

# Perceived Impacts of Pagpapahalaga sa Kalikasan Project: A Qualitative Inquiry into Eastern Visayas State University's Community Engagement at Villaconzoilo Farm Resort

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DOI: <https://doi.org/10.47772/IJRISS.2026.100400544>

Received: 24 April 2026; Accepted: 30 April 2026; Published: 18 May 2026

## ABSTRACT

This study examines the impact of the Pagpapahalaga sa Kalikasan project implemented by Eastern Visayas State University (EVSU) at Villaconzoilo Farm Resort, focusing on how ecological solid waste management (ESWM) training influenced the lived experiences of community partners. A qualitative phenomenological research design was employed, involving purposively selected employees and members of the resort who directly participated in the training. Data were gathered by means of semi-structured interviews and analyzed through Colaizzi's descriptive phenomenological method. Findings revealed that the training facilitated value-based environmental awareness, strengthened workplace waste management practices, and promoted sustained pro-environmental behavior among participants. In addition, the study highlights how university-led community engagement initiatives can generate broader institutional and social impacts beyond knowledge acquisition. The study contributes to sustainability and community engagement research by emphasizing the role of culturally grounded environmental values, workplace-embedded experiential learning, and the influence of transient stakeholders in sustainability initiatives. Moreover, the study provides practical insights for improving SUC-led environmental programs and strengthening university–community partnerships in disaster-prone regions.

**Keywords:** ecological solid waste management; community engagement; experiential learning; environmental sustainability; qualitative impact assessment.

## INTRODUCTION

### Background

Assessing the impact of any action or decision is an integral piece in any development project. It is not simply a fragment of the process but a vital element in achieving a responsible and evidence-driven undertaking. Assessment activity aids in describing the condition of the implemented initiative in relation to its objective. Subsequently, it contributes to continuous improvement and sustainability by providing result-based and meaningful descriptions of the effects of the project based on the executed intervention activities. Impact assessment systematically determines whether outcomes can be attributed to an intervention (Gertler et al., 2016) and strengthens evidence-based decision-making (Organization for Economic Co-operation and Development, 2021). It interrogates whether interventions truly deliver their intended value by systematically tracing their effects across individuals, communities, institutions, and ecosystems. Thus, a convincing and reliable assessment must be comprehensive. Rather than focusing only on outputs, it captures both intended and unintended consequences, enabling a deeper understanding of causal change and real-world effectiveness. By addressing the significance and broader effects of actions, impact assessment answers the fundamental question of “what works, for whom, and why,” thereby strengthening accountability and improving decision-making (OECD, 2021). Ultimately, impact assessment transforms decision-making from assumption-driven to evidence-informed, ensuring that actions are not only taken but justified, optimized, and accountable in their consequences.

In the context of Higher Education Institutions (HEIs), this principle becomes especially critical in the design and implementation of community engagement initiatives. HEIs are mandated not only to generate knowledge but also to extend it by translating academic expertise into tangible social benefits through extension programs, outreach activities, and community partnerships. Recent studies affirm that higher education institutions play a pivotal role in advancing sustainability by integrating sustainability into education and fostering community engagement partnerships that translate knowledge into societal impact (Drissi et al., 2025; Popoola et al., 2025; Shange et al., 2025; Suryadi et al., 2025). However, without rigorous impact assessment, these initiatives risk turning into compliance-driven exercises. Instead of verifying meaningful and sustained change, it becomes a mere reckoning of quantity such as the number of trainings conducted or beneficiaries served.

As an institution promoting environmental sustainability, Eastern Visayas State University (EVSU) implements community extension projects aimed at developing environmental stewardship and social responsibility. These initiatives are carried out in response to the environmental challenges such as deforestation, inefficient waste management, and vulnerability to climate hazards which are pronounced in disaster-prone regions like Eastern Visayas. These local realities heighten the necessity of community-based environmental initiatives that advance sustainability and resilience. One such initiative, the Pagpapahalaga sa Kalikasan project, is implemented in partnership with Villaconzoilo Farm Resort to promote environmental awareness in order to inspire positive practices and strengthen collaborative ties between the university and local stakeholders.

Pagpapahalaga sa Kalikasan project is a values-based Ecological Solid Waste Management (ESWM) training which provides experiential learning opportunities that extend beyond traditional classroom instruction. This design is grounded on the notion that learning occurs through experience, reflection, and application (Kolb, 2015), particularly in environmental education contexts (Shutaleva, 2023). Similarly, experiential learning-based engagements have been associated with increased environmental awareness, improved civic competencies, and greater motivation to participate in sustainability practices (Rieckmann, 2018; Sterling et al., 2017). Nevertheless, community engagements need to be assessed. This is not only for efficiency and maximization of resources but more importantly to ensure that intended outcomes are truly achieved. However, most evaluations of environmental initiatives rely on quantitative measures such as participation rates or ecosystem outputs. Although these methods provide measurement, they may not fully capture participants' subjective experiences, meaning-making, and personal impacts.

