



Evidence Based Library and Information Practice

Research Article

Informing Sustainability Education in Academic Libraries Through Community Engagement: Evidence From a Rural Green Library in Indonesia

Rully Khairul Anwar
Associate Professor
Library and Information Science Program
Universitas Padjadjaran
Bandung, West Java, Indonesia
Email: rully.khairul@unpad.ac.id

Diah Sri Rejeki
Assistant Professor
Library and Information Science Program
Widyatama University
Bandung, West Java, Indonesia
Email: diah.sri@widyatama.ac.id

Aminudin
Assistant Professor
Library and Information Science Program
Widyatama University
Bandung, West Java, Indonesia
Email: aminudin.mkom@widyatama.ac.id

Rinda Aunillah
Assistant Professor
Journalism Department
Universitas Padjadjaran
Bandung, West Java, Indonesia
Email: rinda.aunilah@unpad.ac.id

Ibrahim Adi Surya
Assistant Professor
Film and Television Program
Widyatama University
Bandung, West Java, Indonesia
Email: ibrahim.adi@widyatama.ac.id

Merryam Agustine
Assistant Professor
Library and Information Science Program
Widyatama University
Bandung, West Java, Indonesia
Email: merryam.agustine@widyatama.ac.id

Received: 9 July 2025

Accepted: 11 Sept. 2025

© 2025 Anwar, Rejeki, Aminudin, Aunillah, Surya, and Agustine. This is an Open Access article distributed under the terms of the Creative Commons-Attribution-Noncommercial-Share Alike License 4.0 International (<http://creativecommons.org/licenses/by-nc-sa/4.0/>), which permits unrestricted use, distribution, and reproduction in any medium, provided the original work is properly attributed, not used for commercial purposes, and, if transformed, the resulting work is redistributed under the same or similar license to this one.

DOI: [10.18438/ebliip30839](https://doi.org/10.18438/ebliip30839)

Abstract

Objective – This research investigates how a rural community library contributes to sustainability education by generating practice-based evidence promoting environmental literacy that is participatory, culturally grounded, and responsive to local contexts. The study focuses on Perpustakaan Alam Malabar in Mekarsari Village, West Java, Indonesia and examines how the library integrates ecopedagogical strategies to foster ecological awareness within the community.

Methods – A qualitative single-case study design was applied. Data were gathered through semi-structured interviews, participant observation, and document analysis and were analyzed using the interactive model developed by Miles, Huberman, and Saldaña. The researchers took part in several community-based programs hosted by the library, such as mobile literacy sessions (melapak), environmental discussions, film screenings, gardening activities, and the annual Rawat Bumi Festival. Data reliability was strengthened through triangulation and member checking.

Results – The findings indicate that Perpustakaan Alam Malabar has successfully redefined the library as a participatory learning hub that supports environmental literacy in everyday life. The library's approach blends scientific insights with local wisdom and community-based action, creating an educational environment that stimulates cognitive, emotional, and behavioural engagement. Nonetheless, the model faces several constraints, including reduced local participation, a lack of institutional policy support, and the growing influence of external stakeholders. To navigate these challenges, the library has implemented adaptive strategies, including training local facilitators, fostering cross-sector partnerships, and promoting culturally responsive communication.

Conclusion – The study demonstrates that community libraries—especially in rural settings—can serve as effective platforms for sustainability education. The Perpustakaan Alam Malabar

model offers a replicable, evidence informed model that practitioners can adapt to align literacy initiatives with ecological values and local engagement. In addition to its empirical contributions, the study advances a conceptual perspective on libraries as inclusive, transformative, and community-driven spaces for ecological learning and advocacy.

Introduction

Environmental sustainability has emerged as a central concern in global development discourse, prompted by the escalating degradation of ecosystems, climate instability, and biodiversity loss. This crisis has transformed sustainability education into a multidimensional necessity — not only as a means of transmitting ecological knowledge, but also as a framework for fostering civic responsibility and agency. Environmental literacy, as conceptualized in current scholarship, encompasses not only cognitive understanding but also emotional engagement and motivational readiness to act in defense of ecological systems (Bissinger & Bogner, 2018; Dissanayake, 2024). Despite its importance, environmental literacy remains underdeveloped in many rural areas, particularly in Indonesia, where it is inconsistently supported within formal educational infrastructures.

Within this landscape, libraries — especially those rooted in community contexts — hold increasing relevance as enablers of sustainability education. No longer confined to their archival roles, libraries are being redefined as dynamic platforms for social learning, collaborative inquiry, and civic dialogue. The green library model exemplifies this shift by embedding sustainability principles into institutional missions, spatial design, user engagement, and service delivery (Devine & Appleton, 2023; Fedorowicz-Kruszewska, 2022). By integrating environmental values with inclusive practices, these libraries function as sites of social innovation, particularly in areas where traditional education and ecological literacy remain inaccessible.

A compelling case of such innovation is illustrated by Perpustakaan Alam Malabar (Malabar Nature Library) in Mekarsari Village, Bandung Regency, Indonesia. Established in 2018, this rural library has transitioned from a conventional information centre into an eco-social space that blends reading culture with ecological awareness and community empowerment. Guided by the philosophy “reading is planting,” the library reimagines literacy as an ecological act — sowing awareness, cultivating responsibility, and nurturing collective stewardship through everyday practices and public participation.

The library's programs reflect a community-centric design, offering initiatives such as *melapak* (mobile outdoor reading), environmental dialogues, documentary screenings, permaculture-based gardening, and the annual *Rawat Bumi* (Earth Care) Festival. These initiatives actively engage diverse segments of the population, from children to farmers, while integrating the cognitive, affective, and behavioural components of environmental learning (Alwi et al., 2022). Nevertheless, the library faces tensions between growing national visibility and diminishing local involvement — highlighting the ongoing challenge of fostering genuine community ownership amidst external attention. Addressing this paradox necessitates context-sensitive, culturally embedded communication strategies that reflect the lived realities of rural populations (Corrado, 2024; Jančius & Gavenauskas, 2022). While such grassroots initiatives are vital, the lack of systematic documentation creates an evidence gap for library

practitioners—particularly in academic settings—who wish to design similar programs but lack proven models to guide their decisions. This study directly addresses this gap.

