



Implementation of the Caliphate Values in Tidal Flood Mitigation in Sayung District: An Environmental Ethics Approach Based on the Qur'an

Zulfa Amalia^{1*}, Mokh. Sya'roni²

^{1,2}UIN Walisongo Semarang

* zulfamalia234@gmail.com

Abstract. *This study aims to analyze the application of the concept of khalifah in tidal flood (rob) mitigation in Sayung District, Demak Regency, using the Living Qur'an approach as an environmental ethics foundation. The main focus of this research is to understand how the concept of khalifah is integrated into community-based mitigation practices to address the increasingly severe issue of rob. This study employs a descriptive-analytical qualitative method, with data collected through in-depth interviews with religious leaders, village officials, and affected residents, as well as direct observation of mitigation actions. The findings show that the value of khalifah, which emphasizes human responsibility as stewards of the earth, is implemented through collective actions such as community cooperation, mangrove planting, and housing adaptation. The study also provides recommendations for integrating religious values into the planning of community-based disaster mitigation policies in coastal areas.*

Keywords: tidal flooding; Sayung, Demak; khalifah; Living Qur'an

Abstrak. *Penelitian ini bertujuan untuk menganalisis penerapan nilai khalifah dalam mitigasi banjir rob di Kecamatan Sayung, Kabupaten Demak, dengan menggunakan pendekatan Living Qur'an sebagai dasar etika lingkungan. Fokus utama penelitian ini adalah untuk memahami bagaimana konsep khalifah diintegrasikan dalam praktik mitigasi berbasis komunitas untuk mengatasi masalah rob yang semakin intensif. Penelitian ini menggunakan metode kualitatif deskriptif-analitis, dengan pengumpulan data melalui wawancara mendalam dengan tokoh agama, perangkat desa, serta masyarakat terdampak, serta observasi langsung terhadap tindakan mitigasi yang dilakukan. Hasil penelitian menunjukkan bahwa nilai khalifah, yang menekankan tanggung jawab manusia sebagai pengelola bumi, diimplementasikan dalam bentuk tindakan kolektif seperti gotong royong, penanaman mangrove, serta adaptasi rumah. Penelitian ini juga memberikan rekomendasi untuk mengintegrasikan nilai-nilai keagamaan dalam perencanaan kebijakan mitigasi bencana berbasis masyarakat di wilayah pesisir.*

Kata kunci: Banjir rob; Sayung Demak; khalifah; Living Qur'an

INTRODUCTION

Tidal flooding along the coastal area of Demak Regency, particularly in Sayung District, has become a serious environmental issue. This phenomenon not only damages physical infrastructure but also has

widespread impacts on the social and economic lives of the community. In recent decades, tidal flooding has grown more severe, damaging farmland and homes while endangering the livelihoods of local communities, particularly farmers and fishermen. Previous research data indicate that tidal flooding has significantly disrupted employment, housing conditions, and public health in the coastal areas of Demak, with approximately 62.32% of residents experiencing physical health problems due to tidal flooding and 69.59% reporting negative impacts on their work.(Setiawan, 2022).

The main causes of this tidal flooding are a combination of natural factors and human activities. Sea level rise, land subsidence, and climate change leading to increased rainfall are natural factors that further exacerbate the situation. (Husnul Amin, 2018) . However, there are human factors like residential building, beach reclamation, and uncontrolled exploitation of natural resources, also worsen the situation. These activities cause ecological damage that increases its vulnerability to natural disasters.

Tidal flooding is also closely related to issues of health and quality of life. Prolonged inundation can produce unpleasant odors, carry waste, and increase the risk of certain health problems. During periods of severe flooding, many residents are compelled to modify their daily routines and limit or reschedule essential activities due to unsafe and inaccessible conditions. They often need to change their usual mobility patterns, relying on alternative routes, different modes of transportation, or waiting for water levels to recede before traveling. In more extreme situations, some residents are forced to temporarily evacuate their homes and seek shelter in safer areas to protect themselves, their families, and their belongings from escalating risks and potential harm.. Therefore, more holistic solutions are needed—ones that are not only technical in nature but also incorporate moral and spiritual values in disaster mitigation efforts, particularly those grounded in religious teachings.

In the context of a religious society, studies on tidal flood mitigation can be enriched through an environmental ethical framework grounded in the teachings of the Qur'an. The principle of *khalifah* positions human beings as trustees entrusted with the responsibility to manage the earth in a responsible manner, not merely to exploit it. This research links that framework to verses related to stewardship, including Al-Qur'an Surah Al-An'ām [6]:165, which affirms that humans are appointed as *khalā'if* (successors or stewards) on

earth, as well as Surah Ṣād [38]:26, which emphasizes the dimensions of justice and trust. Meanwhile, Surah Fāṭir [35]:39 underscores human responsibility as stewards on earth. A similar affirmation is found in Surah Yūnus [10]:14, which states that humans were made successors on earth after previous generations so that their actions may be observed and evaluated. (Mawani et al., 2025).

