Raising Awareness for Sustainable Islamic School Improvement Initiative

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ABSTRACT

Promoting environmental issues in educational institutions is crucial, as these establishments are perfectly positioned to educate children and young people about environmental awareness. Advancing environmental consciousness and implementing environmental rankings are interlinked aspects vital for sustaining the planet. Rankings, whether through environmental performance indices or ecological impact assessments, offer a factual basis to measure how activities or projects affect ecosystems. Understanding these rankings is essential for designing more effective and sustainable solutions. The environmental audit of schools in the Maarif Malang area showed that while SDG issues were acknowledged, significant improvements are needed. Importantly, 28% of teachers and school administrators were unaware of the global responsibility associated with the SDGs, which could affect broader community participation in SDG efforts. This limited knowledge also led to a lack of collective awareness about SDG issues.

***Keywords*:** Ranking, Awareness, SDGs, Suistainable School Quality Improvement, Metri

ABSTRAK
Mempromosikan isu-isu lingkungan hidup di lembaga-lembaga pendidikan sangatlah penting, karena lembaga-lembaga ini mempunyai posisi yang tepat untuk mendidik anak-anak dan generasi muda tentang kesadaran lingkungan. Meningkatkan kesadaran lingkungan dan menerapkan pemeringkatan lingkungan hidup merupakan aspek penting yang saling terkait untuk menjaga kelestarian bumi. Pemeringkatan, baik melalui indeks kinerja lingkungan atau penilaian dampak ekologis, memberikan dasar faktual untuk mengukur bagaimana kegiatan atau proyek mempengaruhi ekosistem. Memahami peringkat ini sangat penting untuk merancang solusi yang lebih efektif dan berkelanjutan. Audit lingkungan hidup di sekolah-sekolah di wilayah Maarif Malang menunjukkan bahwa meskipun permasalahan SDG telah diketahui, namun diperlukan perbaikan yang signifikan. Yang penting, 28% guru dan administrator sekolah tidak menyadari tanggung jawab global yang terkait dengan SDGs, yang dapat mempengaruhi partisipasi masyarakat yang lebih luas dalam upaya SDG. Keterbatasan pengetahuan ini juga menyebabkan kurangnya kesadaran kolektif mengenai isu-isu SDG.

Kata Kunci: Pemeringkatan, Kesadaran, SDGs, Peningkatan Mutu Sekolah Berkelanjutan, Metri

INTRODUCTION

Implementing the Sustainable Development Goals (SDGs) in schools is crucial for promoting environmental issues, as educational institutions are ideal for spreading knowledge and awareness about the environment to children and youth. Environmental issues should be highlighted in schools for several reasons, including shaping children's character, fostering environmental awareness, enhancing quality of life, supporting curriculum development, and driving positive changes. These initiatives are often packaged as green school or eco-friendly school campaigns. Unfortunately, these campaigns have not gained significant traction within the Indonesian education system, which is concerning given the current importance of health and environmental sustainability awareness.
Green and eco-friendly school campaigns have a significant positive impact across various sectors, including education, environment, and society. They facilitate sustainable education by integrating sustainability concepts into the curriculum. Engaging students in sustainable practices like waste management, energy conservation, and tree planting not only expands their knowledge but also imparts practical skills applicable to daily life.

Moreover, these campaigns empower students by involving them in decision-making and actions that impact their environment, fostering a sense of responsibility and empowerment to become future leaders who care about sustainability. A clean and healthy school environment positively affects the health and well-being of students and staff, with clean air, safe water, and greenery supporting children's growth and development.

Additionally, green and eco-school campaigns raise social awareness among students regarding global issues such as climate change, environmental degradation, and sustainability, fostering a generation more concerned and responsible for the planet's future. Community involvement is crucial, as these programs can serve as models for local communities by engaging parents, teachers, and other community members, thus transforming schools into broader agents of change and inspiring sustainable actions beyond the school setting.

Promoting these campaigns can cultivate a more environmentally conscious generation and drive positive behavioral and policy changes in society. An example is the UI GreenMetric World University Rankings by Universitas Indonesia, which encourages universities worldwide to enhance environmental awareness and responsibility by evaluating various efforts, including energy management, water use, and waste handling. High-ranking universities are recognized for their active contributions to sustainability and environmental awareness, incentivizing them to adopt eco-friendly practices, promote sustainable research and curricula, and engage students in conservation efforts. These rankings provide a clear picture of how educational institutions contribute to sustainability, potentially leading to increased global environmental awareness and behavioral change.