This study applies a qualitative single-case study methodology to examine how green library practices function in rural settings. Data collection included semi-structured interviews, participant observations, and document analysis, with data interpreted through the interactive model developed by Miles et al. (2020). This methodological approach allows for the generation of grounded insights while maintaining contextual validity and depth.

The findings contribute substantively to theoretical and applied discourse. Theoretically, the study expands existing literature by linking environmental literacy with the institutional praxis of rural libraries, a field still marginal in global LIS scholarship. Practically, it offers a replicable framework for developing participatory and culturally relevant literacy programs that respond to local ecological challenges. Furthermore, this study is positioned within the broader framework of Evidence Based Library and Information Practice (EBLIP). The EBLIP paradigm values a wide array of evidence, acknowledging that rich, contextual insights from qualitative research are essential for informing professional practice in ways that quantitative data alone cannot capture. As scholars in the field have argued, case studies are particularly valuable for providing the "thick descriptions" of real-world phenomena needed for nuanced understanding and transferable lessons (Given, 2007; Koufogiannakis, 2011, 2012). By systematically documenting a grassroots initiative, this research contributes directly to this body of qualitative evidence, offering a rigorously analyzed model that practitioners in other settings, including academic libraries, can appraise and adapt. Conceptually, it advances the role of libraries as ecopedagogical spaces, where critical thinking, lived experience, and reflective dialogue intersect to support environmental understanding and action.

In amplifying the role of rural libraries in ecological education, this research affirms their potential as pivotal actors in sustainable development. Rather than passive information centres, libraries such as Perpustakaan Alam Malabar function as catalysts for ethical engagement with the environment, intergenerational learning, and resilience building within marginalized communities of the Global South. Such models underscore how evidence based practices in library services can contribute meaningfully to the cultivation of environmentally literate, socially conscious, and contextually empowered communities.

Aims

This study aims to explore the contribution of a rural community library in promoting sustainability education through participatory and context-aware environmental literacy practices. The research is guided by the following specific objectives:

1. to analyze the operationalization of environmental literacy activities within Perpustakaan Alam Malabar;
2. to investigate the use of the library's collections and informational resources in supporting community-driven environmental education and outreach;
3. to identify the enabling and limiting factors that affect the implementation of environmental literacy programs in a rural context; and
4. to develop participatory strategies that can enhance local community involvement and ensure the long-term sustainability of environmental literacy initiatives.

Through these objectives, the study contributes to the broader discourse on how libraries—particularly those located in rural and underserved regions—can serve as catalysts for environmental awareness, community resilience, and sustainable development. It also aims to provide empirically grounded recommendations for practitioners, policymakers, and academic libraries seeking to adopt or adapt similar models in diverse contexts.

Literature Review

Environmental literacy plays a foundational role in sustainability education. It involves not only a cognitive understanding of ecological issues but also emotional awareness and the motivation to act, all of which are essential for encouraging environmentally responsible behaviour (Bissinger & Bogner, 2018; Dissanayake, 2024). Since Roth (1968) first introduced the concept of environmental literacy, it has developed into a broad and multidimensional competency that encompasses ecological knowledge, environmental sensitivity, decision-making skills, and active civic participation in ecological initiatives (Fang et al., 2023, Chapter 4; Tomás et al., 2022). In today's context, environmental literacy is best understood as a socially and culturally embedded practice that reflects how individuals and communities relate to their environment.

Numerous studies have emphasized the value of contextual, hands-on learning in cultivating ecological understanding from an early age. Alwi et al. (2022) found that integrating hydroponic activities into school environments improved students' engagement and awareness of environmental issues. Similarly, Ikhsan et al. (2019) highlighted the effectiveness of environmental themes in literacy education to promote critical thinking and ecological consciousness. Still, long-term behavioural change requires more than knowledge alone—it demands community-based practices and shared experiences that encourage collective environmental responsibility.

In this regard, libraries are increasingly recognized as non-formal learning spaces that foster inclusion, participation, and lifelong learning. The rise of the green library concept illustrates a shift in the role of libraries from passive information centres to proactive contributors to environmental education and sustainable development (Antonelli, 2008; Devine & Appleton, 2023; Fedorowicz-Kruszewska, 2022; Das & Singha, 2023; Mathiasson & Jochumsen, 2022). Green libraries go beyond eco-friendly architecture; they embed sustainability into their programs, collections, and community engagement strategies (Jackson, 2022; Yunus & Ismail, 2024). Global organizations such as the International Federation of Library Associations and Institutions (IFLA) have advocated for libraries' contributions to the United Nations' Sustainable Development Goals, particularly in areas such as quality education, climate action, and community resilience (Islam et al., 2024; Putra, 2025; Saini, 2025).

Existing research has documented the role of libraries in promoting environmental literacy through locally grounded activities. For instance, insights from libraries in Kenya demonstrate how green initiatives can be effectively implemented within specific national contexts (Mwanzu et al., 2023). Robles-Piñeros and Tateo (2023) pointed to the importance of relational and emotional learning in shaping children's understanding of ecological issues. Jančius and Gavenauskas (2022) observed that family values and intergenerational participation are central to instilling environmental ethics, calling for literacy programs that engage all age groups. Likewise, Khalid and Batool (2020) emphasized the strategic role of librarians in raising ecological awareness in higher education settings, especially in designing and facilitating sustainability-focused programs.

However, there is still a noticeable gap in the literature concerning rural-based green library practices that integrate evidence, cultural relevance, and participatory methods. Much of the existing scholarship focuses on urban or institutional models, often emphasizing building design and energy efficiency while overlooking libraries' social and educational roles in supporting community environmental engagement. As a result, there is a need for deeper inquiry into how rural libraries can contribute to environmental literacy through approaches grounded in local culture, community needs, and practical evidence.

Perpustakaan Alam Malabar, located in Mekarsari Village, Bandung Regency, offers a meaningful example of a rural library that integrates environmental literacy into everyday community life. With its philosophy of "reading is planting," the library reimagines literacy as an ecological act—one that connects knowledge with care, learning with action, and reading with responsibility. Through initiatives such as melapak, community gardens, environmental film screenings, and the Rawat Bumi Festival, the library creates spaces where formal and informal knowledge intersect with local traditions and values (Alwi et al., 2022; Corrado, 2024).