On the other hand, qualitative inquiry offers the methodological tools to explore the lived experiences, perceptions, and reflections of participants involved in environmental engagement programs. Through in-depth narratives, researchers can identify the ways individuals interpret the significance and impact of their participation, including shifts in environmental values, social relationships, and institutional identity (Creswell & Poth, 2018; Denscombe, 2014). Such insights are particularly relevant in localized contexts where social and cultural dimensions of engagement shape how sustainability initiatives operate.

Despite increased implementation of sustainability projects in higher education, limited empirical research has focused on the lived experiences of stakeholders particularly, the partner community in university-community environmental partnerships in regions like Eastern Visayas. Particularly, there is a need to examine how the community partners perceive the impacts of these initiatives, and how such perceptions help in attaining long-term program and sustainable practice and policy.

Thus, this study explores the lived experiences and perceived impacts of the Pagpapahalaga sa Kalikasan project as implemented by Eastern Visayas State University at Villaconzoilo Farm Resort (VFR). By underscoring participants' narratives, the research aims to contribute to the discourse on community engagement, sustainability education, and qualitative inquiry within higher education. The findings may be valuable for institutional program development, strengthening community collaboration, and enhancing the sustainability of environmental initiatives in regional settings.

## Objective

The primary objective of this study is to assess the impact of the community engagement initiative of Eastern Visayas State University at Villaconzoilo Farm Resort. By emphasizing participants' narratives, the study

intends to provide a deeper understanding of how values-based environmental training initiatives contribute to promoting ecological responsibility and long-term sustainability practices at the institutional and community levels.

Specifically, the study seeks to: (1) Describe how participants experienced and interpreted their involvement in the ecological solid waste management training; (2) Identify perceived changes in knowledge, attitudes, and practices related to environmental protection and sustainability following the engagement; (3) Examine how the training influenced waste management systems, workplace practices, and environmental awareness within VFR; and, (4) Generate insights that may inform the enhancement of university-led community engagement programs focused on sustainability.

## **THEORETICAL FRAMEWORK**

This study is grounded on three complementary theoretical views that explain how university-led environmental initiatives influence participants' lived experiences, meaning-making processes, and sustainability practices. Specifically, these viewpoints are based on Experiential Learning Theory, Transformative Learning Theory, and Education for Sustainable Development (ESD) Framework.

The first theoretical base of this study is the Experiential Learning Theory which posits that learning occurs through a cyclical process involving (1) concrete experience, (2) reflective observation, (3) abstract conceptualization, and (4) active experimentation (Kolb, 2015). In the context of the ecological solid waste management training conducted by Eastern Visayas State University at Villaconzoilo Farm Resort (VFR), participants engaged in hands-on activities related to waste segregation, recycling, and sustainable disposal practices. Through direct participation (concrete experience) and subsequent reflection, members and employees of VFR may reconstruct their understanding of environmental responsibility and integrate new ecological practices into their daily operations (active experimentation). This theory supports the study's objective of exploring how participants experienced and interpreted the ecological solid waste management training.

The second theoretical footing is Transformative Learning Theory which asserts that meaningful learning occurs when individuals critically reflect on their prior assumptions, leading to perspective transformation (Mezirow, 2018; Taylor & Cranton, 2012). Applied to this study, the ecological solid waste management training may serve as a "disorienting dilemma" that challenges participants' previous attitudes toward waste disposal and environmental practices. Through dialogue, reflection, and engagement, participants may experience shifts in environmental values, behaviors, and institutional practices. This framework corresponds with the study's objective of identifying perceived changes in knowledge, attitudes, and sustainability practices resulting from the training.

The third theoretical ground is the Education for Sustainable Development (ESD) framework promoted by the United Nations Educational, Scientific and Cultural Organization (UNESCO, 2019). ESD underscores the development of competencies that enable individuals and communities to contribute to environmental protection, social equity, and economic sustainability. Within this framework, university engagements function as instruments for capacity-building and collective action of the community. The ecological solid waste management training implemented by Eastern Visayas State University exemplifies an application of ESD principles as it aims to foster environmental awareness, systems thinking, and sustainable behavior among community partners. This framework corroborates the study's focus on assessing how such initiative promotes environmental protection and sustainability at the organizational level.

Together, these theoretical frames guide the qualitative investigation of the lived experiences of VFR members and employees, particularly in understanding how ecological solid waste management training influences environmental awareness, institutional practices, and long-term sustainability efforts.

## **LITERATURE REVIEW**

A growing body of literature highlights the importance of environmental education and university–community engagement in nurturing sustainable behaviors. For example, recent empirical studies confirm that experiential

sustainability learning enhances environmental awareness, emotional engagement, and responsible behavior (Chen et al., 2022).

This matches with the study's first objective, which seeks to describe how participants experienced and interpreted their involvement in ESWM training. By focusing on lived experiences, the present study extends literature by examining how participants internalize environmental values and translate them into personal meaning and action.