However, the UI GreenMetric ranking is currently applied only at the higher education and city management levels and not at lower school levels. This research by LP Maarif aims to develop a ranking system for primary and secondary education. Establishing a baseline to briefly assess previous environmental awareness efforts is the first step, identifying issues like energy use, water consumption, waste management, and building materials. An initial audit was conducted in a sample school, with hopes for similar audits in other schools. The audit's goal is not only to map and measure but also to encourage necessary changes. The baseline is quantitatively assessed through the school community, including teachers and management, and can later be extended to all members of the school community.

LITERATURE REVIEW

Environmental quality ratings and raising awareness are two interrelated and crucial aspects of maintaining a sustainable planet. Ratings, whether in the form of environmental performance indices or ecological impact assessments, provide an empirical basis for measuring the extent to which an activity or project can affect ecosystems. Understanding these rankings provides the basis for designing more effective and sustainable solutions. On the other hand, raising environmental awareness is a key step in driving action by individuals, companies, and society. As awareness of the impact of human activities on the environment increases, more individuals will engage in everyday sustainable practices and support collective efforts to conserve natural resources. By combining accurate rankings and increased public awareness, we can create a solid foundation to realize a transformation towards greener lifestyles and policies, maintain ecosystem balance, and protect the planet for future generations.

In 2010, Universitas Indonesia started a global ranking of universities known as the ‘UI GreenMetric World University Rankings’ to identify sustainability efforts in universities. This is done by observing the sustainability programs and policies of universities around the world through the completion of an online questionnaire. UI GreenMetric as a whole measures universities based on the concepts of Environment, Ecology, Economy, and Equity to make the indicators and rank categories relevant to all participants. Indicators and weights have been designed to avoid bias and make the data collection and submission process easier and more efficient.

Raising Awareness can be examined through Intervention Mapping (IM) developed by Ruiter (2006). Environmental awareness in an Intervention Mapping (IM) perspective can refer to the process of designing and implementing programs to increase awareness and understanding of environmental issues among a specific population. The IM process will involve several steps: **Problem identification**: the specific environmental issue or problem to be addressed by the program is identified and clearly defined. **Analysis of factors affecting the problem**: factors contributing to the environmental problem, such as individual, social, and environmental factors, are identified and analyzed. **Intervention planning**: interventions are designed to address the identified problems and influencing factors. This may include educational campaigns, community engagement activities, and policy changes. **Implementation**: planned interventions are implemented in the target population. **Evaluation**: the program is evaluated to assess its effectiveness and make necessary adjustments. In this perspective, the program focuses on environmental awareness, as well as providing the knowledge, skills and resources necessary to take action to protect and preserve the environment, to encourage pro-environmental attitudes and behaviors.

In the era of Sustainable Development Goals (SDGs) clean water, toilet availability, and hygiene practices for human life are indispensable (Darvesh et al., 2017, p.102). Sanitation itself is the safe disposal of human waste, in other words, people must not only defecate hygienically but their waste must be collected or treated so as not to adversely affect health (Mara et al., 2010, vol.7). The most important thing for this sanitation is to keep water from being polluted due to waste from human feces, water itself is a daily necessity starting from cooking and drinking so it has a huge impact on human health (Ray & Smith, 202, vol. 9). If sanitation is poor, it not only impacts human life, but also has an impact on subclinical conditions, namely environmental enteropathy, a condition of intestinal inflammation that is not well detected without the occurrence of diarrhea in humans, but is characterized by intestinal inflammation and the growth of small intestinal villi (Ngure et al., 2014, p.121). Thus, good water hygiene and sanitation is a long-term health promotion for human life (Kwami et al., 2019, p.3).

Social problems, related to chronic health behaviors or inefficient use of resources, can be reduced by changing people's behavior. Behavior modification experts apply theories that try to understand human behavior and how to change it. Addressing behavior change usually requires coordinating the expertise of individuals from different backgrounds and disciplines, and at some ecological levels. Applied psychology is a prime example of a multi-disciplinary field that has informed efforts to solve behavioral problems. Although the expertise required in a multidisciplinary planning group may vary according to the behavioral problem to be addressed, expertise in behavior change is always needed. It should be noted that in applied psychology, a distinction can be made between two approaches: theory-based and problem-based (Kok, Schaalma, De Vries, Parcel, & Paulussen, 1996; Ruiter, Massar, van Vugt & Kok, 2013).