This study responds to the limited research on environmental literacy in rural, community-based library settings. It offers empirical insights into how such libraries operate, while also contributing to the development of a conceptual framework that is culturally responsive, evidence informed, and sustainability focused. Ultimately, this literature review provides a foundation for rethinking how libraries—particularly in the Global South—can serve as vital social and ecological institutions that bridge knowledge, participation, and environmental justice.

Methods

This research employed a qualitative single-case study design to explore how community-based environmental literacy practices are implemented at Perpustakaan Alam Malabar, a rural library situated in Mekarsari Village, Bandung Regency, Indonesia. The case study approach was chosen to allow a thorough and contextual understanding of the library's role in advancing sustainability education within a local, community-driven setting. This design made it possible to examine the dynamic interplay between environmental learning, cultural practices, and community engagement in a real-world context. A qualitative single-case study design was chosen as it is exceptionally well suited for generating the kind of deep, contextualized evidence that the EBLIP framework values for informing complex professional practice.

Data for this study were collected between May and July 2024 using three complementary methods: semi-structured interviews, participant observation, and document analysis.

Interviews

A total of 8 semi-structured interviews were conducted with key stakeholders, including (1) the library's founder, (2) program facilitators, (3) volunteers, and (4) community participants. Each interview lasted 30 to 45 minutes and followed a structured guide exploring participants' experiences, perceptions, and reflections on the library's ecological literacy initiatives. All interviews were audio recorded with consent and later transcribed for thematic analysis.

Observations

Participant observations were conducted during four core community programs, namely melapak, ecological gardening, environmental film screening, and the Rawat Bumi Festival. Each observation lasted 2 to 4 hours and detailed field notes were maintained to capture participation dynamics, interactions, and pedagogical practices. A summary of these observed activities is presented in Table 1.

Table 1
Summary of Observed Activities

Activity	Frequency	Duration	Description
Melapak (mobile reading)	3 sessions	2 hours each	Literacy outreach in public spaces for children
Ecological gardening	2 sessions	3 hours each	Practical gardening activities with local residents
Film screening	1 session	2 hours	Environmental film followed by group discussion
Rawat Bumi Festival	1 session	Full day	Annual cultural–ecological celebration

Document Analysis

To complement and triangulate the interview and observation data, a corpus of 12 event reports, 8 promotional posters, and 15 photographs was analyzed. Documents were selected based on their relevance to ecological literacy programs and their ability to illustrate participation trends, learning outcomes, and community engagement strategies.

Event records and observational notes revealed clear patterns of community involvement over time. For instance, early melapak sessions in 2020 regularly attracted 15–20 children per week, creating vibrant spaces for shared reading and discussion. However, by 2022, attendance had dropped to approximately 8–10 participants per session, signaling a noticeable decline. A similar trend was observed in the Rawat Bumi Festival: while its initial editions drew over 100 attendees, recent observations documented participation closer to 50 individuals. Interview data suggest several factors contributing to this reduction, including shifting community priorities, heavier school workloads among younger participants, and the growing appeal of digital entertainment alternatives. Despite these challenges, the persistence of key programs, such as annual festivals and recurring literacy activities, indicates a core level of commitment and continued relevance within the local community.

To strengthen the credibility of the data, triangulation of sources and methods was applied. Information from interviews was cross-checked against observational notes and documentation to identify patterns and ensure consistency (Meydan & Akkaş, 2024; Noble & Heale, 2019). Member checking was also used to confirm the accuracy of interpretations with participants. Throughout the study, the researchers maintained a reflective journal to track field observations, monitor biases, and support deeper engagement with the data.

The analysis of data employed the interactive model proposed by Miles et al. (2020), which encompasses three simultaneous activities: data condensation, data display, and conclusion drawing/verification. Interviews were transcribed, observational notes and documents were coded manually, and similar codes were clustered into categories, leading to the development of overarching themes through iterative comparison.

Member checking was performed with the original interview participants to ensure trustworthiness. They reviewed preliminary interpretations and provided feedback to validate the accuracy and representation of their perspectives. This process facilitated the refinement of thematic boundaries and validated the credibility of the findings.

The analysis identified four primary themes that organized the presentation of results, offering a detailed framework for interpreting the dynamics of program design, community participation, and sustainability practices:

1. Program Development and Local Adaptation – How programs were designed and adjusted to reflect cultural values and environmental needs.
2. Community Engagement and Participation Patterns – Mechanisms fostering involvement and factors influencing attendance.
3. Integration of Local Wisdom with Ecological Literacy – The interplay between traditional practices and sustainability education.
4. Institutional and Social Support Structures – Resources, partnerships, and leadership strategies enabling program continuity.

These themes form the backbone of the Results section and are illustrated through representative quotes and observational evidence.

To thoroughly examine the role of Perpustakaan Alam Malabar in advancing community-based sustainability education, this study was framed around four core research questions. These questions were intended to guide a focused exploration of how environmental literacy is practically enacted through inclusive, locally relevant strategies in a rural context.

1. How are environmental literacy programs conceptualized and implemented within the library?
2. In what ways do library resources and media contribute to environmental education?
3. What factors shape the success and sustainability of these literacy initiatives?
4. What strategies are employed to sustain engagement and cultural alignment?

Together, these questions offer a structured lens for understanding how rural libraries can serve as inclusive and responsive learning environments. By anchoring their initiatives in community realities and evidence based practice, such libraries present promising models for replication in academic and public library contexts committed to sustainability and social impact.

Fieldwork was conducted over a four-month period, from February to May 2024, using an immersive approach that allowed the researchers to participate directly in library activities and engage with the community. This approach facilitated a deeper appreciation of how environmental literacy practices operate in everyday rural contexts. The overall methodology was crafted to support the study's objective of developing an inclusive, evidence informed model of sustainability education that can inform library practices in similar rural settings, particularly in the Global South.

This research complied with ethical standards for qualitative inquiry. All participants provided informed consent prior to the interviews and observations. Photographic documentation involving identifiable individuals received explicit permission, and assent was obtained from guardians for children depicted in the images. Participant names were anonymized in the presentation of findings to maintain confidentiality. This research adhered to the ethical standards of social science research; however, local regulations did not necessitate institutional review board approval for non-interventional community-based studies.

