



**The Role of Muslim Women in Waste Management for Sustainable Environmental Conservation in the Coastal Area of Bone, South Sulawesi**

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**Abstract:** The global world is facing environmental and coastal ecosystem degradation, including Indonesia, a region largely comprised of marine and coastal areas that relies heavily on marine ecosystems. This study aims to examine the role of Muslim women in household waste management in coastal areas, framed by Islamic principles of environmental management. Using a mixed method approach, incorporating both Islamic and environmental approaches, data were collected through surveys, interviews, documentation and observation. Interviewees included academics, religious scholars, environmental agencies, the Office of Religious Affairs, and coastal communities. The documents analyzed included legal regulations, articles, and books related to the content of the articles. The study found that Muslim women, as primary educators in their households, play a crucial role in fostering environmental awareness and promoting sustainable waste management practices. Involvement in religious study groups enhances their knowledge and attitudes toward environmental preservation. Islamic teachings emphasizing cleanliness and the obligation to protect the environment serve as fundamental motivations for adopting and promoting environmentally responsible behavior. These collective efforts contribute to the preservation of coastal ecosystems and the advancement of sustainable development goals. Furthermore, effective waste management aligns with Islamic values, positioning it as both a practical environmental initiative and a form of worship.

**Keywords:** Muslim family women, household waste, environment, coastal ecosystems

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**Abstrak:** Dunia global dihadapkan pada kerusakan ekosistem lingkungan dan pesisir termasuk Indonesia yang wilayah yang sebagian besar terdiri dari laut dan pesisir, sangat bergantung pada ekosistem laut. Studi ini bertujuan untuk mengkaji peran perempuan Muslim dalam pengelolaan sampah rumah tangga di wilayah pesisir, yang dibingkai oleh prinsip-prinsip Islam tentang pengelolaan lingkungan. Kajian ini menggunakan metode campuran, dengan pendekatan Islam dan lingkungan hidup. Data dikumpulkan melalui survei, wawancara, dokumentasi dan observasi. Informan yang diwawancarai adalah akademisi, ulama, dinas lingkungan hidup, Kantor Urusan Agama dan masyarakat pesisir. Dokumen yang dianalisis yaitu aturan hukum, artikel dan buku yang terkait dengan substansi artikel. Kajian ini menemukan bahwa perempuan Muslim, sebagai pendidik utama dalam rumah tangga mereka, memainkan peran penting dalam menumbuhkan kesadaran lingkungan dan mempromosikan praktik pengelolaan sampah berkelanjutan. Keterlibatan dalam kelompok pengajian meningkatkan pengetahuan dan sikap mereka terhadap pelestarian lingkungan. Ajaran Islam yang menekankan kebersihan dan kewajiban menjaga lingkungan menjadi motivasi mendasar dalam mengadopsi dan mensosialisasikan perilaku bertanggung jawab terhadap lingkungan. Upaya kolektif ini berkontribusi terhadap pelestarian ekosistem pesisir dan kemajuan tujuan pembangunan berkelanjutan. Selain itu, pengelolaan sampah yang efektif terbukti sejalan dengan nilai-nilai Islam, dan memposisikannya sebagai inisiatif lingkungan yang praktis dan juga sebagai bentuk ibadah.

**Kata Kunci:** Perempuan keluarga muslim, sampah rumah tangga, lingkungan hidup, ekosistem pesisir

## Introduction

Currently, the global community is faced with the destruction of environmental and coastal ecosystems. Indonesia, as a region largely comprised of sea and coastal areas, is highly dependent on marine ecosystems. If the marine environment is damaged, the communities surrounding the sea will also be impacted. Coastal areas are crucial for human activities, serving as centers for fishing, tourism, trade, settlements, and other economic ventures.<sup>1</sup> However, the high concentration of population and economic activity in these regions has significant ecological impacts. One of the most critical environmental challenges is waste management. The accumulation of waste in coastal areas stems not only from local activities but also from other contributing factors.

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<sup>1</sup> Nandi Nandi, "Coastal Conservation Policies And Integrated Coastal Zone Management (ICZM) in Indonesia," *International Journal of Conservation Science* 5, No. 3 (2014), p. 387-396. Mochammad Rozikin, et.al., "The Coastal Community Empowerment in Indonesia as Sustainable Development," *International Journal of Religion* 5, No. 11 (2024), p. 3897-3911.

The issue of waste continues to grow alongside population increases and the expansion of human activities, leading to higher rates of waste production. In coastal zones, the environmental problems associated with waste become more complex. Improper waste disposal in these areas exacerbates the impact, polluting the sea and damaging coastal ecosystems. Mismanaged waste can contaminate marine environments, threatening marine biodiversity and disrupting the ecological balance. Polluted seas harm fish populations and other marine life, reducing biodiversity and negatively affecting the livelihoods of fishermen. These issues collectively result in significant ecological and socio-economic consequences.<sup>2</sup>

Waste management practices vary widely across countries, depending on local policies and community involvement. For example, Sweden employs advanced technology to convert waste into energy. In Germany, the DSD/AG (Dual System Germany Co) manages the nationwide collection, sorting, and recycling of packaging waste, funded by companies producing packaged goods. Similarly, the Netherlands uses modern incineration technology for waste, requiring households to sort their waste before it is incinerated safely. Japan stands out as a leader in environmental cleanliness in Asia, with strict waste management regulations. The government provides color-coded waste bags to encourage proper sorting and ensures public spaces have recycling bins for categories like cans, glass, and general waste. Japan's strict anti-littering laws and penalties encourage public compliance.<sup>3</sup>

Likewise, Singapore has implemented a 'Zero Waste' initiative since 2019, particularly targeting electronic waste (e.g., phones, computers). Electronic waste is managed and returned to manufacturers for proper disposal. Singapore also uses advanced incineration technology to convert waste into energy, with ash deposited into artificial reservoirs. Strict penalties for littering ensure high levels of compliance among residents.<sup>4</sup> Effective solid waste management mitigates adverse health and, conserves resources, environmental impacts, and improves the livability.<sup>5</sup>

In Indonesia, the Ministry of Environment reported that in 2023, 364 districts and cities collectively generated approximately 38.24 million tons of

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<sup>2</sup> Yowan Tamu, et.al., "Epistemic Exclusion and Marine Resource Governance: The Case of the Bajo Community in Torosiaje, Indonesia," *Jurnal Ilmiah Peuradeun* 13, No. 2 (2025).

<sup>3</sup> Hisyam Khalid, "Pengelolaan Sampah Di Negara-Negara Maju," Indonesia Environment and Energi Centre. <https://environment-indonesia.com/pengelolaan-sampah-di-negara-negara-maju/>, Accessed October 11, 2024.

<sup>4</sup> Mita Defitri, "Sampah Di Singapura: Pengelolaan Di Wilayah Sempit Dan Satu TPA," Waste 4 Change. <https://waste4change.com/blog/sampah-di-singapura-pengelolaan-di-wilayah-sempit-dan-satu-tpa/>. Accessed October 12, 2024.

<sup>5</sup> Ismaila Rimi Abubakar, et. al., "Environmental Sustainability Impacts of Solid Waste Management Practices in the Global South," *International Journal of Environmental Research and Public Health* (2022).

waste annually. Of this, 61.79% (around 23.63 million tons) was managed, while 38.21% (around 14.61 million tons) remained unmanaged.<sup>6</sup> These figures do not account for unrecorded waste disposed of in unauthorized locations, including oceans and rivers.

