

Positioning the role of universities and science diplomacy in advancing Indonesia's sustainable development goals agenda

Anak Agung Mia Intentilia

Universitas Pendidikan Nasional, Jl. Bedugul No. 39, Sidakarya, Denpasar Selatan, Denpasar, Bali 80224, Indonesia
e-mail: mia.intentilia@undiknas.ac.id

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ABSTRACT

This study examines how Indonesian universities and the country's evolving practice of science diplomacy jointly contribute to advancing the national Sustainable Development Goals (SDGs) agenda. Using a descriptive qualitative approach and relying on secondary data, this study analyzes the institutional roles, strategic initiatives, and policy frameworks that shape Indonesia's SDGs implementation. The first part of the findings highlights the multidimensional role of universities through their core mandates of education, research, and community services. Universities are identified as key drivers of mainstreaming sustainability values into curricula, producing evidence-based research that informs policy, and implementing community outreach programs that directly address local development challenges. The second part explores Indonesia's science diplomacy as an emerging tool for linking domestic scientific priorities to global platforms. Science diplomacy enables Indonesia to showcase local knowledge, attract international collaboration, and position its scientific innovations in global discussions on climate action, health security, and sustainable development. Together, universities and science diplomacy create complementary pathways to strengthen Indonesia's SDGs ecosystem. The study concludes that integrating academic expertise with diplomatic engagement is essential for enhancing Indonesia's global visibility and ensuring that local sustainability efforts contribute meaningfully to global SDGs targets.

Keywords: Indonesia, role of universities, science diplomacy, Sustainable Development Goals

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1. INTRODUCTION

In 2023, Indonesia celebrated the 78th anniversary of Independence Day with a theme that carried both symbolic and motivational weight. The government chose the phrase “*Terus Melaju untuk Indonesia Maju*,” which can be understood as a strong call for the nation to keep moving forward and progress. “*Terus Melaju*” reflects the idea that progress must be continuous, while “*Indonesia Maju*” aligns with the broader national vision of Indonesia Onward. This phrasing was central to former President Joko Widodo’s development agenda, and even the naming of his ministerial team, “the Indonesia Onward Cabinet,” signaled how deeply this vision was embedded in his administration. In the following year, during the 79th Independence Day celebration in 2024, the national theme shifted to “*Nusantara Baru Indonesia Maju*,” which placed particular emphasis on the development of the new capital city, *Ibu Kota Nusantara* (IKN). This reflected not only an intention to physically relocate the capital but also Indonesia’s broader ambition to reimagine its governance, sustainability practices, and long-term national identity (Kementerian Sekretariat Negara Republik Indonesia, 2024). As highlighted by the Ministry of State Secretariat, the theme underscored the country’s commitment to building a new national center that is modern, inclusive, and future-oriented. Moving to the present context in August 2025, the current President Prabowo Subianto introduced a new theme for Indonesia’s 80th Independence Day celebration: “*Bersatu Berdaulat, Rakyat Sejahtera, Indonesia Maju*,” translated as “United and Sovereign, a Prosperous People, an Advancing Indonesia.” This theme emphasizes unity, sovereignty, and the welfare of the people. These three pillars serve as both reminders of Indonesia’s foundational values and directions for future governance. This suggests an aspiration to strengthen national cohesion while ensuring that development translates into tangible well-being for all Indonesians.

Taken together, the themes from the past three Independence Day celebrations reveal a clear and consistent narrative: Indonesia is steadily preparing to navigate a world filled with rapid shifts and unprecedented challenges. Whether viewed from a local, national, or global perspective, these themes show a country that refuses to remain passive. Instead, Indonesia continuously projects confidence, ambition, and willingness to adapt. Each year’s theme carries its own nuance, yet all share a common thread: the desire to move forward with purpose and intention. Against this backdrop, it becomes even more important to closely examine Indonesia’s trajectory in key development sectors. Progress is no longer just a matter of economic growth or political stability; it increasingly demands alignment with broader global commitments. This is where the Sustainable Development Goals (SDGs) take on significant importance. The SDGs provide more than a checklist of targets; they offer a holistic framework that reflects the everyday realities of Indonesian society, from education and health to environmental protection, poverty reduction, and inclusive governance. Given Indonesia’s size, diversity, and strategic position in the region, its success in achieving the SDGs carries meaningful implications for its people and the broader global community. Therefore, examining Indonesia’s SDGs performance is a way of understanding how the nation balances its aspirations for progress with the responsibility to ensure that development remains fair and sustainable. Previous studies have addressed the issues of Indonesia’s SDGs from multiple perspectives, including literature review analysis (Jayanthi et al., 2024), its relation to national resilience (Irhamyah, 2019), its performance at the provincial level (Thamrin et al., 2023), its connection to quality education (Magfiroh & Nugraheni, 2024), vocational education model in Indonesia (Ramadhan et al., 2025), and quality education realization in Indonesia (Hasibuan, n.d.).

The United Nations (UN) officially adopted the 2030 Agenda for Sustainable Development in 2015 as a collective global commitment to advance “peace and prosperity for people and the planet.” This agenda outlines 17 interlinked Sustainable Development Goals (SDGs) that call for inclusive collaboration across countries, sectors and communities. However, the path toward the SDGs did not emerge suddenly in 2015. It represents a long historical process shaped by decades of international dialogue on development, the environment, and human well-being. The early foundations were laid in 1992 at the Earth Summit in Brazil, where global leaders articulated the importance of sustainable development. This was followed by the Millennium Summit in New York in 2000, which introduced the Millennium Development Goals (MDGs). Subsequent milestones include the 2002 World Summit on Sustainable

Development in South Africa, the 2012 UN Conference on Sustainable Development in Brazil, and the 2013 Open Working Group negotiations are also discussed. These cumulative efforts culminated in several major agreements in 2015, including the UN Sustainable Development Summit in New York ([United Nations Department of Economic and Social Affairs, n.d.](#)). These processes for formulating collaborative commitments within the 17 goals demonstrate that achieving a global agreement is far from easy, especially among countries with diverse interests and capacities. Therefore, the current commitment to achieving the SDGs remains critically important, including in Indonesia.

Acknowledging the breadth of all 17 SDGs, it is particularly interesting to examine how multiple stakeholders contribute to achieving these goals. These stakeholders include the government, private sector, non-governmental organizations (NGOs), higher education institutions, and civil society. Among them, higher education institutions or universities hold significant opportunities to disseminate knowledge about the SDGs while simultaneously educating and empowering the younger generation to actively participate in advancing these goals. Although there is a growing body of literature on the Sustainable Development Goals (SDGs), existing research tends to focus on sector-specific policies, national implementation strategies, and community-level initiatives. Studies on science diplomacy have also expanded, yet they often concentrate on state-led cooperation, foreign policy frameworks, or international scientific exchanges without explicitly linking these mechanisms to the implementation of the SDGs. There is a research gap in positioning how universities can engage in science diplomacy to advance national SDG agendas, particularly in developing countries such as Indonesia. This underexplored intersection between higher education, science diplomacy, and SDG implementation presents an important opportunity in the social sciences. Therefore, the research question of this paper is: In what ways can universities contribute to science diplomacy and, through these contributions, advance the Sustainable Development Goals (SDGs)? The following sections explain the literature review of science diplomacy and SDGs.

2. LITERATURE REVIEW

2.1. Science Diplomacy

Science diplomacy can be defined as “the particular area of international relations in which the interests of science and those of foreign policy intersect” ([Arnaldi, 2023](#)). According to a meeting at Wilton House, United Kingdom, in 2009, there is an update to the understanding of science diplomacy. The taxonomy for science diplomacy can be seen from three new categories for science diplomacy, namely: “(i) actions designed to directly advance a country’s national needs; (ii) actions designed to address cross-border interests; and (iii) actions primarily designed to meet global needs and challenges” ([Gluckman et al., 2017](#)). Science diplomacy is employed to further internal policy goals, whether through soft-power outreach, economic advancement, or the promotion of scientific and technological innovation. Countries are sharpening their strategies for using scientific relations to boost trade and achieve broader diplomatic goals. Likewise, as they utilize science and innovation to project national priorities, they more fully acknowledge the scientific components of development aid ([Gluckman et al., 2017](#)).

According to [Arnaldi \(2023\)](#), there are three main purposes of science diplomacy. The first is attraction. Attractiveness is a central concern in science diplomacy, referring to a country’s capacity to draw and retain top intellectual talent, particularly researchers and PhD candidates. Enhancing the inflow of such individuals is a core objective of scientific diplomacy efforts. Nations, especially those with significant global influence, increasingly compete to shape the international allocation of high-skilled expertise. The second is cooperation. Scientific collaboration helps mitigate international friction, supports the restoration of inter-state relations, and reinforces established alliances. It further allows states to pursue joint undertakings beyond the capacity of individual countries to do so. For diplomats, drawing on science’s positive multilateral appeal means actively promoting the achievement of shared scientific projects. The last factor is influence. Science is an important asset for a country to exercise its soft power ([Arnaldi, 2023](#)).

2.2. Sustainable Development Goals

The Sustainable Development Goals (SDGs) consist of 17 core objectives. These goals encompass a wide range of global issues, including poverty, health and sanitation, education, gender equality, energy, economic growth, climate action, peace and justice, and global partnerships. Each of these areas reflects the pressing challenges facing the world today. For instance, poverty remains a significant issue in many parts of the world, including Indonesia. Health and sanitation remain essential priorities, particularly in the aftermath of the COVID-19 pandemic. Meanwhile, education and gender empowerment remain critical, yet persistently hindered by structural barriers.

Recognizing the breadth of the SDGs, it is compelling to examine how various stakeholders contribute to achieving these goals. These stakeholders include governments, the private sector, non-governmental organizations (NGOs), higher education institutions, and civil society. Among these actors, universities hold a unique and strategic position. They not only have the capacity to disseminate knowledge on SDGs but also play a crucial role in educating, inspiring, and empowering younger generations to actively participate in advancing sustainable development.

The following section provides a more detailed exploration of the role that universities play in advancing the SDGs, with particular attention to how these contributions unfold within the Indonesian context. By examining their academic, research, and community engagement functions, this discussion aims to highlight the strategic position of higher education institutions in supporting national efforts toward sustainability.

3. METHODOLOGY

This study uses a descriptive qualitative approach with secondary data. The sources included academic journal articles, policy documents, government publications, institutional reports, and official websites. These documents were collected through literature reviews and desk research, allowing the study to synthesize established findings and perspectives. All data used in this research are publicly available and were selected based on their relevance, credibility, and contribution to understanding the intersections of higher education, science diplomacy, and sustainable development.

4. RESULT AND DISCUSSION

4.1 The Role of University for SDGs: Education, Research, and Community Service Program

The role of universities in Indonesia in achieving SDGs can be categorized into three major components: education, research, and community service programs. These three are derived from the so-called "*Tri Dharma Perguruan Tinggi*", or the three duties and responsibilities of university lecturers. Higher education institutions in Indonesia can contribute to the SDGs by implementing these three elements and connecting each element with all 17 goals mentioned previously in Figure 1. By contributing through education, research, and community service programs, the university is expected to play a major role in Indonesia's SDGs. Universities can work closely with lecturers, students, and external partners to integrate SDGs into their education, research, and community service programs.

The first role of universities in achieving Indonesia's SDGs is through education. Currently, after the COVID-19 pandemic, the learning system in Indonesia has switched from a full face-to-face system to a hybrid one, enabling lecturers and students to connect both in person and virtually. The Indonesian government, through the Ministry of Education, Culture, Research, and Technology, has an innovation called "*Merdeka Belajar*" in Bahasa Indonesia, translated into "Freedom Learning" or "Emancipated Learning," which enables students to choose a more practical approach to complement the course work they receive on campus. The purpose of this program is to create a learning experience and to boost innovation for job creation in the community (Maipita et al., 2021, p. 145). Furthermore, universities can play their role through education by incorporating SDGs knowledge into existing learning subjects on campus. All faculty members can work together to indicate which of the 17 goals can be connected to the course subject in each faculty. As an example, goal number 4 (Quality Education) and goal number 5

(Gender Equality) can be examined from a multidisciplinary approach, including social sciences, economics, law, engineering, and technology. It is crucial to improve innovative educational resources and tools that can comprehensively support the education process related to SDGs, one of which is through innovative gamified educational activities (Feltretero et al., 2023, p. 1).

The second role of the university is research. Joint research and publication collaboration has always been a top priority for each higher education institution. Publishing research means disseminating key findings to contribute to the improvement of society in each specific field of study. Many studies are conducted with funding collaborations with multiple sources. Research and publication can be the second role of the university in achieving Indonesia's SDGs. The research can provide findings to improve the current program of SDGs implementation in Indonesia, as well as provide policy recommendations to the government. Research on SDGs can also assist students and scholars in discovering more about each goal. Research and publication enable policymakers to think and create "evidence-based policy" by utilizing research in the policy-making process. SDGs research covers various issues, including the most common keywords, namely, "industry, company, evidence, data, practice, and economy." However, not all 17 issues appeared in research activities on SDGs from 2015 to 2021 (Adiyoso, 2022, p. ii). More research collaboration on SDGs should be conducted at the national, regional, and international levels to create more evidence-based policies. Furthermore, mapping research publications on SDGs is paramount to understanding previous and ongoing research activities and intensities (Wang et al., 2023, p. 1). Universities in Indonesia can collaborate with each other or even with universities abroad to conduct research on this matter.

The third role of the university is to organize community service programs. At the university level, the annual program that is compulsory for students is to join the "*Kuliah Kerja Nyata*" or a community service program targeting remote villages or areas. There are various ways to conduct such a program. For example, goal number 3 (Good Health and Well-Being) and goal number 6 (Clean Water and Sanitation) can be achieved by providing assistance to the community in remote areas on how to live a healthy lifestyle with balanced diets and exercises, as well as how to utilize proper sanitation. In addition, community service programs can tackle the issues of goal number 7 (Affordable and Clean Energy) and goal number 13 (Climate Action) by sharing information on the climate change situation, how to save more energy, and educating people about renewable energy and limiting the use of plastic bags in our daily lives. Another example of community projects that can be organized is maintaining the cleanliness of the land and water. In Bali, for instance, universities can collaborate to create beach cleanliness activities, which are aligned with goal number 14 (Life Below Water) and goal number 15 (Life on Land). Collaboration and partnership at the local, national, and global levels through learning best practices from each other can be an important lesson-learning process, as well as the implementation of goal number 17 (Partnership for the Goals). Therefore, the role of the university in contributing to the achievement of Indonesia's SDGs can be seen from three key points: education, research, and community service. The best practices of Indonesian universities can be shared at the global level through science diplomacy, which is explained in the next section.

4.2 Indonesia's Science Diplomacy: Connecting Local Issues at the Global Stage

After exploring the role of universities in achieving SDGs through education, research, and community service in the previous section, it is time for Indonesia to strengthen its science-diplomacy. As a country that plays a significant role in the Indo-Pacific, Indonesia can harness its scientific potential for science diplomacy on the global stage by sharing the best practices of its universities related to achieving the SDGs. This can be achieved by connecting local issues at the global level. Indonesia has proven its capabilities at the international level. In 2022, Indonesia held the G20 Presidency under the theme "Recover Together, Recover Stronger." In 2023, on its 78th Independence Day commemoration, Indonesia held the ASEAN Chairmanship, believing that ASEAN is still relevant, and hence it should be the regional organization that can foster growth together, reflected in the theme "ASEAN Matters: Epicentrum of Growth."

Science diplomacy is a concept of growing popularity. It covers various dimensions of science and diplomacy, including “facilitating international scientific cooperation” and “relationship between science and diplomacy, in which the latter is used as a tool to facilitate scientific progress, while the former becomes an instrument of foreign policy” (Arnaldi, 2023, p. 9). Indonesia can utilize *Tri Dharma Perguruan Tinggi*, which consists of education, research, and community service, as the foundation of its science diplomacy. This can be achieved through two approaches: maximizing the ASEAN University Network (AUN) and improving quality towards World Class University. The AUN consists of the ASEAN+3 University Network, which serves as a network of universities in ASEAN. Currently, it has 30 member universities. This number can be increased in the following years, by involving more universities to strengthen collaboration in the future. Collaboration at the regional level through AUN can be a potential for Indonesia's science diplomacy to advance the curriculums and learning approach, assuring the quality of education, improving international exposure and experience, enhancing academic and research collaboration, and building a stronger network, which is aligned with AUN's strategic focus (ASEAN University Network, n.d.). Furthermore, at the global level, the intention of a university to become a world-class university can be a strength for Indonesia's science diplomacy.

5. CONCLUSION

There are three major highlights in this paper. First of all, Indonesia emphasizes the goal of “*Indonesia Maju*” or “Indonesia Onward” vision to summarize the current development of Indonesia, as an emerging economy in the Indo-Pacific region. “Indonesia Onward” vision should not just be a slogan; it should be implemented in every single aspect of the lives of Indonesian citizens. Secondly, it is important to address the effort of Indonesia in achieving all of the 17 goals of SDGs, one of which is by observing the role of the university in Indonesia as one of the stakeholders of SDGs implementation. The role of the university in Indonesia's SDGs can be categorized into three elements, namely through education, research, and community service program. Thirdly, Indonesia can harness the potential through education, research, and community service program to elaborate its science diplomacy at the regional level through ASEAN University Network. Furthermore, at the global level, Indonesia can support the improvement of quality education through supporting more world-class universities.

Ethical Approval

Not Applicable

Informed Consent Statement

Not Applicable

Disclosure Statement

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Data Availability Statement

The data presented in this study are available on request from the corresponding author due to privacy reasons.

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Notes on Contributor

Anak Agung Mia Intentilia

Anak Agung Mia Intentilia is affiliated with Universitas Pendidikan Nasional

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