Other studies emphasize the role of structured environmental education in improving environmental literacy. Research demonstrates that integrating sustainability into curricula significantly enhances knowledge, attitudes, and environmental responsibility (Agboola et al., 2026; Cajurao et al., 2024). Additionally, systematic reviews highlight that environmental education programs produce measurable outcomes in knowledge acquisition, attitudes, and behavioral change (Ardoin et al., 2023; Ardoin et al., 2020).

These observations directly support the study's second objective, which focuses on identifying perceived changes in knowledge, attitudes, and practices. However, the present study delves further by assessing learning in a contextualized and reinforced real-life application, particularly in community and workplace settings.

Similarly, transition from knowledge to action is explained through sustainability competencies such as systems thinking, reflexivity, and action competence. Studies indicate that sustainability education fosters behavioral transformation and practical decision-making skills when learners are engaged in real-world contexts (Kayombo et al., 2025).

This corresponds with the study's third objective, which examines how training influences workplace systems and practices. The present study goes beyond existing literature by exploring how sustainability learning becomes embedded in organizational routines, bridging individual knowledge and institutional implementation.

Recent literature also highlights the role of environmental education in fostering civic engagement and collective action. A systematic mixed-studies review found that environmental education contributes to civic knowledge, social participation, and community-level outcomes, including social cohesion and environmental stewardship (Ardoin et al., 2023).

This perspective relates to the study's first and second objectives, particularly in understanding how participants interpret their roles beyond individual behavior change. The present study extends this by looking into how the participants contribute to sustainability awareness within a tourism setting.

At the organizational level, sustainability education research emphasizes that institutional integration and systemic support are critical for sustaining environmental practices. Studies highlight the need for embedding environmental education into organizational structures, policies, and culture to ensure long-term impact (Acosta Castellanos et al., 2020).

This links directly with the study's third objective, which examines how ESWM training influences workplace systems and environmental management practices. By focusing on a private tourism enterprise, the study expands existing literature that is often limited to formal education or public-sector contexts.

Furthermore, contemporary research underscores the importance of associating environmental education with broader sustainability challenges, including climate change adaptation and resilience. Sustainability education frameworks highlight that environmental awareness contributes to holistic ecological understanding and long-term behavioral change (Pénzesné Kónya & Haigh, 2021).

This finding also supports the study's third objective, showing that environmental training extends beyond waste management to broader sustainability consciousness. The present study however focuses its investigation on a private recreational establishment.

On the other hand, literature identifies persistent challenges in advancing ecological awareness. Studies note that environmental education initiatives often fail to translate into sustained behavior due to institutional gaps,

inconsistent implementation, and lack of continuous engagement (Husin et al., 2025). This corresponds with the study's third and fourth objectives, particularly in identifying limitations and generating insights for improving community engagement programs.

Finally, recent sustainability discourse emphasizes the importance of transformative and reflective learning approaches that enable participants to rethink their relationship with the environment and adopt sustainable practices (David, 2025). This perspective complements the study's second and fourth objectives, particularly in understanding how participants reinterpret environmental practices and generate insights for program enhancement.

Overall, the reviewed literature provides strong empirical support for the study's objectives. It affirms that environmental education initiatives can influence knowledge, attitudes, behaviors, and institutional practices, while also highlighting existing gaps in understanding lived experiences, cultural values, and contextual dynamics.

## **METHODOLOGY**

### **Research Design**

This inquiry made use of a qualitative phenomenological research design to examine the lived experiences and perceived impacts of the Pagpapahalaga sa Kalikasan project implemented by Eastern Visayas State University at Villaconzoilo Farm Resort. Phenomenological research explores lived experiences and meaning-making (Creswell & Poth, 2018). This is the reason why phenomenology was selected because the primary objective of the study was not to quantify behavioral change, but to uncover the essences of experience particularly on how participants interpreted, internalized, and enacted ecological solid waste management (ESWM) practices following the university's community engagement initiative. This design is consistent with the study's focus on: (1) Describing participants' lived meanings of the ESWM training; (2) Identifying perceived changes in environmental knowledge, attitudes, and practices; and, (3) Examining how these changes influenced workplace systems and sustainability efforts at VFR.

Through phenomenological inquiry, the study sought to generate a rich, textual and structural description of how an environmental initiative particularly Pagpapahalaga sa Kalikasan project was experienced and translated into daily operational practices within the resort setting.

### **Respondents of the Study**

The study was participated by 15 individuals who are members and workers of Villaconzoilo Farm Resort. They were selected through purposive sampling, guided by the identified inclusion criteria. These included age, gender, work experience, direct involvement in resort maintenance and waste management, and attendance or participation in the ESWM training conducted by EVSU.

Purposive selection ensured that participants were equally selected across different age and gender groups to prevent bias thoughts. Additionally, only those who have been directly working in the resort for at least one year and have actually participated in the ESWM training were considered as participants in the study. This was done to guarantee that selected participants have significant experience, familiarity, and awareness of both the resort and the ESWM project. The identified criteria positioned the participants as information-rich cases capable of providing detailed accounts of how the training influenced both personal values and organizational practices.