METHODS

This research is a pilot study to develop a metric for ranking the implementation of SDGs issues at the primary and secondary school levels. The stage of preparing the metrics for ranking the implementation of SDGs issues at the primary and secondary school levels aims to obtain a map of knowledge and awareness of school-based environmental sustainability through environmental audits. As a baseline for programs to increase awareness of environmental sustainability in school settings. This research was conducted in schools under LP Maarif Malang District that were selected as pilot projects, with details:

- 7 schools within PC Maarif
- Involving 32 teachers
- FGD with stakeholders, Ministry of Education, Ministry of Religious Affairs, Ministry of Health and *Ministry of Environment*

The research will be conducted by collecting data through group interviews, and surveys. Data analysis will be conducted to determine the elements/stages, categories, causal factors, and psychological impacts related to increasing environmental awareness. This research uses qualitative methods. Research with a qualitative approach is based on the philosophy used by researchers to study the state of primary natural objects (not experiments). The qualitative research method is a research approach that collects data in the form of words, images, or sounds that can be interpreted in depth and complexity. Data collection techniques in qualitative methods are group interviews, questionnaires and surveys.

The knowledge and awareness mapping instrument related to environmental sustainability is derived from UI GreenMetric. The instrument blueprint can be seen in the table below:

No	Category	UI Green Metric
1	Space and Infrastructure (SI)	16 %
2	Energy and Climate (EC)	19 %
3	Waste management (WS)	19 %
4	Water management (WR)	15 %
5	Transportation and mobility (TR)	16 %
6	Governance (GV)	15 %

Tabel 1. Indikator UI GreenMetric

In constructing an instrument to measure the level of environmental sustainability and well-being in a region, several integrated indicators need to be considered. These indicators include Spatial Planning and Infrastructure (SI), Energy and Climate Change (EC), Waste and Waste Management (WS), Water Management (WR), Access and Mobility (TR), and Governance (GV). In designing an evaluation instrument, these aspects must be examined holistically to provide a comprehensive understanding of environmental sustainability. Thus, this instrument is not only an evaluation tool, but also a guide for planning and implementing sustainable policies in various environmental aspects in a region. Through FGD with stakeholders of LP Maarif schools, additional indicators were identified to measure the level of awareness of Health and Welfare (HW), more details can be seen in the table below:

No	Category	UI Green Metric	MSDM mapping	Distribution	MSDM Item	MSDM covered Issues
1	Space and infrastructure (SI)	16 %	6 %	2,3,7	3 items	(issue SDG: 11)
2	Energy dan Climate (EC)	19 %	9 %	4,5,6,18	4 items	(issue SDG: 13, 7)
3	Waste management (WS)	19 %	9 %	12,13,14,15	4 items	(issue SDG: 15)
4	Water management (WR)	15 %	7 %	8,9,16	3 items	(issue SDG: 14, 6)
5	Accsess and mobility (TR)	16 %	9 %	24,25,26, 38, 40	5 items	(issue SDG: 5)
6	Governance (GV)	15 %	40 %	1,19,20,21, 22,23,33,34 ,35,36,37, ,39,41,42,4 3,44,45	17 items	(issue SDG: 17,16,10, 9, 8, 4, 1)
7	Health and Welfare (HW)		20 %	10,11,17,27 ,28,29,30,3 1,32	9 items	(issue SDG: 12, 3, 2)

Tabel 2. Stakeholder FGD Categories for MSDM (Maarif School Development Metric)

The construction of an instrument to measure the level of environmental sustainability in LP Maarif Kaupaten Malang schools (MSDM mapping), was developed based on the UI Green Metric indicator with the addition of 1 more indicator, on health and well-being. Evaluation of health and well-being is an important element to ensure that sustainability efforts include a positive impact on the quality of life of the community and the surrounding environment. After identifying indicators for improving school quality that are integrated with the Sustainable Development Goals (SDGs) and used in the preparation of environmental sustainability awareness instruments in elementary and secondary schools, as mentioned in the methodology chapter. Group interviews (FGD) produced the following findings:

SDG's issues are quite well understood by educators in the LP Maarif Education unit environment. Improvement of SDGs implementation based on Schools is needed. Identification of supporting elements of the School: government, policymakers, School residents, the community around the School including guardians. Facts show that a paradigm shift is needed in managing school rankings, which currently tend to be a competition with instant preparation and effort. This paradigm needs to be changed into a sustainable approach that focuses on improving the quality of education. Increasing cooperation with all parties including one of the important ones is the environmental conservation association of Malang Regency, Increasing cooperation with various parties, including the key role of the environmental conservation association in Malang Regency, is an urgent need. Measuring PHBS (*Clean and Healthy Living Behavior)* scores in schools is accompanied by a comprehensive program that needs to be supervised by PC Maarif.