Indonesia has established a legal framework to address waste management, including Law No. 18 of 2008 on Waste Management and Government Regulation No. 81 of 2012 on Household Waste Management. Additional regulations, such as Presidential Decree No. 97 of 2017 on the National Waste Management Policy and Strategy and Presidential Decree No. 83 of 2018 on Marine Waste Management, Minister of Environment Regulation No. 13 of 2012 provides guidelines for implementing the *Reduce, Reuse, and Recycle* principles through waste banks. Additionally, P.10/MENLHK/SETJEN/PLB.0/4/2018 outlines guidelines for the development of local policies and strategies for managing household waste and similar waste.<sup>7</sup> These guidelines include a roadmap for waste reduction by producers, promoting sustainable waste management practices at the regional level, further reinforce these efforts<sup>8</sup>. However, active public participation remains critical for effective waste management.

The Sustainable Development Goals (SDGs) provide a comprehensive global framework for addressing key challenges such as environmental sustainability, gender equality, and the protection of marine life. Among the SDGs, Goal 12—Responsible Consumption and Production—encourages practices that minimize waste, optimize the use of resources, and reduce environmental damage. In the context of waste management, reducing waste, particularly plastic, that pollutes marine environments is directly linked to Goal 14—Life Below Water. This goal emphasizes the need to conserve and sustainably use the oceans, seas, and marine resources. Additionally, Goal 5—Gender Equality—recognizes the vital role women play in promoting sustainable practices.<sup>9</sup> In many communities, women are central to waste management efforts, especially within households, where they guide the education of children and family members on proper waste disposal and environmental care. This intersection of gender equality and environmental sustainability highlights the

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<sup>6</sup> Limbah dan B3. Direktorat Penanganan Sampah Kementerian Lingkungan Hidup dan Kehutanan. Direktorat Jenderal Pengelolaan Sampah, “Capaian Kinerja Pengelolaan Sampah.,” SIPSAN 2024. <https://sipsn.menlhk.go.id/sipsn/public/regulasi>. Accessed October 11, 2024.

<sup>7</sup> I Gusti Ngurah Parikesit Widiatedja and I Gusti Ngurah Wairocana, “The Lack of the Environmental Concern in Indonesia’s Bilateral Investment Treaties,” *Hasanuddin Law Review* 3, No. 3 (2017).

<sup>8</sup> Limbah dan B3. Direktorat Penanganan Sampah Kementerian Lingkungan Hidup dan Kehutanan. Direktorat Jenderal Pengelolaan Sampah, “Capaian Kinerja Pengelolaan Sampah.,” SIPSAN 2024. <https://sipsn.menlhk.go.id/sipsn/public/regulasi>. Accessed October 11, 2024.

<sup>9</sup> Sekretariat Nasional SDGs, “17 Tujuan Untuk Mengubah Indonesia Agenda 2030 Untuk Pembangunan Berkelanjutan,” <https://Sdgs.Bappenas.Go.Id/Literasi/>.

importance of empowering women in the conservation of marine life and the environment. Through these integrated efforts, the SDGs offer a powerful framework for fostering a more sustainable and equitable future, where both people and the planet can thrive.

One of the key contributors to community engagement is the involvement of Muslim women, particularly mothers in Muslim households. Women play a strategic role in this context, as homemakers and primary educators of children. They have a significant influence on family behaviors and instill values of cleanliness. Islamic teachings emphasize cleanliness and environmental preservation as essential elements of worship. Motivated by these values, Muslim women can act as vital agents of change in promoting sustainable waste management within their households and communities.

Research on domestic waste management and the role of Muslim women in coastal regions is especially relevant to efforts toward environmental sustainability. Awareness campaigns on environmental preservation and Islamic teachings related to waste management can significantly increase knowledge and proactive behavior among Muslim communities. Through collective efforts starting at the family level, coastal areas can be protected from pollution and environmental degradation.

Using a mixed method approach,<sup>10</sup> incorporating both Islamic and environmental approaches, data were collected through surveys, interviews, documentation and observation.<sup>11</sup> Interviewees included academics, religious scholars, environmental agencies, the Office of Religious Affairs, and coastal communities. This study employed a mixed-method approach, combining qualitative and quantitative data collection techniques. The mixed-method design integrates both quantitative and qualitative methodologies to provide a comprehensive understanding of the research problem. Data collection methods included observations, surveys, interviews, and documentation. The issues were examined through qualitative and quantitative approaches from a methodological perspective, while environmental and religious perspectives were applied from a scientific standpoint. The collected data were analyzed using descriptive analysis to synthesize findings and draw meaningful insights.

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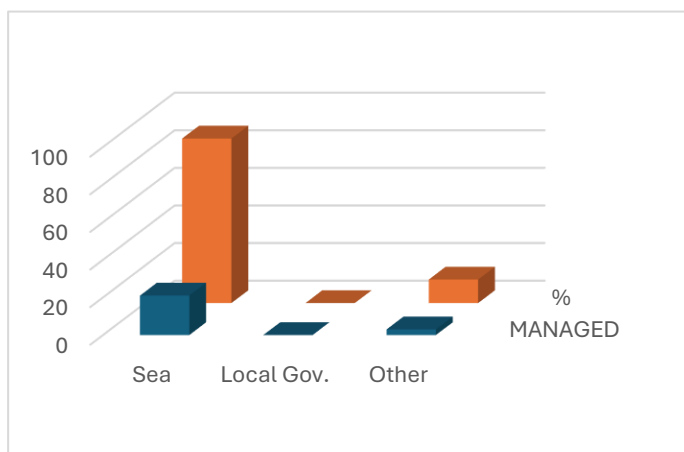
<sup>10</sup> Sugiyono, *Metode Penelitian Kombinasi (Mixed Methods)*, 7th ed. (Bandung: Alfabeta, 2015).

<sup>11</sup> Muhaemin Latif, et.al., "Environmental Theology and Its Relevance to Islamic Law: Perception of Makassar Muslim Scholars, Indonesia," *Samarah: Jurnal Hukum Keluarga dan Hukum Islam* 7, No. 3 (2023). Wardhana and Ridhwan, "Pendidikan Islam Berwawasan Lingkungan Hidup Pada Madrasah Ibtidaiyah Di Bone Sulawesi Selatan," *Mudarrisuna* 9, No. 1 (2019).

### Knowledge and Behavior of Muslim Women in Coastal Bajoe

Research findings from observations regarding the environmental conditions in Bajoe, particularly in relation to waste management, reveal a highly polluted and aesthetically unpleasant state. Waste is scattered across land, beaches, and the sea. Interviews indicate a lack of awareness among residents, with the habitual disposal of waste into the ocean being a common practice in the coastal Bajoe community. All respondents from the area shared a similar paradigm regarding waste: they perceive it merely as a useless by product that must be discarded without consideration for potential reuse or recycling. Consequently, domestic waste is indiscriminately dumped into the sea, on land, or burned.<sup>12</sup>

