed with 5% plastic, and woodchips from chopped tree trunks and branches both sent to the Teluk Balikpapan steam power plant as co-firing materials. The differentiation of these two product types demonstrates a level of operational specificity that goes beyond what is typically found in public sector waste management facilities. Furthermore, this integration reflects the circular economy principle in which the output of one process becomes the input for another: leachate from the landfill contains organic compounds that enrich compost quality; compost processing reduces the organic load entering the landfill; and BBJP production converts dry biomass that would otherwise contribute to landfill volume into an energy resource. This finding is consistent with the view that organizations integrating environmental accounting with strategic choices produce more comprehensive sustainability impacts [6], confirming that the success of the integrated organic waste program at TPA Manggar is a product of data-based and specifically targeted decision making.

### **Economic Valuation of Methane Gas as a Measurable Sustainability Accounting Target**

SY provided a detailed economic valuation of the Wasteco methane gas program that exemplifies how sustainability accounting information functions as goal specificity in the economic dimension:

*"Thirty-five thousand times three cylinders, say one hundred and five thousand, this one hundred and five thousand only pays ten thousand per house. That means if you multiply it, how much TPA Manggar provides subsidy to the community. This is the Wasteco program, Waste to Energy for Community. The landfill has contributed to the community through the technique of utilizing methane gas."*

SY's calculation produces the following: gas value Rp35,000 × 3 cylinders = Rp105,000 per house per month, minus KSM community group contribution of Rp10,000, yielding an effective subsidy of Rp95,000 per house per month. Multiplied by 360-385 connections, the Wasteco program provides a total subsidy of approximately Rp34.2-36.6 million per month to the community. This is not merely an economic calculation but a concrete manifestation of goal specificity in the economic dimension of sustainability accounting: the goal of "providing economic benefit to the community" is expressed as a specific, measurable, and achievable figure of Rp95,000 per household per month.

Furthermore, the official DLH Balikpapan profile (2025) reveals an additional economic dimension that was not explicitly articulated in the interview: methane gas is also converted into electrical energy through a methane gas generator for lighting at TPA Manggar itself, reducing the facility's dependence on grid electricity and thereby reducing operational costs. This dual economic benefit community subsidy and internal energy cost reduction represents a more comprehensive economic dimension of sustainability accounting than is typically reported in public sector waste management contexts. This finding is consistent with the view that strategic decision making linking corporate choices, social responsibility, and environmental accounting in waste management produces more comprehensive and accountable sustainability outcomes [12]. The ability of TPA Manggar's management to articulate economic targets in specific, quantifiable terms rather than in vague aspirational language is a key indicator of mature goal specificity in the sustainability accounting framework.

### **Documentation of Program Data as Basis for National Landfill Assessment**

The final dimension of goal specificity examined in this study concerns the systematic documentation of program data as both an accountability mechanism and a basis for the national landfill assessment. SY explained:

*"Later the data I conveyed earlier, whether maggot, compost, co-firing, there is data for it. How much waste can be reduced, that is where we get our assessment points. Later ask Mas Fadil, all the data is there for development."*

This statement reveals that at TPA Manggar, data documentation is not merely an administrative requirement but a strategic activity that directly connects operational performance to external recognition and institutional legitimacy. Every kilogram of organic waste converted by the IOWM program whether through compost processing, maggot cultivation, or BBJP co-firing is weighed, recorded, and submitted as part of the national landfill assessment system. This creates a direct line between the specificity of operational targets, the measurement of operational performance, and the external validation of that performance through the national assessment framework. The recognition of TPA Manggar as one of Indonesia's best landfills is therefore not a coincidental outcome but the direct result of a systematically implemented goal specificity system that is grounded in sustainability accounting information.

This finding reflects the broader observation that strategic decision making that integrates social responsibility and environmental accounting in waste management produces more comprehensive and

accountable sustainability outcomes [15]. It also demonstrates that in the public sector context, external assessment mechanisms such as the national landfill rating system function as a critical reinforcement of internal goal specificity, creating an accountability loop that motivates consistent data documentation and program performance improvement over time.

## Discussion

### Goal Specificity: Specific Three-Dimensional Target Setting of Sustainability Accounting

The findings from the seven sub-themes of goal specificity demonstrate that target setting at TPA Manggar operates simultaneously at three complementary levels that together cover all three dimensions of sustainability accounting in one cohesive and mutually reinforcing system. The first level is normative specification: the RPJMD IKPS targets (67.60→68.10 by 2029), the 30% national reduction target (Presidential Decree No. 97/2017; P.75/MENLHK/2019), and the waste management percentage target (99.0%→99.5%) provide clear, formally established, and legally binding standards that frame all operational and strategic decisions. These normative targets are not merely aspirational but carry institutional weight as they form the basis for annual budget negotiations, CSR partnership agreements, and national assessment submissions.