### **Research Instrument**

Data were gathered using a semi-structured interview guide composed of four open-ended questions to capture the participants' thoughts in relation to: (1) Experiences and feelings regarding participation in the ESWM training; (2) Perceived changes in environmental awareness, attitudes, and sustainability practices; (3) Influence of the training on workplace systems and waste management procedures; and, (4) Recommendations for strengthening university-led community engagement initiatives.

The semi-structured format allowed for consistency across interviews while permitting probing questions to deepen clarification and elicit rich descriptions. Although the guide was initially developed in English, translations into the local dialect were provided to enhance clarity and cultural responsiveness. Participants were encouraged to express themselves in the language most comfortable to them, thereby preserving authenticity, contextual nuance, and depth of meaning.

### **Data Gathering Procedure**

Prior to data collection, formal permission was secured from the management of Villaconzoilo Farm Resort. Participants were informed of the study's purpose, scope, and voluntary nature. Informed consent was obtained before conducting the interviews. Ethical principles were observed. These included: (1) Confidentiality, wherein participants were assigned with codes instead of real names; (2) Anonymity, wherein non-disclosure of identifying details in transcripts or findings was guaranteed; (3) Non-maleficence, wherein discomfort or coercion of participants was minimized; and, (4) Respect for persons, wherein the right of the participants to Furthermore, researchers upheld the participants' autonomy by guaranteeing their right to terminate their involvement at any stage of the interview process without facing any adverse repercussions.

Interviews were conducted face-to-face at a time and location convenient to the participants within the resort premises. The duration of each interview was about 30–45 minutes. Audio-recording was done with the permission of the interviewee. Notes were also written to document non-verbal indications and accompanying remarks.

### **Data Analysis**

The study utilized a descriptive phenomenological method, chosen for its systematic and rigorous approach to extracting the essential structure of lived experience while maintaining fidelity to participants' original meanings. The analytic process followed these stages: (1) Familiarization, (2) Extraction of significant statements, (3) Formulation of meanings, (4) Clustering of themes, (4) Assigning exhaustive description, (5) Identification of fundamental structure, and, (6) Checking member (Colaizzi, 1978).

Accordingly, the process involved the restating of the written and recorded responses of the participants in order to identify statements directly related to experiences and perceived impacts of the ESWM training. These experiences and perceived impacts were interpreted based on the implicit meanings of the narratives. Then, the derived meanings were organized to form coherent theme clusters which later were given fitting descriptions. At this point, themes were integrated into a comprehensive narrative describing the participants' experience. Afterwards, the narrative descriptions were refined to elicit the core essences reflecting the impact of the community engagement initiative. Finally, findings were validated through feedback from selected participants. To further confirm credibility and interpretive accuracy of the findings, data triangulation through actual observations in the resort was conducted.

## **RESULTS**

The themes derived from the narratives of participants regarding the perceived impacts of the Ecological Solid Waste Management (ESWM) training conducted by Eastern Visayas State University (EVSU) are the following: (1) Internalization of environmental responsibility; (2) Acquisition of technical knowledge on waste segregation; (3) Behavioral transformation and personal practice; (4) Emergence of role modeling and environmental advocacy; (5) Institutional strengthening of waste management systems; (6) Recognition of environmental and disaster risks; (7) Persistent Knowledge–behavior gap among visitors; and, (8) Reframing waste as an economic resource.

### **Theme 1: Internalization of Environmental Responsibility**

Participants consistently articulated that the ESWM training fostered a strong sense of environmental responsibility anchored in the value of “pagpapahalaga-sa-kalikasan.” The training did not merely provide information but instilled moral accountability toward maintaining cleanliness within the resort and the broader community.

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One participant shared:

“I also learned the value of ‘pagpapahalaga-sa-ating-kalikasan’ during that training. That is why I need to be responsible and active in maintaining cleanliness despite the difficulties.” (Participant #2)

Similarly, another emphasized:

“It is in our ‘pagpapahalaga’ that will motivate you to throw your waste properly.” (Participant #6)

One more noted:

“I value a clean environment.” (Participant #5)

These responses suggest that the training cultivated value formation, shifting environmental management from obligation to ethical commitment.

The first theme directly addresses Objective 1, as it captures how participants experienced and interpreted their involvement in the ESWM training. Participants did not merely recall content. They articulated a deep, value-laden engagement rooted in “pagpapahalaga sa kalikasan.” Their narratives indicate that the training functioned as a transformative experience rather than a purely instructional activity.

In relation to Objective 2, this internalization reflects a significant shift in attitudes, where environmental responsibility became a moral obligation rather than a compliance task. Moreover, this finding contributes to Objective 4 by suggesting that community engagement programs are more effective when they integrate culturally grounded values.