Results

Transforming Environmental Literacy

The transformation of environmental literacy at Perpustakaan Alam Malabar illustrates a significant shift in the function of libraries, evolving from traditional information centres to proactive facilitators of community-driven ecological education. The library, located in Mekarsari Village's rural landscape, incorporates environmental values into everyday life via programs based on local experiences and collective engagement. The central philosophy, "reading is planting," reconceptualizes literacy as an ecological practice, promoting not only comprehension but also responsible environmental action among individuals.

This ecopedagogical model is executed via various activities, including mobile reading in public spaces, ecological gardening, environmental film screenings (e.g., *Tanah Moyangku*), and community festivals such as Rawat Bumi. These programs serve as inclusive learning environments that integrate various generations. One facilitator stated, "We cannot separate these activities from local traditions; if we do, people will not come" (Interview 2, June 2024). Observational notes validated the incorporation of local rituals into ecological education at the Rawat Bumi Festival, where traditional offerings were paired with tree planting and educational sessions.

Notwithstanding its accomplishments, the library encountered difficulties in maintaining local engagement. Initial *melapak* sessions in 2020 engaged 15–20 children weekly; however, by 2022, participation declined to 8–10 per session. Attendance at the Rawat Bumi Festival declined from over 100 participants in its early years to approximately 50 in recent events. Interviews identified several factors contributing to this trend, such as changing community priorities, increased academic demands on younger participants, and a rise in digital entertainment (Interview 4, July 2024). A community member stated, "Environmental literacy here is still lacking. ... We need to work harder to raise awareness" (Interview 6, July 2024).

The relocation of the library to a larger and more prominent space, designated as Perpustakaan Alam Malabar 2.0, introduced new complexities. The expansion of outreach opportunities led some residents to view it as increasingly "institutional" and less focused on the community, which raised concerns regarding external influences. While lacking empirical support, these perceptions highlight the necessity of reconciling global sustainability messages with local cultural values.

Programs like *melapak* have progressed from mere outreach to serve as platforms for dialogue and intergenerational exchange. Observations documented instances of children reading with farmers during breaks, while mothers engaged in discussions about waste management practices while supervising their children. The lived experiences illustrate the principles of ecopedagogy, highlighting experiential learning and community-driven action (Alwi et al., 2022; Devine & Appleton, 2023):

1. sustained program operation over a five-year period despite resource constraints;
 2. intergenerational participation including the sustained engagement of children, youth, and farmers; and
 3. behavioural change including the adoption of organic gardening practices introduced in library workshops and enhanced waste segregation awareness among school-age children.
- Observational data and interviews corroborated these changes, reinforcing the assertion that the library served as a catalyst for ecological awareness.

Local resident participation has decreased, whereas external interest from students, non-governmental organizations (NGOs), and environmental activists has risen, establishing Perpustakaan Alam Malabar as a regional centre for sustainability education. This dynamic presents opportunities for collaboration while highlighting the challenge of sustaining local ownership.

Optimizing Library Resources and Collections

Perpustakaan Alam Malabar exemplifies the transformation of a rural library from a traditional information hub to a dynamic platform for community-oriented environmental education. The library prioritizes the active utilization of resources in local learning practices over merely constructing an environmentally themed collection. As of 2024, the collection comprises around 2,000 volumes, featuring over 700 titles focused on ecological subjects, including agroecology, biodiversity, climate resilience, and sustainable waste and water management (Field Notes, 2024).

These materials are not static on shelves. They participate in community-driven activities, including thematic reading sessions, melapak, environmental film screenings, and the Rawat Bumi Festival, where books serve as catalysts for discussion and reflection. On 12 July 2024, during a melapak session, children engaged with illustrated guides on composting, followed by a practical activity in organic gardening. The founder, Iman Sulaeman, stated, “We usually hold informal environmental talks with the kids. ... It takes several sessions before they start building awareness” (Interview 1, November 2023). This demonstrates the library's belief that ecological literacy is not an immediate result but rather a socially embedded process that necessitates repetition and dialogue.

Photographic documentation and observational records corroborate this finding. Figure 1 illustrates children engaged in reading agroecology books in outdoor environments during melapak, whereas Figure 2 depicts a moment of intergenerational, hands-on learning where children and adults work together on an ecological project, creating compost from organic waste. The depicted scenes illustrate the library's ecopedagogical approach, wherein the collection and its related activities serve as a medium for experiential, community-centered learning instead of functioning as a mere repository of information.



Figure 1
Ecological literacy engagement through the melapak.



Figure 2
Hands-on learning about organic waste management involving children and women from the village community.

Challenges continue to exist. Participation levels vary among activities, and the library encounters limitations in staffing, restricted digital access, and the lack of a formal system for monitoring learning outcomes. The August 2024 field report indicates that the absence of systematic user preference data hinders the alignment of collections with local knowledge needs, which is essential for maintaining relevance.

An innovation that transcends local boundaries is the distribution of 8,000 books to more than 100 community libraries in underserved areas, including Papua and the Karimunjawa Islands. This initiative, grounded in the library's principles of knowledge equity and ecological justice, establishes Perpustakaan Alam Malabar as both a local centre and a participant in broader green literacy networks. This supports Fedorowicz-Kruszewska's (2022) concept of libraries functioning as advocates for environmental issues.

Success indicators in this domain encompass: 1) ongoing incorporation of collection-based learning within community programs, evidenced by regular *melapak* sessions and thematic reading circles; 2) intergenerational engagement involving children and parents collaboratively accessing resources and implementing concepts in everyday practices, such as composting and organic gardening; and 3) extensive book distribution to marginalized areas, thereby extending the library's influence beyond its immediate community.

Nonetheless, there are still opportunities for enhancement. Future efforts should prioritize: a) the expansion of digital access to environmental resources for remote users, b) implementing data-driven collection development through systematic assessment of user interests, c) linking collection usage to measurable learning outcomes via evaluation frameworks, and d) improving community involvement in collection curation to maintain the practicality and cultural relevance of resources.

Perpustakaan Alam Malabar enhances information access through participatory, experience-based activities, fostering collective meaning-making and ecological action, thereby solidifying its role in promoting long-term environmental sustainability.

Catalysts of Program Success

The enduring success of environmental literacy efforts at Perpustakaan Alam Malabar is grounded in three interconnected factors: transformational leadership, volunteer involvement, and community social capital. These elements combined constitute the institutional framework that allows the library to operate as a community-oriented platform for sustainability education. In accordance with Corrado (2024) and Fedorowicz-Kruszewska (2022), community-based literacy projects derive their efficacy from both formal governance frameworks and informal networks of trust and collective accountability that foster grassroots creativity.