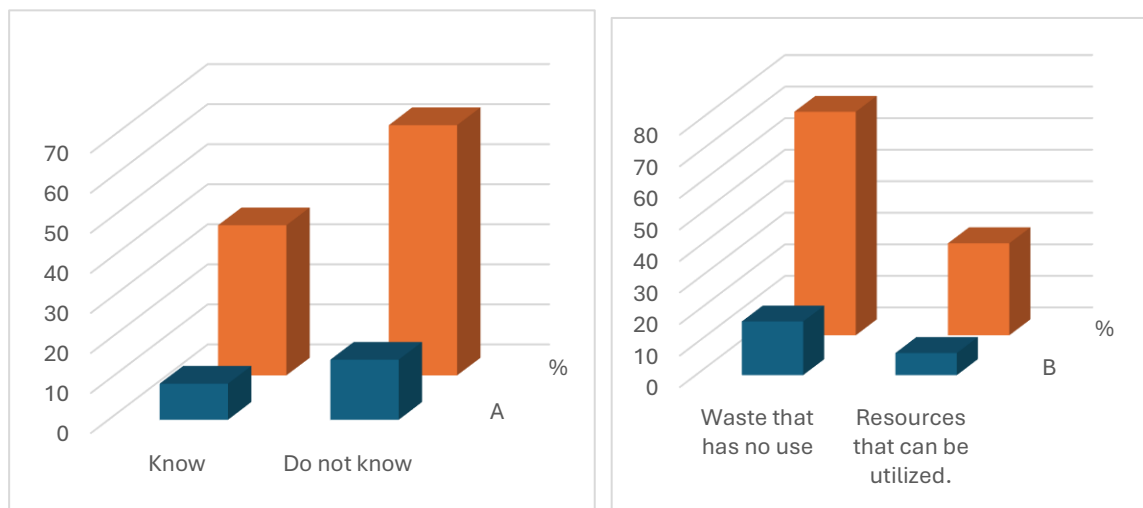
Initial findings gathered through observations, surveys, interviews, and documentation reveal that the environmental behavior of the coastal Bajoe community demonstrates a general lack of concern for the environment. This is corroborated by survey results involving 24 Muslim housewives actively participating in religious study groups. The data, subsequently tabulated and visualized in a diagram (Figure 1), indicate that 21 respondents (88%) dispose of their waste in the sea. Additional interviews confirm similar findings, showing that waste is commonly discarded directly into the ocean. Respondents stated that they perceive no issues with dumping waste into the sea, believing that the water will naturally carry it away.



**Figure 2. Diagram of the Bajoe Tribe's Garbage Disposal Site (Source: Primary Data)**

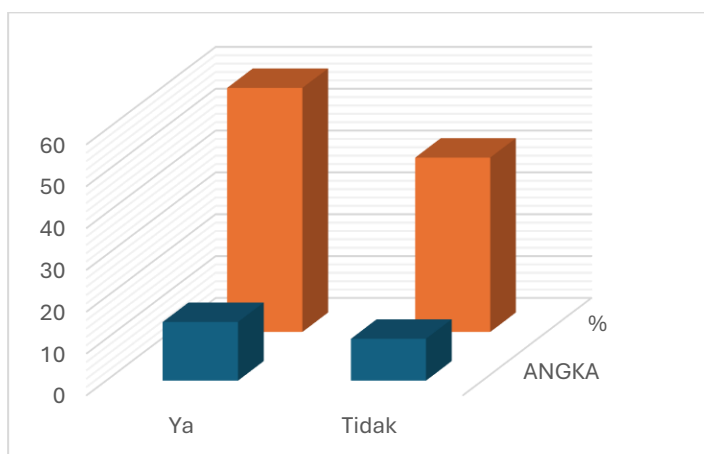
<sup>12</sup> Observations and Interviews with the Bajoe Coastal Community of Bone Regency, Bajo Tribe, January 9, 2022.

Figure 1 data illustrates daily waste disposal behaviors of respondents. Surveys comprising various questions about waste management in the Bajoe coastal community reveal that nearly 88% of participants dispose of waste directly into the sea, while 13% resort to burning it. The respondents generally lack knowledge about waste management and the harmful environmental consequences of improper waste disposal, whether on land or in the sea. Marine pollution arises from direct waste dumping, while burning waste contributes to air pollution.



**Figure 3. Knowledge Diagram of Waste Benefits (Source: Primary Data)**

Further insights are provided by Figures 3.a and 3.b, which depict respondent knowledge and perceptions regarding the value of waste. Figure 3.a shows that 63% of respondents are unaware of the potential benefits of waste, while 37% acknowledge its utility. Figure 3.b reveals that 71% view waste as a burden with no practical use, leading them to dispose of it in the ocean without understanding the consequences. Meanwhile, 29% of respondents recognize waste as a resource with potential value. The results of this initial stage of research highlight a general lack of knowledge among residents about waste, its potential benefits, and its environmental hazards, contributing to improper disposal practices.



**Figure 4. Respondent Data Based on Environmental Knowledge (Source: Primary Data)**

Figure 4 provides data on respondents' knowledge about environmental conservation among Muslim women in the Bajoe coastal area. Approximately 58% of respondents demonstrated an understanding of environmental concepts, such as the importance of cleanliness, while 42% lacked such knowledge, which correlates with their education levels and exposure to environmental information.

The findings from the initial survey indicate that respondents, particularly Muslim women, have limited understanding and awareness regarding environmental conservation and waste management. Many lack the knowledge and skills necessary to manage waste effectively, opting instead for direct disposal into the sea. However, women play a crucial role as environmental stewards and hold a key position in family units, especially within Muslim households.

### **Muslim Women's Participation in Environmental Education and Actions**

All respondents in this survey were Muslim women actively participating in religious study groups, totaling 24 individuals. Additionally, five informants were interviewed, including members of the religious study community, one community leader, and one Islamic religious instructor from Bajoe, Taneriatang Timur, Bone Regency. These women, primarily housewives from Muslim families, regularly attend religious study sessions, where environmental education is integrated into Islamic teachings.

Interviews conducted after the religious study sessions and the dissemination of material on "Islam and Environmental Conservation" revealed significant changes and improvements in participants' knowledge of environmental issues. Interviews with five informants indicated that they were pleased to gain enlightenment on the relationship between Islam and environmental conservation. They noted that they had not previously been exposed to information linking Islamic teachings with environmental



stewardship. Moreover, they were unaware that improper waste disposal violates Islamic principles and constitutes a sinful act.<sup>13</sup>

Following the dissemination of the material on "Islam and Environmental Conservation," most participants expressed a willingness to take concrete actions to manage waste, either individually or collectively. This initiative is also supported by local religious teachers (*ustadz*) in Bajoe, a coastal area in Bone Regency, South Sulawesi, creating a conducive environment for concrete action. In addition to support from religious instructors, the women's religious study groups received assistance from local NGOs. This collaboration helped to translate the good intentions of these Muslim housewives into actionable outcomes.

The positive response to the environmental education sessions was followed by the implementation of tangible initiatives, such as the establishment of a "Waste Bank." Muslim women from the religious study group committed to collective waste management. They agreed to take actionable steps, starting with simple activities like collecting plastic waste to donate to scavengers. Others planned to sell the collected waste directly to recyclers, while some began the groundwork for establishing the Waste Bank. These efforts reflect a growing awareness and readiness to incorporate sustainable waste management practices into their communities.

Therefore, it can be emphasized that women are a human resource with the potential to be involved in environmental development. Indonesia's population is predominantly female, although women are environmental managers capable of managing natural resources and the environment. Women's participation is crucial for continuously improving their capacity and gaining self-confidence. This way, women can participate and play a role in all development efforts in Indonesia, including environmental development.<sup>14</sup>

### **The Influence of Norms on Waste Disposal Behavior in Bone**

Garbage accumulation on beaches and open spaces causes environmental degradation. The community has a habit and culture of handling waste in the settlement that follows hereditary preferences.<sup>15</sup> Domestic waste continues to increase significantly alongside population growth. In the coastal Bajoe area, which serves as the research site, household waste is poorly managed by the local

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<sup>13</sup> Interview with Azizah, Tanete Riattang Timur KUA Extension Officer and Environmentalist, Bone Regency, August 26, 2022

<sup>14</sup> Suriani Nur, "Meningkatkan Partisipasi Dalam Pembangunan Lingkungan Hidup," *An-Nisa* 10, No. 1 (2017). Suriani Nur, et.al., "Peran Perempuan Dalam Upaya Mitigasi Bencana Perubahan Iklim," *An-Nisa* 17, No. 1 (2024).