## **Theme 2: Acquisition of Technical Knowledge on Waste Segregation**

Participants reported increased understanding of waste classification, segregation procedures, and proper disposal techniques after attending the ESWM training.

As one participant stated:

“I am aware of proper waste disposal and waste segregation because it was taught to us by EVSU.” (Participant #4)

Another elaborated:

“Garbage is of different kinds that need to be segregated and disposed properly around here in our resort.” (Participant #12)

The narratives demonstrate cognitive gains, particularly in identifying biodegradable, non-biodegradable, and recyclable materials, as well as understanding labeled waste bins.

The second theme strongly supports Objective 2 by demonstrating measurable gains in knowledge related to waste classification and disposal practices. Participants’ ability to articulate segregation procedures reflects successful cognitive outcomes of the training.

In relation to Objective 1, it shows that participants interpreted the training as practical and applicable, indicating that experiential components enhanced comprehension.

Furthermore, this finding provides insight to Objective 4 by highlighting that effective university-led programs should combine theoretical instruction with hands-on demonstrations, particularly in workplace-based settings where immediate application is possible.

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### **Theme 3: Behavioral Transformation and Personal Practice**

Beyond knowledge acquisition, participants described observable changes in their personal waste management practices. The training translated into consistent implementation of segregation behaviors.

One participant noted:

“It is no longer difficult for me to segregate this generated waste because of my knowledge on waste segregation.” (Participant #4)

Another shared:

“I always stay mindful and proactive in living a life with responsible waste management awareness.” (Participant #10)

These statements indicate behavioral internalization, where environmental practices became habitual rather than externally imposed.

The transition from knowledge to action directly explains Objective 2, particularly in terms of practice change. Participants reported habitual engagement in waste segregation, indicating that the training achieved behavioral internalization.

This also provides an answer to Objective 3 by showing how individual behavioral shifts contribute to a broader organizational change. When employees consistently practice proper waste management, these behaviors collectively reinforce institutional systems.

In line with Objective 4, the finding suggests that sustainability programs must be designed to support habit formation through repetition, environmental cues, and continuous reinforcement within the workplace.

### **Theme 4: Emergence of Role Modeling and Environmental Advocacy**

A notable outcome of the ESWM training was the emergence of participants as environmental advocates within the resort and community. Many described actively teaching visitors, especially children, about proper segregation.

For instance:

“I must show them how to segregate waste properly, especially to my fellow young adults.” (Participant #2)

Another emphasized:

“Be the role model above the rest... so that others would follow.” (Participant #13)

Participants perceived themselves not only as beneficiaries of training but as multipliers of environmental knowledge.

The fourth theme clarifies both Objective 1 and Objective 2 by pointing out that participants not only experienced the training meaningfully but also extended its impact through attitudinal and behavioral transformation into advocacy.

Importantly, it explains Objective 3 by demonstrating how individual participants contribute to shaping the environmental culture of the organization and its surrounding community. Their role as informal educators bridges the gap between trained staff and untrained visitors.

In relation to Objective 4, this highlights a critical insight wherein community engagement initiatives can create multiplier effects when participants are empowered as advocates. Designing programs that purposely promote leadership and peer influence can significantly expand the reach of sustainability interventions.

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## Theme 5: Institutional Strengthening of Waste Management Systems

The training was perceived to have contributed to structural improvements within the resort, including the proliferation of labeled trash bins and clearer policy implementation.

A participant stated:

“VFR policy of putting the waste appropriately is a management principle that has been concretized already after the training of ESWM we have received.” (Participant #9)

Another observed:

“There are lots of trash bins with matching labels at least in every corner of the VFR.” (Participant #3)

These responses suggest organizational-level impact, where environmental management became institutionalized.

Theme number 5 directly addresses Objective 3, by providing clear evidence that the ESWM training influenced organizational systems and workplace practices. The introduction of labeled bins and strengthened policies indicates that the training extended beyond individual learning into structural change.

Additionally, this outcome provides answers to Objectives 1 and 2 by illustrating how participants' experiences and behavioral changes contributed to institutional adoption.

In relation to Objective 4, the finding suggests that successful community engagement programs should incorporate mechanisms for policy integration and infrastructure support, ensuring that individual learning is reinforced by organizational systems.

## Theme 6: Recognition of Environmental and Disaster Risks

Participants demonstrated heightened awareness of the long-term environmental and disaster-related consequences of improper waste disposal.

One participant shared:

“This act causes dirtiness in our resort and clogs in some parts of our drainage systems.” (Participant #1)

Another warned:

“It is indeed right to dispose properly and immediately every trash we have at the resort because at the time when there is a disaster that will strikes us, like super typhoons and landslides, then it will truly come back to us.” (Participant #14)

The narratives reflect increased environmental risk consciousness, linking waste mismanagement to flooding, typhoons, and landslides.

Theme number 6 addresses Objective 2 by demonstrating expanded knowledge and awareness, particularly in understanding the broader consequences of improper waste disposal.