Leadership at Perpustakaan Alam Malabar is most prominently exemplified by Iman Sulaeman, the founder and chief facilitator. His role extends beyond administrative duties—he serves as an educator, network facilitator, and proponent of environmental literacy. His leadership style prioritizes participative decision-making and relational trust over a top-down approach. During an interview, he stated, “This place belongs to all of us; I merely ensure that the community's ideas are represented here” (Interview 1, November 2023). His endeavors encompass mentoring kids, developing inclusive literacy initiatives, and cultivating external collaborations with NGOs and colleges, all intended to maintain the library's significance and vibrancy.

Volunteerism represents the second cornerstone of program effectiveness. Observational records and interview data indicate that the library maintains 4–6 core volunteers at any time, supplemented by intermittent contributions from students and visiting interns, especially during significant events such as the Rawat Bumi Festival (Field Notes, July 2024). These volunteers aid in ecological gardening, conduct *melapak* sessions, and assist in organizing environmental workshops. Volunteer engagement is variable but notably responsive during pivotal occasions, highlighting the importance of adaptable, community-

oriented labor frameworks in maintaining rural literacy initiatives. Iman remarked, “Volunteers may not always be present, but they arrive when it truly matters” (Interview 1, November 2023).

The third catalyst is community social capital, firmly embedded in the traditions of *gotong royong* (mutual aid) in Mekarsari Village. These cultural practices establish a relational framework for executing ecopedagogical tasks. The Rawat Bumi Festival serves as both an environmental awareness initiative and a symbolic reaffirmation of local identity, integrating ritual offerings with tree planting and storytelling (Observation, May 2024). Shared gardens function as common areas where farmers, moms, and children participate in co-learning, hence enhancing intergenerational knowledge transmission (Jančius & Gavenauskas, 2022). These modes of engagement illustrate that ecological literacy flourishes when associated with communal values and common environments.

Nonetheless, maintaining these dynamics poses difficulties. Perpustakaan Alam Malabar continues to rely significantly on a central leadership figure, lacks experienced personnel for program evaluation, and has yet to implement rigorous result monitoring. Moreover, the library's heightened exposure among external stakeholders, such as environmental activists and university collaborators, has at times generated tension, with several locals questioning the alignment of the library's programming with conventional standards (Interview 5, July 2024). Despite being predominantly perceptual, these problems highlight the necessity for culturally attuned communication and inclusive governance frameworks to preserve local confidence.

Future measures for enhancing institutional resilience should encompass:

- development of leadership capacity to diminish dependence on a singular individual;
- structured volunteer initiatives that offer training and acknowledgment;
- community-centric monitoring and evaluation frameworks that incorporate Indigenous knowledge; and
- expanded partnerships with religious, educational, and civil society organizations to enhance legitimacy and cultural congruence.

Perpustakaan Alam Malabar illustrates that effective sustainability teaching in rural settings relies not on sophisticated infrastructure, but on the interpersonal connections fostered by inclusive leadership, active volunteerism, and robust community ties. The library serves as a paradigm of community-driven ecopedagogy, illustrating the transformative potential of libraries in promoting socially integrated and culturally responsive avenues to ecological literacy.

Challenges and Adaptive Strategies

The execution of environmental literacy at Perpustakaan Alam Malabar is influenced by intricate problems arising from internal institutional constraints and wider socio-cultural factors in Mekarsari Village. These problems highlight the structural reality of maintaining community-based ecopedagogical efforts in rural settings.

A significant concern is the diminishing involvement of local residents, especially among children and adolescents. Observational records indicate that weekly *melapak* sessions, which drew 15–20 children in 2020, now average merely 8–10 participants per session (Field Notes, 2022–2024). Likewise, the Rawat Bumi Festival, which initially attracted over 100 community members, recently garnered over 50 attendees (Event Reports, 2024). Interviews indicate several contributing factors: increased academic

demands, conflicting economic priorities, and the rising impact of digital entertainment (Interview 3, December 2024). This loss dramatically contrasts with the library's increasing exposure among external stakeholders—environmental activists, NGOs, and university students—which, instead of enhancing local engagement, has unwittingly intensified suspicions of outsider dominance. A villager remarked, “It seems that the library is now more familiar to outsiders than to us” (Interview 5, December 2024).

Institutional constraints exacerbate these participation issues. The library functions with few personnel, depending mostly on the founder for strategic planning, program coordination, and networking (Observation, 2024). A lack of a systematic mechanism for documenting program outcomes hinders the monitoring of behavioural changes and the assessment of long-term program impact. Furthermore, the absence of collaborations with local officials results in a lack of institutional backing for the library, which might bolster its legitimacy and facilitate resource mobilization.

Cultural dynamics offer an extra degree of complication. The transfer of Perpustakaan Alam Malabar to a more expansive and accessible venue, designated as Perpustakaan Alam Malabar 2.0, elicited apprehensions among certain people regarding the library's potential introduction of unfamiliar values or external agendas. Despite the lack of evidential support for these anxieties, they underscore the vulnerability of trust when alterations transpire without comprehensive discourse (Interview 4, December 2024).

Perpustakaan Alam Malabar has implemented adaptive tactics focused on cultural responsiveness and participatory involvement to tackle these problems:

1. incorporating local leaders and elders into program facilitation to ensure that environmental messaging is congruent with community traditions and beliefs (Corrado, 2024)—Iman Sulaeman stated, “We consistently endeavor to create activities that foster a sense of ownership among individuals regarding this space” (Interview 1, November 2023);
2. enhancing youth engagement via informal leadership training, internships, and volunteer initiatives, hence facilitating intergenerational knowledge transfer (Jančius & Gavenauskas, 2022); and
3. utilizing experiential and arts-based pedagogies, such as ecological storytelling and creative workshops, to render environmental concepts tangible and contextually significant (Observation, 2024).

This report proposes five strategic initiatives to improve program sustainability, building upon these efforts:

- form a cross-generational team of community literacy ambassadors to collaboratively ensure program continuity;
- create participatory monitoring instruments to assess behavioural and attitudinal shifts in ecological activities;
- create regionally pertinent educational material to enhance cultural congruence and student involvement;
- enhance collaborations with educational institutions, religious organizations, and environmental NGOs to establish comprehensive support networks; and
- establish an open-access digital platform for the documentation and dissemination of exemplary activities in community-based environmental literacy.

