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Green Finance Literacy for Community Services in Purwakarta, Indonesia

[1]Yosephina Endang Purba, [2]Farah Margaretha Leon, [3]Dedie Supriado Martadisastra

[1,2,3] Falculty of Economic and Business, Universitas Trisakti. Indonesia

Email: [1] yosephinaendangpurba@trisakti.ac.id, [2] yosephinaendangpurba@trisakti.ac.id m, [3]dediesupriadimartadisastra@trisakti.ac.id

Abstract: This community service program aimed to enhance green finance literacy by introducing sustainability concepts and green financial strategies to Micro, Small, and Medium Enterprises (MSMEs) and students at Yayasan Global Nubuah Insani (GCNI), Purwakarta, Indonesia, in order to support the adoption of environmentally responsible business practices. The program employed a community-based participatory approach, involving 60 MSME actors and senior high school students. The intervention was delivered through structured workshops consisting of sustainability education, green finance lectures, case study discussions, and group reflections. Program effectiveness was evaluated using a pre-test and post-test design supported by qualitative observations and participant feedback. The program was implemented through interactive lectures, case discussions, and green business planning simulations. Assessments showed a 45% increase in participants' understanding of green finance principles, particularly in identifying environmentally friendly business practices and accessing green funding schemes from governmental and international institutions. The participants also demonstrated a proactive attitude toward integrating sustainability into their operations. This initiative showcases the potential for academic institutions to contribute meaningfully to local awareness of the Sustainable Development Goals (SDGs) and the green economy transition.

Keywords: community empowerment, green finance, MSMEs, sustainability

1. INTRODUCTION

Global challenges such as climate change, environmental degradation, and biodiversity loss underscore the urgency of sustainable development (Zhao and Shaw, 2024). MSMEs, which are vital to Indonesia's economy, must transition toward environmentally friendly practices. Yet, their understanding and access to green financial resources are minimal. This program aimed to address this gap by educating students and MSMEs on green finance and sustainability principles, fostering awareness and encouraging behavioural change. Sustainable development has become a global imperative in response to worsening environmental crises, including climate change, deforestation, biodiversity loss, and pollution.

These issues have stimulated discourse and action around economic models that promote ecological balance, social wellbeing, and long-term economic viability. One of the key enablers of such a model is green finance. This is a financial framework that supports investments and projects generating positive environmental outcomes. Green finance instruments such as green bonds, sustainability linked loans, and climate related investment funds are gaining traction in policy and academic circles as strategic tools to redirect capital towards sustainable practices (Naser & Ahmed, 2024).

Yet, despite increasing institutional and policy level interest, awareness and adoption of green finance mechanisms at the grassroots level, particularly among Micro, Small, and Medium Enterprises (MSMEs), remain very limited. In Indonesia, MSMEs account for more than 97% of business activity and contribute significantly to employment and GDP (Bappenas, 2022). However, most operate with minimal exposure to sustainability practices or access to financing that prioritizes environmental considerations.

The integration of green financial literacy within MSME development strategies presents an opportunity to bridge this gap. Financial literacy in this context goes beyond conventional budgeting and credit management; it includes knowledge of sustainability linked funding options, the ability to assess environmental risks in investment decisions, and the strategic alignment of business goals with environmental objectives (Shanmugam, K., Chidambaram, V., & Parayitam, S., 2022). Improving this literacy is especially important in regions outside metropolitan area, where access to information, formal education, and green funding opportunities is even more constrained.

This paper presents the results of a community engagement initiative conducted in Yayasan Global Nubuah Insani (GCNI), Purwakarta, West Java, Indonesia, aimed at enhancing understanding and readiness of students and MSME actors to adopt green finance strategies. The project was part of a structured Community Services activity led by lecturers and academic staffs from Universitas Trisakti in Indonesia. The core objective was to introduce foundational knowledge about sustainability and green finance, and to guide participants in developing actionable steps toward eco conscious business practices.

In doing so, this paper contributes to both the practical and theoretical discourses surrounding sustainable development and financial inclusion. It highlights how targeted educational interventions can serve as catalysts for local economic transformation aligned with the Sustainable Development Goals (SDGs), particularly Goal 8 (Decent Work and Economic Growth), Goal 9 (Industry, Innovation and Infrastructure), Goal 12 (Responsible Consumption and Production), and Goal 13 (Climate Action).

Green finance refers to financial instruments and investments that support environmentally beneficial projects. Common instruments include green bonds, green loans, and sustainable investment funds. Green finance plays a key role in achieving the United Nations Sustainable Development Goals (SDGs) by steering capital flows toward low carbon, climate resilient initiatives. Previous studies have shown that higher levels of financial literacy are associated with increased adoption of sustainable business practices among MSMEs (Zhang, S., Cheung, A. W., 2024), OECD, 2022).