It also explains Objective 1, by pointing out how participants interpreted the training in relation to real-world risks such as flooding and environmental degradation. This indicates contextualized learning, where the participants connect abstract concepts to lived experiences.

In connection with Objective 4, the finding implies that sustainability programs are more impactful when they integrate risk communication and local environmental realities, thereby enhancing relevance and urgency.

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## Theme 7: Persistent Knowledge–Behavior Gap Among Visitors

Despite the positive impacts among trained staff, participants identified ongoing challenges with visitor compliance. Many described littering and improper segregation despite the presence of labeled bins.

As one participant expressed:

“There is still a significant amount of litter despite trash bins present everywhere.” (Participant #11)

Another explained:

“Most of the visitors’ difficulties were identifying which trash bins to throw at.” (Participant #8)

Participants attributed this gap to lack of awareness, insufficient environmental education, and weak discipline among visitors.

This finding is applicable in addressing Objective 3, as it highlights limitations in the broader system of waste management within the resort. While staff behavior improved, visitor non-compliance reveals a structural gap in implementation.

It also provides a nuanced perspective on Objective 2, demonstrating that knowledge and behavior change are not uniform across all stakeholders, particularly those not directly engaged in training.

Most importantly, this theme particularly explains Objective 4 by identifying a key area for program enhancement. Specifically, there is the need for visitor-centered interventions, such as environmental signage, nudges, and awareness campaigns.

## Theme 8: Reframing Waste as an Economic Resource

The training also introduced an economic perspective on waste management, reframing trash as a potential source of income.

One participant recalled:

“There’s money in every trashcan.” (Participant #7)

It was seconded by another participant by saying:

“We can even have an income out of it.” (Participant #15)

The narratives illustrate cognitive reframing, where waste is perceived not only as an environmental concern but also as a resource opportunity.

Theme number 8 shows a higher-order cognitive shift aligned with Objective 2, where participants move beyond basic knowledge toward conceptual reframing of waste as a resource. It also answers Objective 1, by explaining how participants interpreted the training in economically meaningful ways, linking environmental practices to potential livelihood opportunities.

In relation to Objective 4, this provides a significant insight on how economic incentives and circular economy principles could be integrated into training programs to enhance motivation and sustainability of practices.

## DISCUSSIONS

### Internalization of Environmental Responsibility

The first theme highlights the internalization of environmental responsibility anchored in the value of “pagpapahalaga sa kalikasan”. Participants described how the ESWM training fostered a moral commitment

toward environmental protection, shifting their perception of waste management from a routine obligation to a value-driven responsibility.

This finding corroborates with the principles of Transformative Learning Theory which posits that meaningful learning occurs when individuals critically reassess their perspectives and adopt new value orientations (Mezirow, 2018). This claim is also reinforced by recent empirical studies which show that transformative and experiential environmental education fosters value internalization and ethical commitment to sustainability (Chen et al., 2022; Ardoin et al., 2023). These studies demonstrate that environmental learning is most effective when it engages both cognitive and affective domains.

However, the present study extends prior research by emphasizing the role of culturally grounded values, suggesting that sustainability behaviors are not only learned but also socially and culturally internalized. This supports recent arguments that values-based environmental education is a stronger predictor of long-term behavioral change than knowledge alone (Ardoin et al., 2020).

Hence, this study contributes by providing insights on how sustainability initiatives could achieve lasting impact. Along this, sustainability initiatives must go beyond awareness advancement. They must be designed parallel with local belief and value systems in the community.

### **Acquisition of Technical Knowledge on Waste Segregation**

The second theme reflects participants' acquisition of technical knowledge on waste segregation, including classification and proper disposal practices. This corresponds with the cognitive dimension of Experiential Learning Theory, where individuals gain conceptual understanding through structured instruction and guided practice.

This supports Experiential Learning Theory, where structured engagement facilitates knowledge acquisition. Correspondingly, empirical evidence confirms that environmental education significantly improves knowledge and environmental literacy, particularly when supported by practical demonstrations (Chen et al., 2022; Acosta Castellanos et al., 2020). These findings validate the present study's observation that knowledge acquisition is foundational to sustainable behavior.

However, the present study advances this literature by demonstrating that embedding environmental education within workplace contexts enhances retention and application. This aligns with recent findings that situated and practice-based learning environments strengthen the transfer of knowledge into real-world behavior (Brundiers et al., 2021). Thus, the study extends Experiential Learning Theory by showing how continuous exposure within operational settings reinforces learning among non-academic participants.

Therefore, this study offers a new perspective in augmenting the impact of environmental training programs. Specifically, to expand the learning of the participants, environmental training programs must be practicable. It must not only focus on elevating participants' consciousness but incorporates opportunity for the actual application of the knowledge gained.

### **Behavioral Transformation and Personal Practice**

Beyond knowledge acquisition, participants reported consistent engagement in waste segregation and environmental cleanliness. This reflects the later stages of the experiential learning cycle, where knowledge is translated into action through repeated practice and reflection (Kolb, 2015).