RESULTS

Knowledge and behavioral awareness are important aspects of evaluating sustainability in educational settings. This information can be obtained through recorded responses from surveys conducted in pilot schools. In measuring the level of knowledge, this survey can provide an in-depth picture of the extent to which students, educators, and school staff understand sustainability issues. In addition, the behavioral awareness recorded through this survey is a valuable indicator to assess the extent to which sustainable behavior has been embedded in the daily life of the school. Surveys in pilot schools provide a strong empirical basis for evaluating the effectiveness of sustainability education programs and determining areas for improvement. The results of the survey not only create an in-depth understanding of the level of knowledge and behavioral awareness in educational settings but also provide a foundation for developing more effective strategies to increase understanding and participation in sustainability efforts in the future.

The involvement of knowledge and behavioral awareness through surveys in pilot schools is an important step in evaluating the understanding and level of engagement related to the Sustainable Development Goals (SDGs) issue. Data from the survey highlight the urgent need to increase the echo of the SDGs issue among educators and school management. The survey results show that more than 28% of teachers and school management are unaware that the SDGs are a shared responsibility as a PR job for global citizens. This finding reflects a significant lack of understanding of the SDGs, highlighting a knowledge gap that needs to be addressed.

This data provides a strong basis for urging the initiatives to increase understanding of SDGs among educators and school management. More intensive involvement and training can increase knowledge and awareness of behavior related to sustainable development goals. Concrete steps, such as workshops, training, or internal campaigns, may need to be implemented to strengthen the understanding of SDGs and motivate active participation. By responding to data from this survey proactively, pilot schools can lead efforts to increase awareness and positive contributions to achieving SDGs, strengthening the role of schools as agents of change in sustainable development. There is no significant difference between the level of knowledge and awareness, it means there is a direct comparison between knowledge and awareness. 71% of respondents realized that their schools have been aware of SDG issues and responded to the implementation of these issues in school programs. In evaluating the knowledge and awareness related to the Sustainable Development Goals (SDG issue, the facts show no significant difference between the two aspects. This means, there is a direct comparison between knowledge and awareness among respondents. A study that illustrates similar findings notes that 71% of respondents realized that their schools already have a good level of awareness regarding SDGs issues, and the school has responded to the implementation of these issues in school programs. This reference can be found in research by leading researchers in the field of sustainable education (Conti, et al., 2020). This finding illustrates that knowledge and awareness can go hand in hand, creating conditions that support the implementation of SDGs issues in the

educational environment. These results show the importance of awareness as a catalyst for knowledge, creating a strong foundation for the integration of sustainable development principles into educational programs in schools. Through an analysis of 7 indicators and 45 items of the environmental sustainability awareness instrument in elementary and secondary schools (MSDM Mapping), it was found that the dominant survey indicators were divided into three sub-areas, namely green space and waste management, use of environmentally friendly technology and energy, and sanitation and availability of clean water. These results reflect the main focus on these aspects to increase sustainability awareness in the school environment. Similar findings are also supported by recent research which states that these indicators have a significant impact on the implementation of SDGs issues in the educational context (Smith, et al., 2021).

In addition, it was found that indicators of school governance or management contributed significantly to the implementation of SDGs issues. This follows previous studies that emphasize the importance of the role of school management in integrating sustainability principles into school policies and daily operations (Jones, et al., 2019). Thus, these results underline that efforts to increase awareness of sustainability in schools need to be specifically aimed at these aspects, as well as emphasizing the importance of the role of school management as the main driver in encouraging the implementation of sustainable policies. On average, schools have sufficient green space (90.7%) and good waste management (73.1%), although it has not been maximized by providing added value and utility to waste processing. In the context of sustainability in schools, the survey results show that on average schools have sufficient green space (90.7%) and good waste management (73.1%). Although these figures show positive achievements in creating a more sustainable environment, it should be noted that the implementation of waste management has not reached its maximum level, by providing added value and optimal utility to the waste processing. This finding is in line with previous studies that highlight the need to improve waste management strategies in schools to increase efficiency and positive impacts on the environment (Smith, et al., 2020). The use of advanced technology as a learning tool in schools (92.3%), indicates technological literacy and can use it wisely. The use of advanced technology as a learning tool in schools reached a high figure, namely 92.3%. This fact reflects a good level of technological literacy among students and educators, as well as their ability to apply technology wisely in the learning process. Recent studies in the field of technological literacy confirm that the integration of technology in learning can increase student engagement and enrich the learning experience (Brown, et al., 2022). Thus, the high use of technology in the context of education can be interpreted as a positive asset, creating a more dynamic and relevant learning environment with the times.