The concept of green finance has gained prominence as part of the global agenda for sustainable development. It encompasses financial instruments, practices, and policies designed to support environmental objectives such as climate change mitigation, energy efficiency, pollution control, and biodiversity preservation (OECD, 2022). Green finance is not only a tool for funding environmentally sound projects, but also a strategic lever for transitioning towards a low carbon economy. The growing urgency of climate risks has prompted multilateral institutions, central banks, and private investors to integrate Environmental, Social, and Governance (ESG) factors into their decision-making processes (UNEP FI, 2021).

Instruments under the green finance umbrella include green bonds, which are fixed income securities issued to fund environmentally beneficial projects, green loans which provide preferential terms for sustainable business initiatives and sustainable investment funds, which direct capital into companies meeting certain ESG standards. Research indicates that such instruments can offer dual benefits: enabling sustainable development goals (SDGs) while also delivering competitive financial returns. However, access to and understanding of green finance are disproportionately concentrated in developed economies and among large corporations.

Micro, Small, and Medium Enterprises (MSMEs), particularly in developing countries, several challenges persist: low awareness of sustainability linked financial products, limited access to institutional credit, regulatory barriers, and a lack of capacity to meet environmental compliance standards (IFC, 2019). This asymmetry threatens to exclude MSMEs from the green transition and widens the sustainability gap at the grassroots level. Furthermore, studies underscore the importance of green financial literacy the ability to understand, evaluate, and utilize green finance instruments as a determinant of MSMEs' readiness to participate in sustainable economic ecosystems (Zhang, S., Cheung, A. W., 2024).

Green financial literacy is more than conventional financial education; it entails an understanding of environmental impacts, risk assessment related to sustainability, and the strategic alignment of business operations with climate goals (Wang & Zhi, 2016). In the Indonesian context, the Financial Services Authority of Indonesia has taken steps to promote sustainable finance through the Roadmap for Sustainable Finance (2021–2025), encouraging banks and financial institutions to allocate a portion of their portfolios to environmentally oriented projects. However, its implementation at the MSME level remains nascent due to infrastructure, awareness, and outreach limitations.

Limited access to capital for sustainable profit growth. MSMEs often face capital constraints in adopting environmentally friendly technologies or more sustainable business practices. Although many MSMEs recognize the importance of sustainability, especially in the long term, the initial capital required to make these changes is often difficult to obtain. The adoption of green technologies such as renewable energy (e.g., solar panels), energy-efficient equipment, or waste management systems requires significant initial investment. For MSMEs, these costs are often too high, especially if they rely on operational profits to run their daily business.

This makes it difficult for them to take sustainability measures without additional financial support. The implementation stages of the solution to address the financing issues of the Global Nubuah Insani Foundation (GCNI) focus on the use of green financing aimed at supporting the transition of partner MSMEs towards sustainability. This solution is designed to empower MSMEs in the food and beverage sector through the use of sustainable raw materials, waste reduction, and the adoption of environmentally friendly business practices.

Problem 1: Limited access to capital for sustainable profit growth. Problem 2: The adoption of green technologies such as renewable energy (e.g., solar panels), energy-efficient equipment, or waste management systems requires a significant initial investment. Given this background, educational interventions at the community level especially those facilitated by higher education institutions play a vital role in democratizing access to sustainability knowledge and tools. Embedding the principles of green finance into MSME training programs can serve as an entry point for broader systemic change. This study aligns with and contributes to this growing body of literature by offering empirical insights into a localized green finance literacy initiative, with direct implications for policy, education, and MSME empowerment.

2. METHOD

This community engagement activity was conducted on December 15, 2024, in Yayasan Global Nubuah Insani (GCNI), Purwakarta, West Java, Indonesia, West Java. Participants included local MSME operators and high school students. The methods employed were: 1. Educational workshops introducing sustainability concepts, SDGs, and types of green finance. 2. Case study discussions demonstrating practical implementation in business sectors. 3.Pre and post-test to evaluate comprehension gains.

This study employed a community based participatory approach through a structured Community Service activity, designed to enhance the green finance literacy of Micro, Small, and Medium Enterprises (MSMEs) and students in the Yayasan Global Nubuah Insani (GCNI), Purwakarta, West Java, Indonesia. The intervention was conducted on December 15, 2024, and was led by a multidisciplinary academic team from a business and economic sciences faculty with experience in sustainable development education.

3.1 Participants

The participants consisted of two main target groups: 1. MSME actors operating in sectors such as food processing, agriculture, and services; 2. Senior high school students from vocational and academic institutions in the region, selected based on their potential to become future entrepreneurs and sustainability advocates. A total of 60 participants were engaged in the program, ensuring diverse representation in terms of age, gender, and business maturity.