Moreover, the finding supports recent research demonstrating that environmental education leads to measurable behavioral change when learning is experiential and context-based (Ardoin et al., 2020). Additionally, it concurs with studies that show behavioral transformation as more likely when sustainability practices are embedded in daily routines (Kayombo et al., 2025).

Generally, the finding of the present study illustrates how university-led training initiatives can produce sustained behavioral change within organizational settings, particularly in eco-tourism enterprises. However, it

has to be noted that behavioral change is not a one-time outcome but a habitual process reinforced by environmental context and institutional support.

Thus, this study provides an idea on how to bring about behavioral transformation. To attain behavioral change among the participants, environmental education must be continuous. It must include a monitoring and reward mechanism to ensure that learned information is put in practice in daily activities.

### **Emergence of Role Modeling and Environmental Advocacy**

Another significant outcome was the emergence of participants as environmental role models and advocates. Participants reported educating visitors and demonstrating proper waste management practices, indicating a shift from personal learning to social influence.

This finding concurs with Transformative Learning Theory, which suggests that perspective transformation leads to increased agency and social action. Recent studies confirm that environmental education can produce “knowledge multipliers” who influence community behavior and promote sustainability practices (Ardoin et al., 2023).

However, the present study extends the previous findings by situating advocacy within a tourism context, where participants act as informal educators to transient populations. This highlights an important contribution by underscoring sustainability training not only as means to transform individuals but also to enable them to function as agents of environmental diffusion within service-oriented environments.

Hence, this study affords a new perspective. It shows community partners not just mere recipients of the sustainability initiatives. They are also prospective co-implementers in future undertakings.

### **Institutional Strengthening of Waste Management Systems**

One of the findings reveals institutional-level transformations, including improved waste management infrastructure and clearer implementation of segregation policies. These changes demonstrate that sustainability training can influence not only individual behavior but also organizational systems.

Similarly, the finding is consistent with Education for Sustainable Development (ESD) which emphasizes that sustainability requires systemic integration across institutional structures. It also supports the findings of empirical studies showing that organizational adoption of sustainability practices depends on training, policy alignment, and structural support (Acosta Castellanos et al., 2020).

Nevertheless, the present study contributes by providing evidence from a private tourism enterprise, an underexplored setting in sustainability research. It demonstrates that university-led engagement can catalyze organizational change by aligning employee behavior with institutional systems, reinforcing the multi-level impact of sustainability education.

Therefore, this study shows evidence that higher educational institutions are more than knowledge providers. Through environmental projects, they can be instrumental in effecting transformation not only at the personal but at the organizational level as well.

### **Recognition of Environmental and Disaster Risks**

Participants demonstrated heightened awareness of the environmental and disaster-related consequences of improper waste disposal, particularly its link to flooding and environmental degradation.

This corroborates with the observation of recent studies that environmental education enhances systems thinking and awareness of interconnected environmental risks, including climate change and disaster vulnerability (Pénzesné Kónya & Haigh, 2021). Additionally, it supports previous research finding that sustainability education fosters integrated understanding of environmental and social risks, particularly in vulnerable regions (Wen, 2023).

However, the present finding broadens this perspective by explicitly linking solid waste management practices to disaster risk awareness, an area that remains underexplored in existing literature. This clearly demonstrates that ESWM training can simultaneously promote ecological responsibility and disaster preparedness, reflecting the holistic approach advocated in ESD.

Accordingly, this study offers a broader understanding on environmental initiatives. By illustrating how these initiatives help in supporting disaster risk reduction campaigns, it provides evidence that sustainability projects are valuable in preserving and protecting the environment and the lives of the people.

### **Persistent Knowledge–Behavior Gap Among Visitors**

Despite positive outcomes among trained participants, challenges remain in visitor compliance. Participants observed improper waste disposal among guests, indicating a gap between awareness and behavior.

The non-compliance behavior of visitors is consistent with earlier research which stresses that knowledge alone does not guarantee behavioral compliance, particularly in public or shared spaces (Ardoin et al., 2020). However, the present study adds nuance by highlighting the tourism context, where visitors are transient stakeholders who may not be exposed to environmental education. This structural limitation indicates the need for multi-level interventions, including visitor-oriented communication strategies and environmental drives.

Thus, this study presents a wider perspective in line with the implementation of sustainability initiatives. As pointed out, external stakeholders are significant factors that could influence the overall project outcomes. This gives a notion on the importance of crafting activities that are inclusive and intended to help enhance environmental awareness and responsibility of outsiders like the visitors and guests.

### **Reframing Waste as an Economic Resource**

Finally, participants demonstrated a shift in perspective by recognizing waste as a potential economic resource. This reflects an understanding aligned with circular economy principles, where waste is viewed as a recoverable and valuable material.

This finding supports recent research which confirms that environmental education can promote circular thinking and resource efficiency, encouraging individuals to see waste as part of a regenerative system (Acosta Castellanos et al., 2020).