This research aims to explore how the values of the Al-Qur'an particularly those related to the concept of *khalifah* (stewardship), can be integrated into tidal flood mitigation practices in the coastal areas of Demak. By employing a Living Qur'an approach, this research seeks to analyze how coastal communities in Demak internalize and implement the teachings of the Qur'an in their concrete actions to protect their environment, as well as how the concept of *khalifah* can encourage positive social and ecological transformation.

The handling of tidal flooding is often discussed in terms of technical solutions (such as embankments, drainage systems, road elevation, normalization, and ecosystem rehabilitation). For example, studies indicate that the coastal areas of Demak have experienced an increase in the frequency of tidal flooding due to a combination of sea level rise and land subsidence, while also emphasizing the importance of ecosystem-based mitigation measures such as mangrove rehabilitation and coastal spatial planning. However, these studies have not specifically highlighted the role of religious values as a source of social motivation in the implementation of mitigation efforts. Putiamini et al (2022) highlight that the social vulnerability of coastal communities to tidal flooding is influenced by economic factors, environmental education, and access to information; (Nur et al., 2025) show that Islamic principles such as *khalifah* (stewardship) and *amanah* (trust) can be incorporated into religious movements as a means of advancing climate justice. At the same time, Hajar highlights the critical role of Islamic education in reinforcing sustainability values and fostering greater environmental responsibility among communities; (Rahmawati dan Aulia 2021) also examine the impact of climate change on the increasing frequency of tidal flooding and recommend the use of nature-based solutions, such as coastal ecosystem restoration, to reduce the resulting damage.; and (Ahmad Shukor et al., 2024) further expand this discussion to the dimension of coastal economic policy based on the framework of *maqāṣid al-syari'ah*. This

collection of studies confirms that religious values can serve as a powerful “social engine” that motivates and supports ecological awareness and environmental action within communities. However, these discussions do not always directly address the specific context of tidal flooding in Demak, leaving a gap in understanding how such religiously grounded frameworks operate in areas facing recurrent coastal inundation..

Although those studies gave a technically solution regarding tidal flood mitigation, this research is giving a new contribution that has more focused to the spirituality and social dimension of disaster mitigation. In contrast to previous studies, which have largely emphasized technology-based solutions and physical policy measures, this research integrates religious values—particularly the concept of *khaliifah* in the Al-Qur'an—as an ethical foundation for environmental management.

The novelty of this study lies in the integration of the Living Qur'an approach with disaster mitigation efforts. The Living Qur'an approach enables researchers to explore how the verses of the Al-Qur'an are internalized and applied by communities within their social context—not merely as texts to be read, but as guiding principles translated into concrete actions. This research also contributes a novel perspective by exploring how coastal communities can respond to ecological disasters, such as tidal flooding, in ways that are consistent with their religious beliefs and ethical principles. By aligning environmental responses with values that are already deeply rooted in the community's cultural and spiritual life, this approach has the potential to enhance local engagement, reinforce moral responsibility toward nature, and ultimately strengthen ecological awareness and resilience at the grassroots level.

The method that was used in this study is a qualitative approach with a descriptive research type. A descriptive qualitative method was chosen because the study aims to provide an in-depth portrayal of how the value of *khaliifah* is implemented in tidal flood mitigation efforts carried out by the community in Sayung District, Demak Regency (Sugiyono, 2019). This study is also uses data collection technique through in-depth interview with religious figures, official villages, and society directly involved in environmental mitigation activities Furthermore, direct observation of the mitigation practices implemented by the community forms a crucial component of this study, as it seeks to evaluate how far the values of the Al-

Qur'an are translated from ethical principles into tangible, everyday actions. This approach allows the research to examine not only the community's stated beliefs, but also how those beliefs are reflected in practical efforts to respond to environmental challenges, particularly in the context of tidal flooding and local adaptation strategies.

The findings of this research are expected to deepen understanding of the role of religion in strengthening disaster mitigation, particularly within coastal contexts. Through the analysis of mitigation practices grounded in Qur'anic values, the study aims to provide recommendations for local governments to integrate environmental ethics into the planning and implementation of disaster mitigation strategies. Furthermore, the research findings may serve as a reference for educational institutions and religious organizations in designing literacy programs and environmental awareness initiatives rooted in Islamic teachings.