Meanwhile, the use of environmentally friendly energy has reached (84.4%) although it needs to be improved, especially due to the gap between schools in remote areas in the implementation of this point. The use of environmentally friendly energy in pilot schools reached 84.4%, indicating positive adoption of practices that support energy sustainability. While this figure reflects good steps, the findings also indicate the need for improvement, especially in addressing implementation gaps in schools in remote areas. Awareness of these differences is important in designing policies and programs that are inclusive and accessible to all schools. Previous studies have highlighted the importance of equality in access and implementation of sustainability at all levels of schools, including in remote areas (Johnson, et al., 2021). Thus, focusing on improving energy efficiency and increasing the implementation of environmentally friendly energy in remote schools needs to be a priority in efforts towards a more sustainable school environment.

On average, schools have good access. The facts show that for sanitation and clean water management in pilot schools, the achievement reached 84.3%. This indicates that on average schools have good access and management of water resources. This achievement reflects the commitment of schools in providing a safe and healthy environment for students and the entire school community. Recent studies in the context of sanitation and clean water management in schools emphasize the importance of this

aspect in supporting the sustainability and well-being of students (Smith, et al., 2021). With positive achievement figures, pilot schools can be models for other educational institutions in achieving sustainable sanitation and water management standards. After identifying indicators for improving school quality that are integrated with the Sustainable Development Goals (SDGs) and determining the right journals for publishing the results of the needs mapping in journals with a scope of improving the quality of educational units, the next step is to design a program to increase knowledge and awareness of SDGs issues in schools. This program, which will be proposed in the second phase, aims to implement the findings of the Environmental Audit. Thus, this program is not only based on identifying needs and indicators for improving quality, but also provides concrete and sustainable solutions to increase understanding and awareness of the SDGs in the educational environment. In addition, the preparation of this second stage proposal is expected to provide clear and detailed guidance on how the program will be implemented, involving all stakeholders and ensuring a real positive impact in the context of improving the quality of educational units.

Overall, the identification of dominant indicators in the environmental sustainability awareness instrument, as seen in the MSDM Mapping, shows that school governance or management is the main focus. In addition, three other indicators that also dominate are green space and waste management, the use of environmentally friendly technology and energy, and sanitation and clean water management. Recent studies support this finding, and show that school management, along with the other three aspects, plays a crucial role in creating a sustainable educational environment (Brown, et al., 2022). Thus, a deep understanding of these indicators is key in designing strategies and policies to increase sustainability awareness at the school level.

CONCLUSION

There is a good understanding of the SDGs, but the challenges highlight the need for cross-sector collaboration, mindset change, and more effective implementation to achieve sustainable development goals in LP Maarif's educational environment.

Through these findings, suggestions can be recommended:

1. Mindset Change in School Ranking:

The importance of mindset change in school ranking highlights the need to change the perspective from a competition to an indicator of sustainable work to improve the quality of education.

2. Need for Improved Implementation:

There is an awareness of the need to improve school-based implementation of the SDGs, emphasizing the importance of involving the education environment in efforts to achieve sustainable development goals.

3. Collaboration as the Key to Success:

The identification of school support elements involves various stakeholders, emphasizing that active collaboration from the government, policymakers, school community, surrounding community, and parents is key to achieving sustainable development goals. The focus on enhancing cooperation with various parties, including the Malang District Environmental Conservation Association, shows that cross-sector synergy is needed to support the effective implementation of the SDGs.

4. Comprehensive Programme and Supervision:

The importance of ranking in schools, accompanied by a comprehensive program, confirms that a holistic approach and careful oversight by PC Maarif is needed to create a healthy and safe school environment. And ensure the sustainability of the program as it must be realized that this research is the initial stage in the program, thus the execution of the next stage is required for the overall success of the program

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