Ultimately, the experience of Perpustakaan Alam Malabar illustrates that the durability of sustainability education relies more on cultivating trust, cultural significance, and collective ownership than on physical infrastructure. By mitigating structural vulnerabilities and utilizing local social capital, rural libraries can function as significant catalysts for ecological literacy and community empowerment.

Discussion

Building on these findings, it is important to reflect on the broader implications for sustainability education in rural libraries. To ensure resilience and long-term program sustainability, this study recommends five strategic actions: (1) establishing a cross-generational team of community literacy ambassadors; (2) developing participatory tools to monitor behavioural and attitudinal change; (3) creating locally relevant learning materials using arts and media; (4) expanding partnerships with schools, faith-based organizations, and environmental NGOs; and (5) building an open digital platform to document and share community-based environmental literacy practices.

Overall, the experience of Perpustakaan Alam Malabar demonstrates that the success of sustainability education is less about infrastructure and more about building meaningful relationships. By staying attentive to local context and fostering shared ownership, libraries can become powerful agents of change, supporting inclusive, adaptive, and socially rooted learning environments for environmental stewardship.

This study highlights the essential role that rural community libraries, such as Perpustakaan Alam Malabar, can play in advancing sustainability education. Rather than functioning solely as information centres, these libraries act as inclusive and participatory spaces where ecological learning is embedded in community practices. The library's initiatives reflect ecopedagogical principles by integrating emotional engagement, critical thinking, and hands-on activities that connect environmental literacy with everyday life. Programs such as mobile reading sessions, community gardening, environmental film screenings, and the Rawat Bumi Festival show how literacy efforts can evolve into community-driven ecological practices that span generations and social groups.

These findings reinforce the notion that environmental literacy is not merely about transferring ecological knowledge, but rather developing competencies that are culturally grounded and socially relevant (Bissinger & Bogner, 2018; Tomás et al., 2022). At Perpustakaan Alam Malabar, this is achieved by blending scientific information with local wisdom, creating a space where knowledge is co-produced through lived experience and shared cultural values.

Despite its achievements, the library faces sustainability challenges. Local participation has decreased over time, while interest from external visitors has grown. This shift raises concerns about weakening community ownership. Corrado (2024) refers to this dynamic as “participatory fragmentation,” where increased external recognition may lead to diminished local engagement. These developments highlight the importance of re-establishing trust and reinforcing cultural alignment to ensure the library remains rooted in the needs of the local population.

The study also finds that social capital and leadership are vital in sustaining community-based environmental programs. Youth volunteers and local leaders have become key drivers of ongoing activities, reinforcing findings by Morris (2024), who argues that green library initiatives thrive when community engagement is strong and leadership is locally embedded. By empowering young people and

positioning them as literacy facilitators, the library fosters a sense of shared ecological responsibility that is both generational and collaborative.

Importantly, the library illustrates how ecopedagogy can be practised in community settings, bridging knowledge, action, and reflection. As Bissinger & Bogner (2018) suggest, true environmental literacy involves not only understanding environmental issues but also building the skills and motivation to act. In this light, Perpustakaan Alam Malabar functions not just as a place for learning but as a community hub for building ecological resilience and collective agency.

Nevertheless, the absence of formal policy support and collaboration with local government presents limitations. Without integrated policies or institutional frameworks, it remains difficult to scale or formalize environmental literacy programs. Strengthening partnerships with schools, policymakers, and other knowledge institutions could help expand the reach and impact of such initiatives and ensure their long-term viability. Additionally, this study recognizes methodological constraints, particularly the lack of comprehensive quantitative data on program outcomes, including long-term behavioural impacts of ecological literacy initiatives. While participation records from event reports offered useful approximations, inconsistencies in documentation and variations in reporting formats posed challenges. To address these gaps, triangulation was employed through cross-verification with observations and interview narratives. Furthermore, decreased participation among local residents may reflect broader socio-cultural and economic dynamics beyond the scope of this case. Future research should incorporate systematic pre- and post-program assessments, as well as longitudinal studies, to more rigorously evaluate behavioural and attitudinal changes resulting from library interventions.

Implications for Evidence Based Practice in Academic Libraries

The findings of this study offer more than a compelling story; they provide a foundation of practice-based evidence for library professionals, particularly in academic settings. The evidence generated from this case study demonstrates that successful, community-driven sustainability education is underpinned by several key factors: relational leadership, the activation of social capital through stakeholder engagement, and adaptive programming that is culturally responsive and prioritizes hands-on participation. Narratives and experiences from such initiatives serve as strong contextual evidence, highlighting how libraries can demonstrate their value beyond traditional metrics (Lewis, 2016). This evidence can be directly translated into actionable strategies for academic libraries aiming to deepen their role in sustainability education.

For academic library practitioners, this model offers a practical roadmap for moving from theory to action. The evidence can be used in several concrete ways:

- **Advocacy & Funding:** Practitioners can use this evidence to propose pilot projects with compelling arguments. The case demonstrates that high-impact community engagement does not necessarily require large initial investments in infrastructure or collections, but can be effectively built on a low-cost, high-touch model focused on participation and social capital. This provides a strong justification for securing seed funding for innovative, engagement-focused initiatives.
- **Program Design:** Rather than starting with a large budget for sustainability-themed books, the evidence suggests that academic libraries should prioritize participatory activities to build community and momentum first. This could include creating a campus community garden, launching a "sustainability ideas" festival, or partnering with an existing Earth Day event on

campus. These activities create a foundation of engagement upon which collection development and other services can be subsequently built.

- **Partnerships:** The evidence informs a strategic approach to collaboration. Academic libraries should look beyond traditional departmental partnerships and actively engage with non-traditional units on campus, such as the university's sustainability office, student environmental clubs, and community-engaged learning centres. This approach mirrors the social capital model observed in the case study, leveraging diverse networks to achieve shared goals and embed the library more deeply into the campus ecosystem.

In summary, Perpustakaan Alam Malabar offers a practical example of how community libraries can serve as active contributors to sustainability education. Through locally relevant, inclusive, and evidence based approaches, the library has become a platform for both learning and transformation. Its model provides valuable insights for other rural contexts, especially those seeking to balance environmental awareness with cultural relevance and community engagement.