The impact of this research is expected to extend beyond theoretical discussions of the concept of *khalifah*, offering practical contributions to coastal disaster mitigation efforts. It may support coastal communities in Demak, as well as those in other regions facing similar environmental challenges, in developing mitigation strategies that go beyond purely technical or structural solutions. By incorporating ethical and religious perspectives, this approach can help reinforce the community's role as *khalifah*, encouraging a sense of responsibility to protect, manage, and preserve the earth while fostering more sustainable & morally grounded responses to ecological threats.

Accordingly, this study focuses on the implementation of the *khalifah* value in tidal flood mitigation in Sayung District, Demak Regency. Its primary objective is to explore the role of coastal communities as *khalifah* in managing and preserving their coastal environment, and to examine how Qur'anic values—particularly those related to the concept of *khalifah*—are translated into concrete actions in mitigating tidal flooding.

RESULT AND DISCUSSION

The Meaning of Tidal Floods for the Coastal Communities of Sayung

For the coastal community of Sayung, tidal flooding is not simply interpreted as inundating seawater, but rather a recurring ecological condition

that shapes the way residents live their daily lives. Observational findings show that tidal flooding has become a frequent and recurring occurrence; during certain periods of high tide, it can happen almost every day. As a result, it is no longer perceived by residents as a temporary or seasonal phenomenon, but rather as a routine and ongoing problem that forms part of their everyday reality. This constant presence of inundation affects mobility, work patterns, and household activities, reinforcing the perception that tidal flooding is a persistent environmental condition rather than an occasional disruption. This sense of familiarity does not mean that tidal flooding is considered minor; rather, it indicates that residents are compelled to develop repeated patterns of adaptation in order to continue working, attending school, and carrying out daily activities amid persistent inundation. (Diana et al., 2024).

The meaning of tidal flooding also intersects with physical and mental health. And intersects with the dimension of physical and psychological health too. A study by Asrofi, Giyarsih, and Hadmoko showed that tidal flooding directly impacts physical health (62.32%), employment (69.59%), and housing/property (65.43%), while indirect impacts, including mental health disorders, were reported to be quite high (Asrofi et al., 2025). In line with field findings through questionnaires that confirm the existence of health risks due to exposure to dirty stagnant water as well as a decrease in the quality of life and well-being, tidal flooding can be understood as a layered pressure that works simultaneously: the need for health costs, repairs/maintenance of housing and the environment, and reduced productivity have increased, and also increasing psychological burdens due to recurring patterns of events and the uncertainty of when flooding will occur again.

From the standpoint of historical experience and spatial transformation, interview findings reveal that tidal flooding is understood by residents as a phenomenon that has progressively expanded over time. In Sriwulan Village, for example, community members recount that tidal flooding has been occurring for several decades. Since around 1985, floodwaters began to overflow onto major roads, disrupting transportation and daily mobility. Over the past ten years, the situation has worsened significantly, with inundation increasingly reaching residential areas and affecting homes more directly. Residents also link the growing severity of

flooding to infrastructural developments and changes in local hydrological patterns, particularly the closure of several river channels associated with toll road construction, which they believe has altered natural water flows and reduced drainage capacity, thereby intensifying the extent and duration of inundation.

For religious society, tidal flood is not just meant as a “disaster”, but also as an incident that is bringing up moral-ecological reflection as well as communal solidarity. Survey results indicate that tidal flooding is perceived as a “warning” of declining environmental quality, associated with low environmental awareness, poorly managed development, and excessive exploitation. Interviews with religious leaders further reinforce this interpretation. One religious figure stated “For us, tidal flooding is a test from Allah. We believe that every disaster is both a warning and an opportunity for self-improvement. Therefore, we regularly hold *istighosah* (collective prayers) and pray together as an expression of gratitude and hope that Allah will lessen this calamity. However, we also understand that spiritual effort alone is not enough. We must also take practical steps to reduce the impact of tidal flooding, such as elevating our houses and repairing clogged drainage channels.” This perspective reflects a balanced understanding between spiritual reflection and practical action in responding to environmental challenges.

At this moment, it shows socio-religious responses like *istighosah* which function to strengthen togetherness; meanwhile, at the same time it is also emphasized that spiritual endeavors need to be accompanied by practical actions, such as housing adaptation and infrastructure support. At this point, the flood is interpreted as a test that encourages a combination of spirituality, collective action, and demands for more responsible policies.