However, the present study contributes by showing how participants cognitively reframe waste within both environmental and economic dimensions, suggesting that sustainability training can foster not only ecological awareness but also livelihood-oriented thinking. This integrated perspective strengthens the long-term viability of sustainability practices in community and organizational contexts.

Hence, this study provides valuable insight on the potential productivity impact of environmental engagements. By demonstrating that sustainability initiatives could transform waste practices to income-generating action, such activities can be more encouraging and meaningful to the community.

Collectively, the study adds up to emerging sustainability literature by showing that environmental education is most effective when it is value-driven, experiential and contextually embedded within both social and institutional systems.

## **CONCLUSIONS AND RECOMMENDATIONS**

As this study sought to assess the impact of the community engagement of Eastern Visayas State University at Villaconzoilo Farm Resort, the overall findings illustrate how the university's Pagpapahalaga sa Kalikasan training facilitated transformations among the employees and staff of the partner community across multiple levels: cognitive, affective, behavioral, social, and institutional. The following are the explicit effects of the project:

- (1) Cognitive transformation as shown by the knowledge acquired by the respondents on waste segregation;
- (2) Affective transformation as illustrated in the respondents' internalization of environmental values specifically, pagpapahalaga sa kalikasan;
- (3) Behavioral transformation as manifested through their consistent segregation practices despite visitors' non-compliance;
- (4) Social transformation as expressed through their eager support for environmental promotion and the desire to engage in role modeling; and,
- (5) Institutional transformation as revealed through the implementation of strengthened waste management schemes.

These outcomes collectively support the study's theoretical frameworks and findings from previous research. However, the present study expands existing body of knowledge by offering the following insights:

- (1) Value internalization can be an influential driver of sustainable environmental behavior.
- (2) Workplace-embedded experiential learning can be effective in tourism settings.
- (3) Resort workers are potential knowledge multipliers who can be tapped as informal environmental educators.
- (4) Environmental initiatives can be implemented to advance disaster-risk awareness among the target participants.
- (5) Structural limitation specifically on the behavior of transient stakeholders can be a substantial obstacle to sustainability initiatives in the tourism industry.
- (6) Environmental education projects can provide economic gains to the community.

These ideas position SUC-led ESWM training not only as an educational intervention but as a transformative, context-responsive, and productivity-oriented approach to sustainable development.

Thus, to optimize the impact of environmental sustainability projects, SUCs are encouraged to:

- (1) Initiate values-based environmental education by integrating culturally grounded values such as pagpapahalaga sa kalikasan into training frameworks to strengthen intrinsic motivation and sustain long-term environmental behavior.
- (2) Institutionalize experiential learning approaches by designing continuous and workplace-based training programs that allow participants to repeatedly apply and refine sustainable practices in real-world contexts.
- (3) Strengthen impact assessment systems (IAS) by adopting systematic impact evaluation tools (e.g., theory of change, outcome mapping, longitudinal monitoring) to assess behavioral, institutional, and community-level outcomes and guide evidence-based improvements.
- (4) Expand stakeholder coverage by extending environmental education strategies to external actors, particularly visitors. This may be done through orientation programs, visual prompts, and behaviorally informed interventions to reduce the knowledge–behavior gap.
- (5) Develop environmental partners by formally engaging participants as peer educators and advocates to enable wider dissemination of environmental practices within and beyond the organization.

- (6) Enhance institutional infrastructure and policy support by ensuring that partner communities or organizations maintain adequate facilities, clear protocols, and monitoring systems to reinforce proper waste management practices.
- (7) Integrate Disaster Risk Reduction (DRR) in ESWM training. This may be done by explicitly incorporating disaster-risk linkages, particularly in vulnerable regions, to promote both environmental sustainability and community resilience.
- (8) Promote circular economy initiatives by introducing income-generating recycling and resource recovery projects that strengthen the economic dimension of sustainability.

Nevertheless, in view of the limitations of the present study, the following may be considered in future research:

- (1) Expanding the sample size and participant diversity by including a larger and more diverse sample across multiple tourism enterprises and communities to improve generalizability and capture varying contextual dynamics.
- (2) Incorporating quantitative and mixed-methods approaches by integrating quantitative indicators (e.g., waste reduction rates, compliance levels) alongside qualitative insights for more robust impact evaluation.
- (3) Conducting longitudinal studies by employing long-term tracking to assess the sustainability and durability of behavioral and institutional changes.
- (4) Including visitor perspectives by exploring their awareness, attitudes, and compliance behaviors to design more inclusive interventions.
- (5) Assessing comparative program effectiveness by comparing different training models or delivery approaches (e.g., community-based vs. workplace-based training) to identify best practices in environmental education.
- (6) Examining external influencing factors by including additional variables such as organizational culture, leadership support, policy enforcement, and socio-economic conditions to better understand factors influencing program success or failure.
- (7) Strengthening measurement of institutional impact by developing clearer metrics for organizational change including policy integration, operational efficiency, and environmental performance indicators.

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