Conclusion

This study highlights the critical role that rural community libraries can play in advancing sustainability education by fostering environmental literacy that is participatory, locally relevant, and culturally responsive. Perpustakaan Alam Malabar shows that libraries can move beyond their traditional functions and become active agents of socio-environmental change. Through ecopedagogical approaches, community involvement, and localized media use, the library presents a practical model that connects knowledge with ecological action.

By placing community engagement at the centre of its activities, the library has become a shared space for developing environmental awareness and civic responsibility. The philosophy of “reading is planting” symbolizes this connection, turning literacy into a tool for local empowerment. These findings support previous research (Bissinger & Bogner, 2018; Tomás et al., 2022), which emphasizes that effective environmental literacy must address emotional and behavioural engagement, not just information delivery. Despite its success, the model faces real challenges. A decline in local participation, growing dependence on external audiences, and limited policy integration have weakened its sustainability. These trends reflect what Corrado (2024) calls “cultural dislocation,” where wider recognition can unintentionally distance an initiative from its community roots. The absence of formal support from education systems further limits replication.

To respond, the library has adopted adaptive strategies such as training local literacy ambassadors, forming cross-sector partnerships, and using public spaces as learning environments. These efforts align with literature emphasizing the value of social capital and institutional collaboration (Jančius & Gavenauskas, 2022; Morris, 2024). Overall, this study contributes both empirically and conceptually to the understanding of how libraries can support grassroots sustainability education. Ultimately, this study offers a scalable, context-sensitive model and contributes a rich qualitative case to the EBLIP knowledge base, demonstrating how robust evidence from grassroots practice can inform and inspire transformative sustainability education in libraries worldwide.

Author Contributions

Rully Khairul Anwar: Conceptualization (lead), Methodology (lead), Supervision (lead), Project administration (lead), Funding acquisition (lead), Writing – review & editing (equal) **Diah Sri Rejeki:** Investigation (lead), Data curation (lead), Writing – original draft (lead), Writing – review & editing (equal) **Aminudin:** Investigation (supporting), Visualization (lead), Writing – review & editing (equal) **Rinda Aunillah:** Investigation (supporting), Formal analysis (lead), Visualization (supporting), Writing – review & editing (equal) **Ibrahim Adi Surya:** Methodology (supporting), Formal analysis (supporting), Writing – review & editing (equal) **Merryam Agustine:** Investigation (supporting), Data curation (supporting), Writing – review & editing (equal)

Acknowledgements

The authors extend heartfelt thanks to the residents of Mekarsari Village and the dedicated team at Perpustakaan Alam Malabar for their generous cooperation and enthusiastic participation throughout this study. Deep appreciation is also directed to Iman Sulaeman, whose visionary leadership and commitment to community-based environmental education were a central inspiration for this research. The authors also acknowledge the invaluable support of the research assistants, community facilitators, and academic colleagues at the Faculty of Communication Sciences, Universitas Padjadjaran, and the Faculty of Social and Political Sciences, Widyatama University, for their feedback and technical assistance. This research was funded by the Ministry of Research, Technology, and Higher Education of the Republic of Indonesia (Kementerian Ristek-Dikti) through the Fundamental Research Grant Scheme (Riset Fundamental) for the 2025 fiscal year. The authors gratefully acknowledge this support, which made the fieldwork, analysis, and dissemination of these findings possible.

References

- Alwi, M., Kudsiah, M., Hakim, A. R., Burhanuddin, B., & Maritasari, D. B. (2022). Penguatan literasi lingkungan melalui kegiatan Hidroponik untuk membangun Green School di SDU Hamzanwadi. *ABSARA: Jurnal Pengabdian Pada Masyarakat*, 3(2), 243–254. <https://doi.org/10.29408/ab.v3i2.5945>
- Antonelli, M. (2008). The Green Library Movement: An overview and beyond. *Electronic Green Journal*, 1(27). <https://doi.org/10.5070/G312710757>
- Bissinger, K., & Bogner, F. X. (2018). Environmental literacy in practice: Education on tropical rainforests and climate change. *Environment, Development and Sustainability*, 20(5), 2079–2094. <https://doi.org/10.1007/s10668-017-9978-9>
- Corrado, E. M. (2024). Environmental sustainability and libraries. *Technical Services Quarterly*, 41(3), 265–274. <https://doi.org/10.1080/07317131.2024.2357015>
- Das, R. K., & Singha, A. (2023). Greening knowledge: Exploring the intersection of environmental sustainability and academic libraries in the 21st century. *International Journal of Science and Research*, 12(12), 1603–1607. <https://doi.org/10.21275/SR231220210107>
- Devine, J., & Appleton, L. (2023). Environmental education in public libraries. *Library Management*, 44(1–2), 152–165. <https://doi.org/10.1108/LM-10-2022-0091>