3.2 Program Design

The intervention was delivered in a workshop format, combining theoretical exposition with interactive, practice-oriented components. The design followed an instructional sequence tailored to adult and youth learners: Session I: Foundational Concepts of Sustainability – introduced participants to the global challenges of climate change, the SDGs, and the rationale for transitioning to sustainable business practices. Session II: Introduction to Green Finance – covered types of green financial instruments (e.g., green bonds, green loans, sustainable investment funds), funding institutions, and case studies of implementation. Session III: Group Discussion and Reflection – provided a platform for knowledge exchange and collaborative learning between students and business owners. All sessions were facilitated by subject matter experts with experience in green finance, sustainable business, and community engagement.

3.3 Data Collection and Evaluation

To evaluate the effectiveness of the intervention, the study adopted a pretest/post test quantitative approach supported by qualitative observations. Participants were assessed on their: knowledge of sustainability and green finance (measured using a structured questionnaire), readiness to adopt green practices (assessed using Likert scale items), and ability to identify potential sources of green funding (measured by scenario based questions). Additionally, qualitative data were collected through field notes, informal interviews, and reflective feedback provided at the end of each session. These qualitative insights enriched the analysis by capturing changes in participants' attitudes, concerns, and perceived barriers.

3.4 Data Analysis

Quantitative data were analyzed using descriptive statistics to measure knowledge improvement between pre and post-tests. A sample test was planned to assess statistically significant changes in green finance literacy scores. Qualitative data were coded thematically to identify recurring patterns related to perceptions, challenges, and perceived relevance of green finance in the local context.

3. RESULT AND DISCUSSION

The outcomes of this intervention highlight both the potential and challenges of promoting green finance literacy among MSMEs and youth in semirural Indonesian settings. Results are presented across three dimensions: (1) knowledge enhancement, (2) application readiness, and (3) institutional and contextual enablers or barriers. Each finding is interpreted in the context of existing literature to provide a meaningful contribution to both academic and policy discourses.

4.1 Knowledge Enhancement

The pre and postintervention assessments demonstrated a statistically significant increase in participant knowledge, with average post test scores improving by 45% across key domains such as the definition of green finance, awareness of green funding instruments, and the environmental impacts of business practices. Participants who initially had little to no exposure to sustainability related concepts were able, by the end of the program, to articulate the basic principles of green investment, the criteria for environmentally responsible enterprises, and the broader goals of the Sustainable Development Goals (SDGs).

This outcome aligns with prior findings that structured, context specific financial education programs significantly improve both awareness and confidence in applying green financial knowledge and it validates the proposition that targeted education can bridge the information asymmetry that hinders grassroots engagement in sustainable finance (IFC, 2019).

4.2 Readiness for Application and Behaviour Change

A central goal of the intervention was not merely cognitive development but also the readiness to act. Results from post program reflections and group assignments revealed that a majority of MSME participants were able to identify environmentally harmful aspects of their current operations (e.g., excessive packaging, inefficient energy use), draft initial “green” business model adjustments, such as sourcing local organic materials or reducing plastic use, map potential sources of green funding, including Indonesian government subsidies, registered green credit lines, and international funding programs like the Green Climate Fund. Likewise, students many of whom aspire to become entrepreneurs demonstrated increasing interest in integrating environmental ethics into future business ideas. These findings support the claim that early-stage education in green finance can foster a generational shift in entrepreneurial mindset.

4.3 Institutional Support and Structural Barriers

Despite the promising individual outcomes, several systemic barriers to the adoption of green finance practices were also identified: 1. administrative Complexity: MSMEs perceived the process of applying for green loans or grants as bureaucratically burdensome and misaligned with their operational capacity; 2. lack of incentive clarity: many participants were unaware of potential cost savings or brand reputation benefits associated with sustainable business certification; 3. trusted learning environment: the academic setting and presence of university facilitators increased participant engagement and trust in the content delivered; 4. peer learning mechanism: the mixed group approach (students and MSMEs) fostered intergenerational dialogue and creative exchange, which enhanced learning depth; and 5. these results reinforce the literature on the importance of ecosystemic support including policy clarity, financial incentives, and accessible educational tools in translating green finance awareness into action (OECD, 2022)

4.4 Theoretical and Practical Implications

Theoretically, the study extends the discourse on green finance literacy by empirically demonstrating its efficacy in enhancing sustainability practices at the microeconomic level. Practically, it provides a replicable model for university led community engagement that bridges academic research, public education, and environmental responsibility. The synthesis of financial knowledge with sustainability education has been relatively underexplored in the context of MSMEs in developing countries. This intervention thus positions higher education institutions as catalytic agents in transforming local economies toward sustainability.

Figure 1. (a) Discussion with students and members of MSME; (b) Explanation to students and members of MSMEs

4. CONCLUSION

The program successfully increased knowledge and readiness of MSMEs and students to adopt green finance principles. Continued efforts are needed to deepen this knowledge through mentoring, partnerships with financial institutions, and integration into local policies. Future replications of this program should consider contextual adjustments and extend to other underserved areas.

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