<sup>15</sup> Idawarni Asmal et. al., "Application of Local Wisdom in Handling Waste in Coastal Settlements as an Effort to Minimize Waste Production," *Environmental and Sustainability Indicators* 19, (2023). Imamulhadi, et.al., "Customary Environmental Law and its Transformation Models in Indonesia," *Cogent Social Sciences* 11, No. 1 (2025).

community. Waste is often merely relocated from inside homes to outside spaces or directly disposed of into the sea. Observations, surveys, and interviews with local residents confirm this trend. The study reveals that waste is commonly discarded haphazardly under houses, in yards, alongside homes, or directly into the ocean. This habitual practice of disposing of waste into the sea has been passed down through generations, supported by the belief that the ocean currents will carry the waste away. However, as a public resource, the sea should remain unpolluted, as it is a shared right to have access to a clean and sustainable environment.

Improper waste disposal generates numerous problems for humans and other living organisms. Dumping waste into the ocean is not only a violation of national laws but also contradicts Islamic teachings. The negative impacts of indiscriminate waste disposal include minor illnesses and, in severe cases, life-threatening diseases. It also degrades the aesthetic quality of the environment, as unpleasant odors from decomposing waste reduce comfort.

In general, coastal areas have not managed their waste well, waste management in the coastal slum settlement of Cambaya, Makassar, has not been running well. Waste generation in the Cambaya coastal area is dominated by 58% organic waste and 42% inorganic waste. In general, residents do not have access to communal waste disposal sites, so they throw household waste directly into water bodies.<sup>16</sup> Brazil's coast is experiencing a buildup of solid waste because it is not managed properly.<sup>17</sup>

Household waste generally falls into two categories: organic and inorganic. According to Sudrajat, household waste predominantly consists of organic material (approximately 75%), while the remainder is inorganic.<sup>18</sup> Organic waste, such as leaves, wood, and dead animals, decomposes quickly, whereas inorganic waste, such as plastic, is highly resistant to degradation.

The adverse effects of plastic waste are not immediately apparent. Over time, plastic waste breaks down into microplastics. Numerous studies highlight the prevalence of microplastics in the ocean, invisible to the naked eye. Satellite imagery reveals massive accumulations of waste in the sea. For instance, scientists have identified up to 750,000 pieces of plastic per square kilometer (1.9 million pieces per square mile) in the Great Pacific Garbage Patch. Similarly, over 200,000 pieces of waste per square kilometer (520,000 pieces per square mile)

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<sup>16</sup> Nani Anggraini et al., "Model of Solid Waste Management (SWM) in Coastal Slum Settlement: Evidence for Makassar City," *Nature Environment and Pollution Technology* 20, no. 2 (2021), p. 459–466.

<sup>17</sup> Andréa L. De Oliveira and Alexander Turra, "Solid Waste Management in Coastal Cities: Where Are the Gaps? Case Study of the North Coast of São Paulo, Brazil," *Journal of Integrated Coastal Zone Management* 15, no. 4 (2015), p. 453–465.

<sup>18</sup> Sudrajat, *Mengelola Sampah Kota* (Jakarta: Penebar Swadaya, 2006).

have been detected in the Atlantic Garbage Patch.<sup>19</sup> Microplastics, as they degrade further, release harmful chemicals such as bisphenol A (BPA), which disrupt the reproductive systems of aquatic animals. Fish exposed to BPA produce fewer healthy offspring, ultimately risking species extinction. These chemicals accumulate within the marine food chain, with apex predators like sharks and dolphins experiencing the highest levels of bioaccumulation.

In the coastal area of Bajoe in the coastal area of Bone Regency, the practice of dumping waste into the sea is generally perceived as unproblematic. Residents often justify this behavior by noting the absence of complaints from the community. Over time, this practice has become an accepted behavioral standard, transforming into a local norm. Norms significantly influence human behavior. According to Cialdini, Reno, and Kallgreen, there are two types of norms that may act antagonistically in a given situation: injunctive norms and descriptive norms. Injunctive norms refer to “what is approved or disapproved of by most people,” whereas descriptive norms represent “what most people actually do.”<sup>20</sup>

In waste disposal scenarios, individuals may adhere to either descriptive or injunctive norms. For example, the dominance of descriptive norms—where most people engage in improper waste disposal—can override injunctive norms that discourage such behavior. Therefore, it becomes imperative to alter negative environmental norms through religious study groups and community outreach programs. By reshaping these norms, communities can foster environmentally responsible behavior and improve waste management practices.

### **The Role of Muslim Women in Promoting Environmental Awareness**

Pro-environmental behavior, particularly in waste management, is closely related to an individual’s moral development. Those with optimal moral growth are more likely to demonstrate care for the environment, including proper waste management. Such concern for the environment often stems from noble motivations. Moral development varies among individuals, influenced by environmental stimuli and societal context.<sup>21</sup>

The role of women in families is not limited to managing internal household matters but extends to contributing to the broader environment. Muslim women play a pivotal role in educating family members about the importance of environmental conservation, especially in waste management. Their involvement in family and community activities can reduce plastic use,

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<sup>19</sup>Morgan Stanley, “Marine Debris,” National Geographic (n.d). <https://education.nationalgeographic.org/resource/marine-debris/>. Accessed October 12, 2024,

<sup>20</sup> Robert B Cialdini, et.al., “A Focus Theory of Normative Conduct: Recycling the Concept of Norms to Reduce Littering in Public Places.,” *Journal of Personality and Social Psychology* 58, No. 6 (1990), p.1015–1026.

<sup>21</sup> Arundati Shinta, *Memuliakan Sampah Konsep Dan Aplikasinya Di Dunia Pendidikan Dan Di Masyarakat* (Yogyakarta: Deepublish, 2019).

promote waste recycling, and facilitate composting of organic waste. In the coastal Bajoe region, the active participation of Muslim women in preserving the environment is essential, reflecting not only good citizenship but also a deep commitment to religious values and the trust bestowed by Allah SWT.

Shifting the mindset of women through increased environmental knowledge, particularly via Islamic religious study groups, contributes significantly to environmental sustainability. Muslim women participating in these groups are expected to transform their attitudes and behaviors toward the environment. This study demonstrates that religious lectures can shift individuals from a neutral stance on environmental issues to a proactive, environmentally conscious attitude and behavior.

The involvement of Muslim women in environmental conservation is not a new phenomenon. Many Muslim women, through family initiatives and Islamic women's organizations, have actively participated in these efforts. For example, the Aisyiyah movement, affiliated with Muhammadiyah, and Muslimat NU, associated with Nahdlatul Ulama, have long contributed to environmental preservation. This article highlights the importance of enhancing environmental knowledge among women participating in Islamic religious study groups. Through these groups, women are introduced to Islamic jurisprudence (syariah) concerning human relationships with God, other creatures, and the environment.

The subjects of this study in Bajoe's coastal area predominantly have an elementary education, meaning their exposure to Islamic teachings on environmental issues in formal schooling is minimal. Community-based environmental education through religious study groups provides an effective means to disseminate knowledge about Islam's teachings on environmental stewardship.

### **Islamic Teachings on Environmental Stewardship**

Environmental protection is not merely a social obligation but is deeply rooted in Islamic values. Surah Al-Baqarah (2: 30) reminds Muslims of their role as *khalifah* (stewards) on Earth, entrusted by Allah SWT to maintain and protect His creation. This responsibility underscores the importance of avoiding destructive and harmful actions. Muslims bear a duty to uphold environmental sustainability, reflecting obedience to Allah SWT.

Aisyiyah recognizes this divine mandate, emphasizing that humans are prohibited from causing destruction on Earth and are encouraged to engage in actions that protect the environment.<sup>22</sup> Similarly, Muslimat NU demonstrates a commitment to environmental issues, evident in initiatives like their "Orientation

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<sup>22</sup> Ilham, "Peduli Lingkungan Berkelanjutan, 'Aisyiyah Jalin Kolaborasi Dengan Berbagai Pihak.'" <https://muhammadiyah.or.id/2023/11/peduli-lingkungan-berkelanjutan-aisyiyah-jalin-kolaborasi-dengan-berbagai-pihak/>. accessed October 11, 2024.

for Environmental Preservation Applications," which seeks to combine ecological conservation with creative economic opportunities.<sup>23</sup>

Islam is a religion of mercy (*rahmatan lil 'alamin*), offering guidance not only for humanity but for all components of the environment, both biotic and abiotic. As Qomar notes in his research, the Qur'an emphasizes the importance of environmental preservation, which requires active human participation. This connection between humans and the environment is deeply rooted in the principles of *shalah* (reformation) and the prohibition of *fasad* (corruption or destruction).<sup>24</sup>

Arifah further argues that Islam advocates for environmental protection (*hifdz al-bi'ah*), highlighting its role in addressing broader societal issues, including gender discrimination. The ecofeminism movement aligns with *hifdz al-bi'ah* by advocating for environmental sustainability, benefiting both women and the wider ecosystem. This perspective integrates ecological conservation with Islamic principles, presenting it as a form of *jihad* (struggle) against ecological crises in the context of patriarchal knowledge systems.<sup>25</sup>

### Islamic Teachings on Environmental Responsibility

Islam, as a comprehensive religion, emphasizes maintaining harmonious relationships with Allah SWT, fellow humans, and the environment.<sup>26</sup> Today, environmental conservation, particularly waste management, has become a national and global issue. Mismanagement of waste can lead to severe environmental problems, including pollution of water, soil, and air. To ensure environmental sustainability, Islam stresses the importance of cleanliness and the balance of nature, with the family playing a central role in supporting these efforts.

Islamic teachings, derived from the Qur'an and Hadith, are inherently linked to laws and regulations.<sup>27</sup> The Qur'an highlights the interconnectedness of humanity and Islamic law in environmental stewardship, as demonstrated in QS. Al-Jasiyah (45:18): "Then We put you, [O Muhammad], on an ordained way

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<sup>23</sup> NU Online, "Muslimat NU Tangani Sampah Dan Lingkungan. <https://Nu.or.Id/Nasional/Muslimat-Nu-Tangani-Sampah-Dan-Lingkungan-JoWlC>. accessed October 11, 2024.

<sup>24</sup> Ihyani Malik, et.al., "Gender Analysis in the Islamic Law-Based Ecofeminism Movement for Ecosystem Protection," *El-Mashlahah* 15, No. 1 (2025). Syamsul Qamar, "Peran Perempuan Dalam Pelestarian Lingkungan Hidup Menurut Tinjauan Islam," *Al-Maiyyah* 7 (2014).

<sup>25</sup> Arifah Millati Agustina, "The Development of Maqasid Al Shari'a on The Role of Women in Environmental Conservation," *Musawa* 22 (2023), p. 15–23.

<sup>26</sup> Subhan Abdullah Acim and Suharti Suharti, "The Concept of Fiqh al-Bi'ah in the Qur'an: A Study of the Quranic Verses on Environment in the Ulama's Views of Lombok," *Ulumuna: Journal of Islamic Studies* 27, No. 1 (2023).

<sup>27</sup> Bahagia, *Hak Alam Dan Hukum Lingkungan Dalam Islam*, (Yogyakarta: SUKA-Press, 2013).

concerning the matter [of religion]; so follow it and do not follow the inclinations of those who do not know." The teachings of Islam serve as a guide for humanity, emphasizing the responsibility to preserve the environment. Nature has been subjugated for human benefit, as stated in QS. Al-Jasiyah (45:12): "And He has subjected to you whatever is in the heavens and whatever is on the earth—all from Him. Indeed, in that are signs for a people who give thought."

Bahagia notes that nature, both living and non-living, has been entrusted to humanity. The natural world will not resist human leadership because of its covenant with Allah. Humanity was chosen as the steward (*khalifah*) of the Earth after other components of creation declined this responsibility<sup>28</sup>, as described in Surah Al-Ahzab (33:72): "Indeed, We offered the Trust to the heavens and the earth and the mountains, and they declined to bear it and feared it; but man [undertook to] bear it. Indeed, he was unjust and ignorant."

The role of humanity as *khalifah* is reiterated in Surah Al-Baqarah (2:30): "And [mention, O Muhammad], when your Lord said to the angels, 'Indeed, I will make upon the earth a successive authority.' They said, 'Will You place upon it one who causes corruption therein and sheds blood, while we declare Your praise and sanctify You?' Allah said, 'Indeed, I know that which you do not know.'"

The term *khalifah* in the Qur'an refers to a steward, manager, successor, or ruler. Humanity is entrusted with this leadership and must fulfill it responsibly.<sup>29</sup> Islamic law prescribes specific regulations and consequences for environmental destruction, including warnings of severe punishment in the Hereafter for those who neglect this trust.

Allah SWT reminds humanity in QS. Ar-Rum (30: 41) of the consequences of environmental destruction: "Corruption has appeared throughout the land and sea by [reason of] what the hands of people have earned so He may let them taste part of [the consequence of] what they have done that perhaps they will return [to righteousness]." Additionally, QS. Al-A'raf (7: 56) warns against causing harm to the Earth: "And cause not corruption upon the earth after its reformation. And invoke Him in fear and aspiration. Indeed, the mercy of Allah is near to the doers of good."

These verses underscore that the environmental crises faced by humanity are largely the result of immoral actions. Allah SWT and His Messenger disapprove of environmental destruction, which is classified as an act of immorality (*mungkar*). Mitigating such immorality is a duty for Muslims, requiring deliberate and responsible action.<sup>30</sup> The example set by the Prophet Muhammad highlights the importance of addressing these issues with wisdom and foresight.

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<sup>28</sup> Bahagia, *Hak Alam Dan Hukum Lingkungan Dalam Islam*.

<sup>29</sup> Bahagia, *Hak Alam Dan Hukum Lingkungan Dalam Islam*.

<sup>30</sup> Herman Khaeron, *Islam, Manusia, Dan Lingkungan Hidup*, 2nd ed. (Bandung: Penerbit Nuansa Cendikia, 2019).

Immoral behavior, such as environmental destruction, is considered *zalim* (unjust), a practice prohibited by Allah and His Messenger. Therefore, as stewards of the Earth, humanity must heed these divine warnings and approach environmental actions with intellect and accountability. Allah SWT differentiates between the faithful and the corrupt, as stated in QS. Sad (38: 28): "Or should We treat those who believe and do righteous deeds like corrupters in the land? Or should We treat those who fear Allah like the wicked?" This distinction emphasizes that faith and righteous deeds are incompatible with destructive behaviors, highlighting the rewards for those who uphold their responsibilities and the consequences for those who fail.

### **The Role of the Family in Environmental Responsibility**

As the smallest social unit, the family plays a crucial role in educating and shaping its members, particularly children and other dependents, to take responsibility for the environment. Muslim families, guided by a father and mother, can instill environmental awareness through daily actions. Women in Muslim families, often responsible for cleanliness and waste management, are particularly influential in teaching children the importance of proper waste disposal and fostering a love for the environment. When waste is managed effectively within this small societal unit, it can collectively lead to a cleaner and healthier environment.

In Islam, every individual is accountable for their actions, including their role in environmental conservation. Families can serve as role models for children by adopting and practicing sound waste management principles. This includes actions such as disposing of waste in appropriate places, minimizing the use of single-use plastics, composting organic waste, donating recyclable materials, supporting waste banks, and participating in community recycling initiatives. Introducing these values of environmental care in Muslim families from an early age helps cultivate environmentally conscious future generations.

In line with that, Islam as a comprehensive religion contains teachings that emphasize protecting the environment. Islamic scholars and scholars in the field of religious environmentalism strive to apply the ethical framework of environmental virtues in a religious context. Responsibility is considered an environmental virtue because of its essential role in guiding the attitudes and behavior of Muslims towards God, themselves, society, and nature.<sup>31</sup> This emphasizes that the concept of responsibility or in other terms *khalifah* can only be fully understood within the broader Islamic worldview, which recognizes God

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<sup>31</sup> Anthony Le Duc, "Responsibility as a Primary Environmental Virtue in Islam," *Asian Journal of Philosophy and Religion* 2, No. 1 (2023), p. 187-206. M. Abzar Duraesa, "Modern World and the Trend of Human Religiosity: An Overview of Theological Perspective," *Borneo International Journal of Islamic Studies* 1, No. 1 (2018).

as the source and ultimate owner of all things and recognizes the important role of humans in God's divine plan.

Simple habits, such as disposing of waste properly, can set an example for neighbors and inspire greater community awareness and action regarding environmental impacts. Muslim families should act as role models in fostering collective environmental consciousness. By encouraging discipline in environmental practices within the household, such as regularly disposing of waste in its proper place, Muslim families contribute significantly to maintaining ecological balance, particularly in coastal areas.

Waste management that begins at the family level and extends to benefit others and the surrounding environment can be considered an act of worship when performed with sincere intentions. The Prophet Muhammad PBUH said, *“Removing harmful objects from the road is a form of charity”* (Narrated by Bukhari and Muslim). Such simple actions in managing waste can be viewed as acts of charity. Consequently, waste management in the family context becomes a part of good character (*akhlak*), bringing individuals closer to Allah SWT. Muslim families that adhere to Islamic teachings and actively participate in proper waste management contribute to the realization of a clean and sustainable environment. This aligns with the guidance of Islam in safeguarding Allah's creation.

### **The Role of Muslim Women in Environmental Awareness and Sustainable Waste Management**

In general, it's not just Muslim families that have a close and positive relationship with environmental preservation. For example, the relationship between family business entities and environmental disclosure is indirect, through the production of high-quality financial reports and the appointment of independent members to the board of directors. This supports the effective implementation of a company's environmental strategy.<sup>32</sup> Furthermore, it can be emphasized that in general, every individual, especially Muslim women and Muslims in general, has a responsibility to protect the environment.

Muslim women, as integral members of society and the smallest social units within it, play a vital role in fostering environmental awareness and managing domestic waste wisely, particularly in coastal areas. Through religious study groups (*pengajian*) and the dissemination of material on Islam and environmental conservation, Muslim women in coastal regions can enhance their knowledge and develop a more positive attitude toward the environment.

The results of the religious studies that raise awareness can be seen in changes in attitudes, for example, where people had previously simply thrown

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<sup>32</sup> Agus Joko Pramono, et.al., “Impacts of Family Entities on Environmental Disclosure: Examining The Mediating Role of Earnings Management and Board Independence,” *Cogent Social Science* 9, No. 2 (2023).



trash into the sea or burned it. However, religious lectures discussing Islam and the environment have led to the understanding that littering in the sea is sinful.<sup>33</sup> People have traditionally been more likely to throw their trash on the beach or directly into the sea, and some even burn it. Environmental training, which focuses on the interplay between religion and the environment, has increased this knowledge. People are happy to participate and understand that littering is prohibited in Islam.<sup>34</sup> The statements of these two informants were reinforced by community leaders who stated that the sea and coast of Bajoe serve as a dumping ground for local residents' garbage. Garbage trucks are only used for garbage collection along the main roads, making the sea a dumping ground for residents' trash along the coast. Islamic preaching on the Bajoe coast, particularly on the prohibition of littering, is rarely discussed by religious scholars. Yet, Islam and the environment are closely linked, with numerous verses advocating clean living and preserving nature.<sup>35</sup>

Islam teaches its followers to maintain cleanliness and preserve the environment as an essential part of worship. Muslim women who understand both state laws and Islamic teachings regarding the importance of environmental cleanliness are more likely to adopt and practice these values. Moreover, they can impart environmental consciousness to their families and inspire similar behavior in others. Collectively, these efforts enable Muslim women to contribute to cleaner seas and a sustainable environment. Effective waste management not only benefits the environment but also serves as a tangible form of worship to Allah SWT. By integrating Islamic principles into environmental practices, Muslim women exemplify their faith while making meaningful contributions to ecological preservation.

Furthermore, it can be emphasized that proper ecological waste management will have numerous benefits, both financially and economically. Waste has high economic value, as explained by an employee of the Bone Environmental Agency, which stated that waste can be sold, and the government is willing to purchase waste collected by the community. Waste recycling can generate valuable income to improve people's lives.<sup>36</sup>

In addition to the economic and ecological benefits of proper waste management, waste also has religious value. Islam is a religion known as *Rahmatan Lil Alamin*, a blessing for the entire universe. The religious value of

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<sup>33</sup> Interview with Nirwana, Coastal Area Communities Bajoe, Bone Regency, August 8, 2022

<sup>34</sup> Interview with Kiki Amelia, Coastal Area Communities Bajoe, Bone Regency, August 8, 2022

<sup>35</sup> Interview with Sabriadi, S.Pd, M.Pd.I, Coastal Area Communities Bajoe. Bone Regency, August 8, 2022

<sup>36</sup> Interview with Andi Nurannah, Environmental Service Staff and waste bank builder, Bone Regency, August 25, 2022.

waste management is linked to religious or spiritual values. Islam teaches that maintaining cleanliness, respecting God's creation, and being responsible for the environment are forms of worship and concrete manifestations of faith. This is as expressed by a lecturer at IAIN and a member of the Indonesian Ulema Council (MUI) in Bone, who stated that protecting the environment is part of Islamic teachings. Littering, including littering, is forbidden, as it can disrupt the comfort of others and other living creatures. Islamic teachings place great emphasis on environmental sustainability. As a religious scholar, he has frequently conveyed the importance of not littering for a sustainable environment, both in religious sermons at places of worship, in dialogues, and at scientific seminars. The MUI, as a community organization, has also frequently preached about preserving the environment.<sup>37</sup>

In line with that, Islam and the environment have a very close relationship. There are many verses of the Qur'an that explain concern for the environment, including: QS. al Baqarah verse 30, Al-A'araf verses 56-57, Ar Rum verse 41. And many others. Likewise in the hadiths of the Prophet Muhammad who forbid, damage the environment, pollute water and littering, and prohibition of cutting down trees carelessly. Among other hadiths is narrated by Imam Bukhari and Muslim from Abu Hurairah, namely: "None of you should urinate in still water then bathe in it." The behavior of throwing garbage carelessly into the sea or anywhere is clearly a bad behavior and a sin because it is prohibited in Islamic teachings. Besides because Islam loves cleanliness, this kind of behavior can also damage the environment. This is explained in the verses of the Qur'an that damage on the face of the earth both at sea and on land is due to human actions. This topic may not have been discussed specifically, but it's often discussed the importance of environmental protection. This is especially true when it's linked to the importance of cleanliness. As we know, the most important and fundamental issue taught in Islam is purity and cleanliness. The Indonesian Ulema Council (MUI) in Bone conducts numerous outreach and outreach activities within the community, including in coastal areas.<sup>38</sup>

It is also important to emphasize the role of Muslim families in educating children about environmental ethics. This includes understanding how the integration of Islamic values such as *amanah* (trust), *khilafah* (caliphate), and *tauhid* (monotheism) by Muslim parents can effectively instill pro-environmental awareness and behavior in children. Furthermore, it can be emphasized that in Islam, environmental preservation is a shared responsibility not only for Muslim women, but also for children. This approach demonstrates a high level of ecological awareness and proactive behavior in ecological conservation.

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<sup>37</sup>Interview with Prof. Dr. Ruslan Sangaji, a lecturer at IAIN Bone and MUI Bone members, June 25, 2025.

<sup>38</sup>Interview with Dr. Abd. Hakim, a lecturer at IAIN Bone and MUI Bone members, June 25, 2025.

However, challenges such as a lack of knowledge and resources, as well as differences in cultural and geographical contexts, affect the effectiveness of this education. This study concludes that support from formal educational institutions and the community is needed to strengthen environmental education at home. With the right approach and adequate support, environmental education based on Islamic values has excellent potential to shape a generation that cares about the environment.<sup>39</sup>

Therefore, in the future, efforts are needed to integrate Islamic education with environmental sustainability, offering a religion-based education model that aligns with national priorities and global sustainability goals. Environmental education needs institutional support, integration of environmental themes into Islamic education, and alignment with cultural-religious values. In the Islamic context, the application of *fiqh al-bī'ah*, which is dominant theoretically, must continue to be carried out.<sup>40</sup> Therefore, inter-institutional collaboration, leadership involvement, teacher capacity development, community participation, especially the Muslim women's community through religious studies will greatly support environmental preservation, especially waste management. So that the environment will be maintained and its benefits can be enjoyed by the wider community.

## Conclusion

Muslim women, as integral members of the smallest societal unit—the family play a pivotal role in fostering environmental awareness and managing domestic waste responsibly, particularly in coastal areas. Through active involvement in religious study groups (*pengajian*) and socialization programs on Islam and environmental conservation, their knowledge and positive attitudes toward the environment are significantly enhanced. Islamic teachings emphasize the importance of cleanliness (*taharah*) and environmental stewardship (*khalifah*) as acts of worship, motivating Muslim women to implement sustainable waste management practices in their households and communities. Muslim women who understand both national regulations and Islamic principles regarding environmental preservation are more likely to integrate these values into their daily lives. By educating their families and inspiring other households, they collectively contribute to cleaner seas and sustainable ecosystems. Proper waste management, aligned with Islamic teachings, not only addresses ecological

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<sup>39</sup> Afif Alfiyanto, et.al., "The Role of Muslim Families in Children's Education on Environmental Ethics," *Kartika: Jurnal Studi Keislaman* 4, No. 1 (2024), p. 102-119.

<sup>40</sup> Abd. Aziz Rekan and Mohd Istajib Mokhtar, "The Development of Eco-Tahfiz In Malaysia: Bridging Islamic Education and Environmental Sustainability," *Ulumuna: Journal of Islamic Studies* 29, No. 1 (2025). Sukarni Sukarni and Hafini bin Mahmud, "Development and Concept of Environmental Fiqh in the Works of Banjar Scholars: Historical and Thought Analysis," *Syariah: Jurnal Hukum dan Pemikiran* 24, No. 1 (2024).

challenges but also reflects a tangible form of worship to Allah SWT. This highlights the vital role of Muslim women in realizing sustainable development goals through faith-driven environmental responsibility.

## References

### Journals and Book

- Abubakar, Ismaila Rimi, et.al., “Environmental Sustainability Impacts of Solid Waste Management Practices in the Global South.” *International Journal of Environmental Research and Public Health* 19, October 1, (2022). DOI:10.3390/ijerph191912717.
- Acim, Subhan Abdullah and Suharti Suharti, “The Concept of Fiqh al-Bī’ah in the Qur’an: A Study of the Quranic Verses on Environment in the Ulama’s Views of Lombok,” *Ulumuna: Journal of Islamic Studies* 27, No. 1 (2023). DOI: <https://doi.org/10.20414/ujis.v27i1.694>.
- Alfiyanto, Afif, et.al., “The Role of Muslim Families in Children's Education on Environmental Ethics,” *Kartika: Jurnal Studi Keislaman* 4, No. 1 (2024). DOI:10.59240/kjsk.v4i1.61.
- Agustina, Arifah Millati. “The Development of Maqasid Al Shari’a on The Role of Women in Environmental Conservation.” *Musawa* 22 , No. 1, 2023).
- Anggraini, Nani, et.al., “Model of Solid Waste Management (SWM) in Coastal Slum Settlement: Evidence for Makassar City.” *Nature Environment and Pollution Technology* 20, no. 2 (2021).
- Arundati Shinta. *Memuliakan Sampah Konsep Dan Aplikasinya Di Dunia Pendidikan Dan Di Masyarakat*. 1st ed. Yogyakarta: Deepublish, 2019.
- Asmal, Idawarni, Muhammad Akbar Walenna, Wadzibah Nas, and Ridwan. “Application of Local Wisdom in Handling Waste in Coastal Settlements as an Effort to Minimize Waste Production.” *Environmental and Sustainability Indicators* 19, No. 1 2023).
- Bahagia, *Hak Alam Dan Hukum Lingkungan Dalam Islam*. 1st ed. Yogyakarta: SUKA-Press, 2013.
- Cialdini, Robert B., et.al., “A Focus Theory of Normative Conduct: Recycling the Concept of Norms to Reduce Littering in Public Places.” *Journal of Personality and Social Psychology* 58, No. 6 (1990). DOI:10.1037/0022-3514.58.6.1015.
- De Oliveira, Andréa L., and Alexander Turra. “Solid Waste Management in Coastal Cities: Where Are the Gaps? Case Study of the North Coast of São Paulo, Brazil.” *Journal of Integrated Coastal Zone Management* 15, no. 4 (2015).
- Duraesa, M. Abzar, “Modern World and the Trend of Human Religiosity: An Overview of Theological Perspective,” *Borneo International Journal of*

Suriani Nur, et.al.

DOI: 10.22373/qch2xb28

- Islamic Studies* 1, No. 1 (2018). DOI: <https://doi.org/10.21093/bijis.v1i1.1391>.
- Herman Khaeron, *Islam, Manusia, Dan Lingkungan Hidup*. 2nd ed. Bandung: Penerbit Nuansa Cendikia, 2019.
- Imamulhadi, et.al., "Customary Environmental Law and its Transformation Models in Indonesia," *Cogent Social Sciences* 11, No. 1 (2025). <https://doi.org/10.1080/23311886.2025.2514680>.
- Latif, Muhaemin, et.al., "Environmental Theology and Its Relevance to Islamic Law: Perception of Makassar Muslim Scholars, Indonesia," *Samarah: Jurnal Hukum Keluarga dan Hukum Islam* 7, No. 3 (2023). DOI: <https://doi.org/10.22373/sjkh.v7i3.18905>.
- Le Duc, Anthony, "Responsibility as a Primary Environmental Virtue in Islam," *Asian Journal of Philosophy and Religion* 2, No. 1 (2023). DOI:10.55927/ajpr.v2i1.4821.
- Malik, Ihyani, et.al., "Gender Analysis in the Islamic Law-Based Ecofeminism Movement for Ecosystem Protection," *El-Mashlahah* 15, No. 1 (2025). DOI: <https://doi.org/10.23971/el-mashlahah.v15i1.9040>.
- Nandi Nandi, "Coastal conservation policies and integrated coastal zone management (ICZM) in Indonesia," *International Journal of Conservation Science* 5, No. 3 (2014).
- Nur, Suriani, "Meningkatkan Partisipasi Dalam Pembangunan Lingkungan Hidup," *An-Nisa* 10, No. 1 (2017). DOI: <https://doi.org/10.30863/an.v10i1.388>.
- Nur, Suriani Nur, et.al., "Peran Perempuan Dalam Upaya Mitigasi Bencana Perubahan Iklim," *An-Nisa* 17, No. 1 (2024). DOI: <https://doi.org/10.30863/an.v17i1.6730>.
- Pramono, Agus Joko, et.al., "Impacts of Family Entities on Environmental Disclosure: Examining The Mediating Role of Earnings Management and Board Independence," *Cogent Social Science* 9, No. 2 (2023). DOI:10.1080/23311886.2023.2261233.
- Qamar, Syamsul, "Peran Perempuan Dalam Pelestarian Lingkungan Hidup Menurut Tinjauan Islam." *Al-Maiyyah* 7, No. 1 (2014).
- Rekan, Abd. Aziz and Mohd Istajib Mokhtar, "The Development of Eco-Tahfiz In Malaysia: Bridging Islamic Education and Environmental Sustainability," *Ulumuna: Journal of Islamic Studies* 29, No. 1 (2025). DOI: <https://doi.org/10.20414/ujis.v29i1.1431>
- Rozikin, Mochammad, et.al., "The Coastal Community Empowerment in Indonesia as Sustainable Development," *International Journal of Religion* 5, No. 11 (2024). DOI:10.61707/vxaxhb26.
- Sudradjat, *Mengelola Sampah Kota*. 1st ed. Vol. 1. Jakarta: Penebar Swadaya, 2006.

Suriani Nur, et.al.

DOI: 10.22373/qch2xb28

- Sukarni Sukarni and Hafini bin Mahmud, "Development and Concept of Environmental Fiqh in the Works of Banjar Scholars: Historical and Thought Analysis," *Syariah: Jurnal Hukum dan Pemikiran* 24, No. 1 (2024). DOI: <https://doi.org/10.18592/sjhp.v24i1.12906>.
- Sugiyono. *Metode Penelitian Kombinasi (Mixed Methods)*. 7th ed. Bandung: Alfabeta, 2015.
- Tamu, Yowan, et.al., "Epistemic Exclusion and Marine Resource Governance: The Case of the Bajo Community in Torosiaje, Indonesia," *Jurnal Ilmiah Peuradeun* 13, No. 2 (2025). DOI: <https://doi.org/10.26811/peuradeun.v13i2.2281>.
- Wardhana and Ridhwan, "Pendidikan Islam Berwawasan Lingkungan Hidup Pada Madrasah Ibtidaiyah Di Bone Sulawesi Selatan," *Mudarrisuna* 9, No. 1 (2019). DOI: <https://doi.org/10.22373/jm.v9i1.4844>.
- Widiatedja, I Gusti Ngurah Parikesit and I Gusti Ngurah Wairocana, "The Lack of the Environmental Concern in Indonesia's Bilateral Investment Treaties," *Hasanuddin Law Review* 3, No. 3 (2017). DOI: 10.20956/halrev.v3i3.1202

### Internet Data

- Hisyam Khalid. "Pengelolaan Sampah Di Negara-Negara Maju." *Indonesia Environment and Energi Centre*. <https://environment-indonesia.com/pengelolaan-sampah-di-negara-negara-maju/>, Accessed October 11, 2024.
- Ilham, "Peduli Lingkungan Berkelanjutan, 'Aisyiyah Jalin Kolaborasi Dengan Berbagai Pihak.'" <https://muhammadiyah.or.id/2023/11/peduli-lingkungan-berkelanjutan-aisyiyah-jalin-kolaborasi-dengan-berbagai-pihak/>. Accessed October 11, 2024.
- Kementerian Lingkungan Hidup dan Kehutanan. Direktorat Jenderal Pengelolaan Sampah, Limbah dan B3. Direktorat Penanganan Sampah. "Capaian Kinerja Pengelolaan Sampah." *SIPSN 2024*. <https://sipsn.menlhk.go.id/sipsn/public/regulasi>. Accessed October 11, 2024.
- Mita Defitri. "Sampah Di Singapura: Pengelolaan Di Wilayah Sempit Dan Satu TPA." *Waste 4 Change*. <https://waste4change.com/blog/sampah-di-singapura-pengelolaan-di-wilayah-sempit-dan-satu-tpa/>. Accessed October 12, 2024.
- Morgan Stanley. "Marine Debris." *National Geographic* (n.d.). <https://education.nationalgeographic.org/resource/marine-debris/>. Accessed October 12, 2024.
- NU Online. "Muslimat NU Tangani Sampah Dan Lingkungan Sumber: <https://Nu.or.Id/Nasional/Muslimat-Nu-Tangani-Sampah-Dan-Lingkungan-JoWlc> \_\_\_ Download NU Online Super App, Aplikasi

Keislaman Terlengkap! [Https://Nu.or.Id/Superapp](https://Nu.or.Id/Superapp) (Android/IOS).”  
[Https://Nu.or.Id/](https://Nu.or.Id/).

Sekretariat Nasional SDGs. “17 Tujuan Untuk Mengubah Indonesia Agenda 2030 Untuk Pembangunan Berkelanjutan.”

[Https://Sdgs.Bappenas.Go.Id/Literasi/](https://Sdgs.Bappenas.Go.Id/Literasi/).

## **Interviews**

Interview with Andi Nuramnah, Environmental Service Staff and waste bank builder, Bone Regency, August 25, 2022

Interview with Azizah, Tanete Riattang Timur, KUA Extension Officer and Environmentalist, Bone Regency, August 26, 2022

Interview with Dr. Abd. Hakim, a lecturer at IAIN Bone and MUI Bone members, June 25, 2025.

Interview with Kiki Amelia, Coastal Area Communities Bajoe, Bone Regency, August 8, 2022.

Interview with Nirwana, Coastal Area Communities Bajoe, Bone Regency, January 9, 2022

Interview with Prof. Dr. Ruslan Sangaji, a lecturer at IAIN Bone and MUI Bone members, June 25, 2025.

Interviews with the Bajoe Coastal Community of Bone Regency, Bajo Tribe, January 9, 2022.