The second level is operational specification: the three SOP components articulated by SY methane gas management, leachate treatment, and organic recycling and the six official operational activities documented in the DLH Balikpapan profile (2025) translate normative targets into procedures that can be executed, monitored, and evaluated on a daily basis. This translation of normative targets into operational procedures is a critical step in effective goal specificity, because without it, high-level sustainability targets remain abstract and disconnected from the daily decisions and actions of operational staff. At TPA Manggar, this translation is embedded in the physical infrastructure of the facility itself, creating what has been described earlier as a "goal architecture" that continuously guides operational activities toward stated sustainability targets.

The third level is quantitative specification: the weighing data of 350-400 tons per day, the two wastewater treatment units with monthly external laboratory testing, the two types of BBJP products, the methane gas valuation of Rp95,000 per household per month, and the compost price of Rp1,000 per kilogram all provide concrete, auditable figures that serve as the empirical reference points for all operational and strategic decisions. This quantitative specificity is particularly significant because it makes goal achievement objectively measurable a quality that is essential for both internal accountability and external recognition through the national landfill assessment system.

What is most academically significant is that all three levels of specification simultaneously cover the three dimensions of sustainability accounting economic, environmental, and social in one cohesive system, not in three separate silos. This confirms and extends the proposition that in the context of regional government UPTD, goal specificity is not only established internally, but is formed through multi-level interaction between national regulations, regional policies, and field operational conditions [6]. This finding contributes to expanding the understanding of Goal Setting Theory in the context of public bureaucracy that has a layered policy hierarchy, a context that has been identified as a significant research gap in the sustainability accounting literature.

Furthermore, this finding demonstrates that sustainability accounting in the context of TPA Manggar manifests not only through formal reporting systems but through the daily use of economic, environmental, and social information as the basis for operational decisions from weighbridge data and leachate quality monitoring results to methane gas subsidy calculations and national assessment point tracking. This is consistent with the view that organizations that integrate environmental accounting with strategic choices produce more comprehensive sustainability impacts, confirming that the success of the integrated organic waste management program at TPA Manggar is the product of systematically implemented, data-based decision making supported by sustainability accounting information that is specific, measurable, multi-dimensional, and embedded at all levels of the organization from field operations to institutional management. Taken together, the seven sub-themes of goal specificity reveal a key theoretical contribution of this study: in the public bureaucratic context, goal specificity is not a single, uniform construct but a layered system that is simultaneously normative, operational, and quantitative, and which gains its strength precisely from the integration of these three levels across the three dimensions of sustainability accounting. This layered and multi-dimensional character of goal specificity represents the central mechanism through which the Manggar Landfill transforms abstract sustainability aspirations into concrete, measurable, and accountable decision-making practices.

## V. CONCLUSION

This study reveals that sustainability accounting-based decision-making in *integrated organic waste management* at the Manggar Landfill takes place through the goal specificity dimension of *goal setting theory* as its foundational mechanism. *Goal specificity* operates across three complementary levels, namely normative, operational, and quantitative, each of which is manifested in measurable targets covering the economic,

environmental, and social dimensions of sustainability accounting simultaneously. At the normative level, formal targets from the RPJMD, national regulations, and waste management percentage targets provide legally binding direction. At the operational level, the three SOP components and six official operational activities translate these targets into procedures that can be executed, monitored, and evaluated daily. At the quantitative level, precise measurable data such as daily waste volume, methane gas subsidy value, and compost price provide the empirical reference for all decisions. The integration of these three levels across all three sustainability accounting dimensions in one cohesive system, rather than in separate silos, demonstrates that goal specificity is formed not only internally but through multi-level interaction between national regulations, regional policies, and field operational conditions. Based on the findings of the research, the manager of the Manggar Landfill is advised to strengthen the documentation of the sustainability accounting system in a structured manner so that it can be replicated by other waste management facilities. Local governments need to allocate a more proportionate budget to support the sustainability of the integrated organic waste management program. Future research is suggested to expand the scope of informants and compare the implementation between landfills in various cities, so as to produce a more comprehensive sustainability accounting-based decision-making model that can be generalized in the context of local government UPTD in Indonesia.

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