- Dissanayake, D. M. S. B. (2024). Connecting the dots; Environmental literacy index in measuring knowledge for environmental conservation. *Proceedings of the 27th International Forestry and Environment Symposium*, 27, 155. <https://doi.org/10.31357/fesympo.v27.7189>
- Fang, W.-T., Hassan, A., & LePage, B. A. (2023). *The living environmental education: Sound science toward a cleaner, safer, and healthier future*. Springer. <https://doi.org/10.1007/978-981-19-4234-1>
- Fedorowicz-Kruszewska, M. (2022). Green library as a subject of research – a quantitative and qualitative perspective. *Journal of Documentation*, 78(4), 912–932. <https://doi.org/10.1108/JD-08-2021-0156>
- Given, L. M. (2007). Evidence-based practice and qualitative research: A primer for library and information professionals. *Evidence Based Library and Information Practice*, 2(1), 15–22. <https://doi.org/10.18438/B8QC7Q>
- Ikhsan, F. A., Kurnianto, F. A., Apriyanto, B., & Nurdin, E. A., & Bachtiar, R. W. (2019). The effectivity of environmental education in scaffolding students' ecological literacy. *Jurnal Pendidikan IPA Indonesia*, 8(3), 398–406. <https://doi.org/10.15294/jpii.v8i3.14522>
- Islam, M. A., Sultana, R., & Widén, G. (2024). Ascertaining the place of UN Sustainable Development Goals in public libraries: How much progress have public libraries made in Bangladesh? *Global Knowledge, Memory and Communication*, 73(3), 354–374. <https://doi.org/10.1108/GKMC-03-2022-0072>
- Jackson, L. (2022). Libraries and sustainability: Programs and practices for community impact. René Tanner, Adrian K. Ho, Monika Antonelli, and Rebekkah Smith Aldrich, eds. Chicago, IL: ALA Editions, 2021. 176p. Paper, \$49.99 (ISBN: 9780838937945). *College & Research Libraries*, 83(5), 860–862. <https://doi.org/10.5860/crl.83.5.860>
- Jančius, R., & Gavenauskas, A. (2022). The influence of values and social environment on parents' environmental attitudes: Lithuanian case study. *Sustainability*, 14(20), 13415. <https://doi.org/10.3390/su142013415>
- Khalid, A., & Batool, S. H. (2020). A qualitative case study of green environment: Practices, attitudes and future strategies of Pakistani university librarians. *Electronic Green Journal*, 1(44). <https://doi.org/10.5070/G314443701>
- Koufogiannakis, D. (2011). Considering the place of practice-based evidence within Evidence Based Library and Information Practice (EBLIP). *Library and Information Research*, 35(111), 41–58. <https://doi.org/10.29173/lirg486>
- Koufogiannakis, D. (2012). Academic librarians' conception and use of evidence sources in practice. *Evidence Based Library and Information Practice*, 7(4), 5–24. <https://doi.org/10.18438/B8JC8I>
- Lewis, S. (2016). Reflections on using patrons' stories as practice-based evidence. *Evidence Based Library and Information Practice*, 11(1), 107–110. <https://doi.org/10.18438/B87K8T>

- Mathiasson, M. H., & Jochumsen, H. (2022). Libraries, sustainability and sustainable development: A review of the research literature. *Journal of Documentation*, 78(6), 1278–1304. <https://doi.org/10.1108/JD-11-2021-0226>
- Meydan, C. H., & Akkaş, H. (2024). The role of triangulation in qualitative research: Converging perspectives. In A. Elhami, A. Roshan, & H. Chandan (Eds.), *Principles of conducting qualitative research in multicultural settings* (pp. 101–132). IGI Global Scientific Publishing. <https://doi.org/10.4018/979-8-3693-3306-8.ch006>
- Miles, M. B., Huberman, A. M., & Saldaña, J. (2020). *Qualitative data analysis: A methods sourcebook* (4th ed.). SAGE Publications.
- Morris, Y. (2024). The green libraries partnership and green libraries campaign. *Business Information Review*, 41(4), 195–199. <https://doi.org/10.1177/02663821241298617>
- Mwanzu, A., Bosire-Ogechi, E., & Odero, D. (2023). Green initiatives towards environmental sustainability: Insights from libraries in Kenya. *IFLA Journal*, 49(2), 298–314. <https://doi.org/10.1177/03400352221135012>
- Noble, H., & Heale, R. (2019). Triangulation in research, with examples. *Evidence-Based Nursing*, 22(3), 67–68. <https://doi.org/10.1136/ebnurs-2019-103145>
- Putra, D. D. (2025). Exploring green libraries innovation toward environmental sustainability in Indonesia: A systematic literature review. *IOP Conference Series: Earth and Environmental Science*, 1439(1), 012023. <https://doi.org/10.1088/1755-1315/1439/1/012023>
- Robles-Piñeros, J., & Tateo, L. (2023). Isn't all about trash... Children's conceptions about ecology and their implications for biology education in Colombia. *Journal of Biological Education*, 57(3), 692–705. <https://doi.org/10.1080/00219266.2021.1941189>
- Roth, C. E. (1968). Curriculum overview for developing environmentally literate citizens (ED032982). ERIC. <https://files.eric.ed.gov/fulltext/ED032982.pdf>
- Saini, A. (2025). Climate Action Framework for Libraries: Empowering response to climate crisis. *IFLA Journal*, 51(2), 203–216. <https://doi.org/10.1177/03400352241302503>
- Tomás, M. R. V., Vicente, J. S. Y., De La Cruz, M. D. B., & Acha, D. M. H. (2022). Environmental literacy and its impact on sustainable pedagogical behaviors of basic education teachers, Lima-Peru. *WSEAS Transactions on Environment and Development*, 18, 856–864. <https://doi.org/10.37394/232015.2022.18.80>
- Yunus, N., & Ismail, M. N. (2024). Sustainable libraries: Harnessing smart library for a green future. *Journal of Tourism, Hospitality and Environment Management*, 9(35), 136–144. <https://gaexcellence.com/jthem/article/view/2562>

Appendix

Research Participant Consent Form

To: Activators, Volunteers, and Community Members of the Malabar Nature Library
From: Rully Khairul Anwar, Diah Sri Rejeki, Aminudin, Rinda Aunillah, Ibrahim Adi Surya, Merryam Agustine (The Research Team)
Study Title: "Informing Sustainability Education in Academic Libraries through Community Engagement: Evidence from a Rural Green Library in Indonesia"

Dear Sir/Madam,

As part of this research, we aim to study and document how the **Perpustakaan Alam Malabar (Malabar Nature Library)** contributes to sustainability education and environmental literacy within the **Mekarsari Village** community. The findings of this study are expected to provide evidence and a practical model for other library managers—at both community and academic levels—to develop similar programs rooted in local wisdom and community needs.

Therefore, we request your consent and cooperation to participate in this study. Your participation may involve:

- **A semi-structured interview** lasting approximately 30 to 45 minutes to share your experiences and views on the library's programs.
- **Participant observation**, where researchers will join and observe regular library activities, such as *melapak* (outdoor reading), ecological gardening, environmental film screenings, and the annual *Rawat Bumi* (Earth Care) Festival.
- **Visual documentation** (*photographs*) during activities to supplement the research data.

All information and data we collect during this research will be kept confidential and used only for the purpose of this study. Your name will be anonymized in the final report to protect your privacy. Participation in this study is voluntary, and you have the right to withdraw at any time without any consequences.

If you are willing to participate in this study, please sign the form below.

Thank you for your attention and cooperation.

Sincerely,

The Research Team

As the founder of **Perpustakaan Alam Malabar (Malabar Nature Library)**, I hereby consent to participate in the research study described above.

I also give permission for my/my child's photograph (where individuals are not personally identifiable) to be used for the purposes of this research report.

Participant's Signature: