

Indonesia's Water Diplomacy and Leadership in Achieving SDG 6: A Strategic Approach to Sustainable Development

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Abstract

Indonesia has contributed significantly in the effort to achieve Sustainable Development Goal 6 (SDG 6) through domestic water management and by advocating for global water diplomacy. At the domestic level, Indonesia created programs such as PAMSIMAS and the 100-0-100, which have expanded access to clean water and sanitation. However, some challenges persist, such as regional gaps, water pollution, and climate change weaknesses. At the global level, Indonesia influences platforms like the UN Water Conference and ASEAN to support fair water management and sustainable solutions. The appointment of Indonesia's former foreign minister, Retno Marsudi, as the UN Special Envoy for Water Issues will provide Indonesia with more opportunities to impact the issue of global water regime, as this will connect international agendas with Indonesia's national priorities. This study will explore Indonesia's dual approach opportunities to support domestic reforms with global commitments. This will be conducted through emphasizing accomplishments and challenges, as well as strengthening its role as a leader in sustainable development.

Keywords: Sustainable Development Goal 6 (SDG 6), Water Diplomacy, Indonesia, Global Water Governance, ASEAN, Clean Water and Sanitation.



A. INTRODUCTION

Water has an important role for sustainable development due to its key role for human life, economic growth, as well as environmental sustainability. Unfortunately, universal access to clean water is not a reality and remains one of the key objectives of Sustainable Development Goal 6 (SDG 6). Reports from the United Nations indicate that around more than two billion people are having difficulties accessing safe drinking water (UN, 2023), and Indonesia is not an exception from this.

The difficulty in accessing clean water worldwide is illustrated in the figure below:

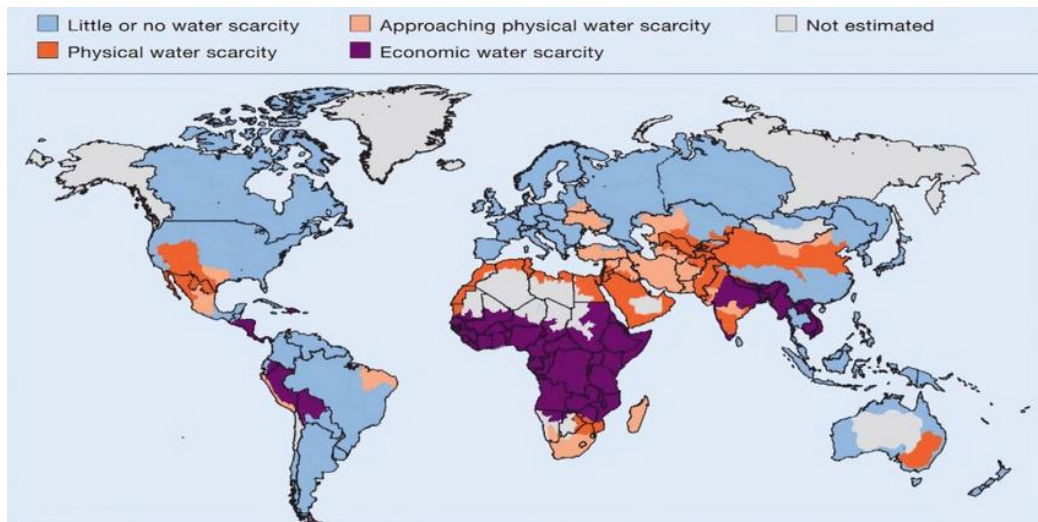


Figure 1. Water Scarcity around the World

Source: World Map of Water Scarcity as per the IWMI Indicator

Source: IWMI (2022)

Although Indonesia has made progress regarding access to clean water for the people, the government still needs to further regulate to decrease the discrepancies between the conditions in urban and rural areas (Bappenas, 2023). This issue is urgent to be implemented, as Indonesia is still vulnerable to climate change. This situation could threaten water availability and disaster resilience. (Michel, 2022. ADB, 2021).

Indonesia's domestic challenges, such as unequal access to water and increasing climate-induced risks, serve as a microcosm of global water issues. These domestic experiences not only highlight the urgency of addressing SDG 6 locally but also position Indonesia to lead global dialogues on sustainable water governance by sharing lessons learned and successful policy innovations (Michel, 2022; United Nations, 2023).

Water diplomacy is essential for addressing transboundary disputes and advancing international cooperation, with Indonesia increasingly taking a leadership role in advancing global water governance. Despite these promising developments, the intersection between Indonesia's domestic water challenges and its role in international water diplomacy remains underexplored. Domestically Indonesia has conducted programs like *Penyediaan Air Minum dan Sanitasi Berbasis Masyarakat* (PAMSIMAS), or "community-based rural water supply and sanitation", and internationally Indonesia has also involved in such as the UN Water Conference. By doing so, Indonesia demonstrates a strategic dual approach that combines local actions with global leadership. Furthermore, this approach provides valuable awareness and agendas that can inspire other developing countries, particularly in regions with transboundary water issues and limited resources (PAMSIMAS, 2021; Zeitoun & Mirumachi, 2008).

The policy and strategic approach sometimes are neglected, as current studies mostly focused on technical solutions or the geopolitical dimensions of water diplomacy. It must be realised that issues related to water, particularly concerning

water at borders, can become sources of conflict between countries or even among several countries.

This article examines Indonesia's dual approach to achieving SDG 6, analyzing its domestic governance efforts and global diplomatic strategies. It also addresses the gaps in aligning national policies with international commitments, providing recommendations to enhance Indonesia's contributions to sustainable water management.

B. LITERATURE REVIEW

This paper will discuss things related to academic and policy in order to understand the role of Indonesia in achieving SDG 6 through water diplomacy and leadership. In this case, the literature review will encompass three key topics: (1) international challenges and progress in achieving SDG 6, (2) the role of water diplomacy in sustainable development, and (3) Indonesian government water policies and international engagements. These topics will focus on the progress made by Indonesia as well as the gaps faced to reach SDG 6.

1. Global Challenges and Progress in Achieving SDG 6

Achieving SDG 6 is an ideal situation. However, in order to reach its objective, several factors need to be taken into account, such as water shortages, poor sanitation, and the poor management of water resources. The United Nations' 2023 Progress Report on SDG 6 highlights that while there has been notable improvement in access to clean water and sanitation, around 2.2 billion people still struggle to find safe drinking water and adequate sanitation facilities. (UN System Database, 2023). Climate change has made these problems even worse. Changes in rainfall patterns and an increase in extreme weather events are putting water security at greater risk (IPCC, 2002; Dodman et al., 2002).

Developing countries, including Indonesia, also face its challenges because of limited infrastructure, rapid population growth, and urbanization. Ssekyanzi et al. (2024) point out several difficulties in achieving SDG. Those problems are a lack of clean water supply, lack of funding to support sustainable solutions, obsolete technology, and improper sanitation needs. Thus, to solve these problems, a combined effort from governments, communities, and international partners is a must. Similarly, Cosgrove and Loucks (2015) point out that water stress has worsened in many regions, and new policies are needed to achieve local needs and align with global goals.

Good governance plays a crucial role in achieving the goals of SDG 6. This is crucial, especially when one considers how a government manages water resources in the face of climate change. The 1992 Convention on Transboundary Watercourses and International Lakes highlights the importance of countries working together to manage shared water resources. Such cooperation not only helps prevent conflicts but also makes sure that the resources are used wisely (UNECE, 1992). However, the difference in national priorities and governance capacities of every country often creates barriers. Grafton et al. (2013) suggest that Integrated Water Resource

Management (IWRM), which considers social, environmental, and economic factors, is an effective way to handle these challenges.

In regions like Southeast Asia, water resources are often shared between two or more countries and require careful cooperation among neighboring countries. In this context, Indonesia's participation in regional water governance frameworks is essential for success. By strengthening its involvement in transboundary water management and adopting strong national water policies, Indonesia will be able to contribute to advancing SDG 6. This leadership will not only solve domestic water challenges but also support the broader region in managing its shared water resources more effectively.

2. The Role of Water Diplomacy in Sustainable Development

Water diplomacy is crucial because it is a key for cooperation and resolving conflicts over water resources. Scholars like Gleick (2020) and Zeitoun & Mirumachi (2008) explain that water diplomacy can help prevent disputes over shared water sources. Water diplomacy also promotes regional stability and will provide fair access to water for everyone.

The Stockholm International Water Institute (SIWI) highlights the crucial role of hydro-diplomacy. SIWI focuses on connecting water management with climate action, peacebuilding, and sustainable development (SIWI, 2022). Similarly, Krzymowski (2021) elaborates that water diplomacy is vital for global security. One example of the success story of water diplomacy is the Mekong and Nile River Basins. This has proven the importance of strong institutional frameworks (Biswad & Tortajada, 2019).

Water diplomacy is an essential factor toward the achievement of sustainable development goals. It is even more crucial in regions prone to conflict caused by water. Pohl et al. (2021) emphasize that strengthening water diplomacy is fundamental for preventing conflicts. They also encourage the need to cooperate over shared water resources. Similarly, Sadoff et al. (2015) explain that cooperative management will secure water access, aid in reducing tension from water shortages, and even support economic growth.

Indonesia, as a key actor in ASEAN, has the potential to strengthen its leadership role in promoting regional water diplomacy initiatives, together with environmental sustainability and economic development. Further research into Indonesia's capacity to integrate water diplomacy into its foreign policy strategy will enhance understanding of its contributions to global water governance. Furthermore, Indonesia's dual role as a maritime nation and an ASEAN leader offers a unique case study in aligning regional and global water governance priorities.

3. Indonesia's Water Governance Policies and International Engagement

Indonesia's water policies are key to achieving SDG 6. Programs like PAMSIMAS (Community-Based Water Supply and Sanitation) and large-scale infrastructure projects, such as building dams and irrigation systems, have helped

improve access to clean water and sanitation (KemenPUPR, 2020). However, problems like uneven water distribution, poor maintenance, and fast urban growth still exist.

To tackle these issues, Indonesia is adding climate resilience to its water policies. The National Action Plan for Climate Change Adaptation (RAN-API) supports Indonesia's goals under the Paris Agreement (KLH and Forestry, 2022). In 2022, Indonesia launched the Indonesia Water Fund (IWF) to attract funding for sustainable water projects. In addition, the IWF also inspired the idea for the establishment of the Global Water Fund, proposed by Indonesia during the 10th World Water Forum held in Bali in May 2024. This fund would help regions with water shortages and financial difficulties (10th World Water Forum, 2024). Furthermore, the event also resulted a Ministerial Declaration stressing the need for water security to support global well-being.

The Global Water Partnership (GWP) praised Indonesia's role in regional water management. Through the Indonesia Water Partnership, the country works to improve governance and ensure fair access to water resources (GWP, 2016). These actions show how Indonesia connects international goals with local solutions, helping improve water security and move closer to achieving SDG 6.

C. METHOD

This study uses a qualitative approach, by analysing document analysis and case studies. By doing so, Indonesia's efforts in achieving SDG 6 through water governance and international diplomacy can be understood. It also observes how Indonesia overcomes domestic problems and at the same time tries to fulfil global commitments. The research relies on primary and secondary sources such as government reports, UN documents, and academic articles. Key references include the National Action Plan for Climate Change Adaptation (RAN-API), the 100-0-100 initiative, and reports from the UN Water Conference. Case studies focus on specific actions, like Indonesia's role in the 10th World Water Forum and its proposal for a Global Water Fund. These examples show how local programs of Indonesia connect to global frameworks. The study uses the integrated water resource management (IWRM) framework and hydro-diplomacy principles to evaluate Indonesia's strategies for solving water issues and achieving SDG 6 goals.

D. RESULTS AND DISCUSSION

This section analyzes Indonesia's approach to achieving SDG 6. The discussion will focus on four key areas: domestic water governance, global water diplomacy, the strategic role of international appointments, and regional cooperation on shared water resources. These key topics discuss Indonesia's progress, challenges, and strategic initiatives in addressing water issues both locally and globally.

1. Domestic Water Governance: Progress and Challenges

Indonesia's efforts to manage water resources for its domestic purposes are key to achieving SDG 6 and to making sure that all Indonesians have equal access to clean water and sanitation. Indonesia has made progress in improving access to clean water and sanitation. The 100-0-100 initiative, which aims to provide 100% access to clean water, eliminate slums, and achieve 100% sanitation, highlights the country's strong commitment to improving water governance (Indonesia Baik, 2019). The goal is also to ensure 100% access to safe drinking water and sanitation by 2030 (Kompas, 2024).

However, challenges still exist. There is a substantial gap between urban and rural areas with regard to clean water and sanitation. Urban areas have 96% clean water coverage, while some rural regions have less than 80% coverage. Water pollution is another major concern, with studies revealing that 70% of Indonesia's rivers are heavily polluted from industrial and agricultural runoff. Furthermore, deforestation and climate change also worsen the situation, which threaten both the availability and quality of water.

Indonesia has a population of more than 275 million. The country also has many rivers, but many of them are polluted. In urban areas, the pollution levels in rivers are high. According to the Central Bureau of Statistics (BPS), in 2024, only 73% of Indonesia's population had access to safe drinking water, while around 20 million others did not have proper sanitation (Basuki, 2024).

In 2019, Indonesia issued Law No. 17 on Water Resources. This law stipulates that water is a public right and, at the same time, strengthens government control over water resources. Not only makes certain that water resources are controlled by the state, the law mentions that water must also give benefit to the public. The law states that individuals, businesses, and community groups cannot own or control water resources. Without ignoring that law's enforcement issues remain, it is consistent with global practices on sustainability and fairness (BPK, 2019).

In 2006, the government launched PAMSIMAS. This is a program that was established based on community initiative. The program focuses on providing rural communities with better water and sanitation services. This initiative has helped around 24 million people gain better water supply, and 16 million others have better sanitation. By December 2021, PAMSIMAS was already active in more than 80% of Indonesia's districts. In 2016, the program also introduced a disability-inclusive approach to improve access for people with disabilities.

Indonesia's water governance has made significant progress, especially through programs like 100-0-100 and PAMSIMAS. Millions of people have benefited to gain better access to clean water and sanitation. Furthermore, Law No. 17/2019 also strengthens the commitment to treating water as a public right and ensuring fair access for all. However, this is not without problems. Issues such as the gap between urban and rural access, water pollution, and law enforcement still exist.

2. Global Water Diplomacy

Indonesia's active role in water diplomacy reflects its commitment to achieving SDG 6. As a leading developing nation, Indonesia has been very active in encouraging international cooperation for sustainable water management policies worldwide.

For years, Indonesia has emphasized the importance of water security at major global forums, including the United Nations High-Level Political Forum (HLPF) (UN HLPF, 2023) and the World Water Forum (WWF) (World Water Council, 2024). Indonesia has consistently called for more fair access to water resources and stronger global cooperation. One area where Indonesia holds importance is in transboundary water management, as Indonesia shares its water resources with neighboring countries. This has also been stipulated in the 2024 WWF, which focuses on the role of water in fostering shared prosperity. This focus goes hand in hand with Indonesia's long efforts to promote collective solutions to water challenges.

On a regional level, Indonesia works together with other ASEAN members through various forums dedicated to water management. An important example of this is the ASEAN Working Group on Water Resources Management (ASEAN Secretariat, 2023). Indonesia actively participates in joint efforts to reduce flood risks, tackle water pollution, and build climate resilience across Southeast Asia. Additionally, Indonesia's partnerships with neighboring countries, such as with Singapore on desalination technologies and with Malaysia on managing shared river basins, further emphasize the country's commitment to collaborative water governance (Wong, 2022)

Globally, Indonesia has also been an active participant in shaping the UN Water Action Agenda. Indonesia emphasizes the importance of development while also maintaining the importance of environmental needs. This will ensure that the global water agenda remains balanced and reflects the priorities of developing nations (UN Water, 2023). Indonesia's efforts and contributions in this process are vital as it continues to support efforts for sustainable development in water governance worldwide.

However, despite Indonesia's active involvement in global water diplomacy, challenges remain, especially when it comes to translating international commitments into domestic actions. Limited resources and capacity to implement these agreements at the local level makes the task difficult. Nevertheless, Indonesia's involvement in international cooperation remains essential to addressing global water challenges. Additionally, Indonesia's role in facilitating water-related dispute resolutions aligns with its broader peacebuilding goals (Naldo, 2024). The appointment of Retno Marsudi as the UN Special Envoy for Water Issues presents an excellent opportunity for Indonesia to further amplify its voice on the global stage and shape international water policies more effectively.

Indonesia's active participation in global water diplomacy underlines its dedication to international cooperation on sustainable water management. Through forums such as the UN High-Level Political Forum and the World Water Forum, Indonesia has been advocating for equitable access to water and stronger multilateral

agreements. Regionally, it is working closely with ASEAN nations and bilateral partners like Singapore and Malaysia to address water management challenges. Indonesia's input in the UN Water Action Agenda reflects its balanced approach to development and environmental protection. While challenges like limited resources persist, Indonesia's leadership, especially through the appointment of Retno Marsudi as Special Envoy for Water Issues, provides a unique opportunity to increase its influence and help resolve global water disputes, contributing to a more sustainable and peaceful world.

3. The Strategic Role of International Appointments

Indonesia's presence in global water diplomacy was led by its initiative and leadership roles in various international forums. The appointment of an Indonesian diplomat as the UN Special Envoy for Water Issues (UNSDSG, 2024) reflects recognition of the country's commitment on global water issues. Through this role, Indonesia will be able to bridge global commitments with domestic priorities and advance both international collaboration and local implementation of sustainable water practices.

For instance, Indonesia's contribution to shaping the UN 2023 Water Action Agenda (KemenPUPR, 2023). and preparing for the 2026 UN Water Conference (UN-Water, 2024) demonstrates a dedication to fostering equitable water access and sustainable management. Such initiatives provide opportunities to channel international funding and expertise toward addressing domestic challenges, including water pollution and disparities in access to clean water.

In addition to addressing tangible water challenges, Indonesia's strategic engagement in global water diplomacy enhances its soft power. The envoy plays a role that will allow Indonesia to advocate for the inclusion of water security and other topics such as climate change mitigation and disaster resilience. This positioning aligns with global calls to treat water as a cross-cutting issue essential for achieving multiple Sustainable Development Goals (SDGs). Indonesia's advocacy is particularly important due to the circumstances of developing countries, which often bear the brunt of water-related issues and climate-induced pressures (WorldWaterForum, 2024)

Moreover, the appointment strengthens Indonesia's ability to influence international policy, such as advocating for equitable access to technology and resources for water management. Collaborative programs initiated by the envoy could emphasize the importance of incorporating local wisdom and practices into global solutions, thus ensuring that international interventions are culturally and socially appropriate.

Therefore, Indonesia's strategic involvement in global water diplomacy underscores its increasing role in shaping international water policy. By leveraging this role, Indonesia can channel global resources toward addressing domestic water challenges and simultaneously advocate for equitable and sustainable solutions on the

global stage. These efforts enhance Indonesia's credibility as a leader in sustainable development, particularly in advocating for the priorities of developing countries.

Nevertheless, some barriers remain. One of the most difficult things is to ensure society implements what has been approved by international initiatives. To overcome these challenges, some actions need to be taken, namely strengthening institutional capacities, encouraging multi-player partnerships, and ensuring the balance between domestic and international priorities. If Indonesia succeeds in overcoming these barriers, it could serve as a model for other developing nations. In the end, such efforts will strengthen the position of Indonesia as a champion of global water diplomacy and sustainable development.

4. Regional Cooperation on Shared Water Resources

Indonesia often plays a significant role in Southeast Asia Nations (ASEAN) cooperation. This role includes the issue of both opportunities and challenges for managing shared water resources. Indonesia has led initiatives related to transboundary water, flood mitigation, pollution control, and climate adaptation that have been implemented in the ASEAN Working Group on Water Resources Management (Environment ASEAN, 2025). The importance of cooperation on water for collective welfare has also been declared in the statement by the Ministers and Heads of Delegation on the occasion of the 10th World Water Forum in 2024 (MOFA, 2024).

Indonesia's advocacy extends beyond immediate collaborations to emphasize institutional capacity-building within ASEAN. By providing technical assistance and facilitating knowledge exchange, Indonesia helps member states develop resilient water management systems. These efforts address common issues such as uneven water distribution, seasonal scarcity, and environmental degradation. For example, joint projects under ASEAN, such as the Integrated Mekong River Basin Management Program, benefit from Indonesia's expertise in integrated water resource management ([Mekong River Commission, 2023](#)).

An appointment of an Indonesian as the UN Special Envoy for Water Issues will benefit Indonesia's effort through connecting regional priorities with global goals. This role has also increased ASEAN's importance toward the international community. Furthermore, this will also unite members of ASEANs in the approach for water diplomacy. In conducting her job, the envoy has promoted regional talks focusing on the issues of fair and sustainable use of shared water resources, building trust and accountability among member states.

Indonesia has pioneered new ways to fund regional water projects by using public-private partnerships (PPPs) and regional development funds. These efforts will be used to support projects such as flood control and cross-border irrigation. It will also reduce dependence on international aid and encourage local ownership. All of these efforts aid in the achievement of long-term success (Asian Development Bank, 2023).

Indonesia's leadership in regional water cooperation underscores its commitment to addressing shared water challenges in Southeast Asia. By leveraging platforms like ASEAN and facilitating bilateral initiatives, Indonesia plays an essential role in mitigating regional water disputes and promoting sustainable practices.

Turning these initiatives into real results will need stronger integration of regional policies, effective enforcement, and ongoing collaboration among member states. Indonesia's role as a mediator and advocate gives it a unique position to lead, but success will rely on balancing regional unity with national interests.

E. CONCLUSION

Indonesia's efforts toward Sustainable Development Goal 6 (SDG 6) reflect its commitment to addressing domestic water challenges while strengthening its role in global water management. Programs like PAMSIMAS and large-scale infrastructure projects have provided millions with access to clean water and sanitation, yet issues such as unequal distribution, weak policy enforcement, and inadequate infrastructure maintenance persist. To overcome these obstacles, Indonesia must enhance regional governance, foster public-private partnerships, and increase investment in sustainable solutions. The appointment of an Indonesian as the UN Special Envoy for Water Issues underscores the country's rising influence in global water diplomacy, creating opportunities for technology exchange and international collaboration. Strengthening water infrastructure and governance, expanding access to underserved areas, and reinforcing local government capabilities are crucial steps to improving domestic water management. At the same time, leveraging global partnerships for funding and technology, promoting regional cooperation through ASEAN, and encouraging South-South knowledge sharing will enhance Indonesia's role in addressing water security. Incorporating climate resilience into water policies is also essential to mitigate risks such as droughts and floods. By integrating local and global strategies, Indonesia can effectively manage its water resources, serve as a model for other developing nations, and solidify its international standing in sustainable development.

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