The Concept of the *Khalifah* as the Ethical Basis for Mitigating Rob

The concept of *khalifah* can be positioned as an ethical foundation for tidal flood mitigation, as it embodies the principle of human responsibility as stewards of the earth while providing a moral standard to assess whether coastal management is conducted in a just, balanced, and sustainable manner. Within this framework, tidal flood mitigation is not understood merely as a technical or infrastructural matter, but as an environmental management practice inseparable from religious trust (*amanah*): preventing damage,

preserving the carrying capacity of ecosystems, and ensuring the sustainability of present and future generations.

Theoretically, the research document emphasizes that the term *khalifah* refers to a mandate to “succeed, manage, and lead,” requiring humans to prosper the earth (*'imārat al-ard*) while maintaining the balance of creation. This understanding is grounded in verses of stewardship in the Al-Qur'an, including Surah Al-An'ām [6]:165, Surah Yūnus [10]:14, Surah Fāṭir [35]:39, and Surah Ṣād [38]:26. These verses are framed as an ethical foundation that connects theological dimensions with ecological action, making them relevant for interpreting tidal flood mitigation as a moral and spiritual responsibility rather than merely a pragmatic response to disaster (Syauqiah et al., 2025).

QS. Al-An'ām [6]:165

In the interpretation of *Al-Jalalayn*, this verse explains that Allah made humans as *khalifah* on earth with the aim that they manage the earth with full responsibility. The concept of *khalifah* here isn't just about being a leader; it's about being a steward who is truly responsible for the balance of nature. As a *khalifah*, humanity has been handed a mandate to care for the Earth and everything in it, our environment and its delicate ecosystems included. In this interpretation, *Al-Jalalayn* emphasizes that this role demands wise and sustainable management. It's not just about what we can take from nature for our own benefit, but about ensuring that the natural world remains balanced, healthy, and preserved for the future.

This interpretation is highly relevant to tidal flood mitigation practices, where humans, as *khalifah*, are expected to act wisely in preserving coastal environments. One concrete action that can be taken is to manage the ecosystem sustainably, such as planting mangroves, managing waste, and improving infrastructure that does not damage nature. The concept of *khalifah* also emphasizes collective responsibility. It encourages people to work together to maintain ecological balance, rather than relying solely on technical fixes. Environmental ethics grounded in sustainability must accompany structural solutions. Therefore, in the context of tidal flood mitigation, the role of *khalifah* becomes essential. It ensures that the measures taken are not merely short-term responses, but part of a long-term commitment to protecting and sustaining the coastal environment and its ecosystems.

QS. Yūnus [10]:14

The *Tafsir al-Jalalayn* reinforces that as *khalifahs* on this Earth, humans are expected to act with excellence and maintain the world with a sense of justice. It explains that our duty isn't just to manage the Earth's resources, but to ensure that this management is done fairly, without causing harm to the natural world. This perspective emphasizes that every decision made by a steward must prioritize environmental sustainability and the well-being of all living beings that depend on it. In the context of tidal flood mitigation, this means that any effort to tackle the issue must be rooted in ecological justice. We must ensure that our actions aren't just serving the interests of a few, but are benefiting the community as a whole—especially those who are most vulnerable and directly impacted by the disaster.

In his commentary, *Al-Qurtubi* points out that as *khalifahs*, humans are entrusted with the responsibility to care for the Earth with absolute justice. This means that as stewards of the planet, we are accountable for protecting our natural resources and ensuring that the way we use them today doesn't rob future generations of their own needs. This concept is directly linked with the flood mitigation, which the policies and strategies taken to address tidal flooding must reflect social and environmental justice. Coastal spatial planning, ecosystem protection, and infrastructure development must take into account the long-term impacts on coastal communities and existing ecosystems. Justice in the context of tidal flood mitigation means ensuring that no one is marginalized or unfairly burdened by the policies being implemented. It's about making sure that the solutions we choose don't come at the expense of the vulnerable, ensuring that every voice is heard and no one is left behind in our effort to protect the coast.

QS. Šād [38]:26

The *Tafsir al-Jalalayn* highlights that the core duty of a *khalifah* is to lead with the principle of justice while safeguarding the Earth and everything within it. According to this commentary, we carry a moral weight to ensure that our management of the planet is balanced and does not come at the expense of nature itself. This concept implies that every decision made must be rooted in fairness not just in how we treat one another, but in how we interact with our environment. Therefore, when it comes to tidal flood mitigation, any policy put in place must look at the broader ecological picture. It's a reminder that we shouldn't just focus on "hard" physical infrastructure

or development; we must also prioritize the preservation of nature and the delicate balance of our coastal ecosystems.

Next, *Ibnu Kathir* adds in his commentary that a *khalifah* is tasked with managing all things with justice and that includes how we use the Earth's natural resources. *Ibnu Kathir* emphasized that as *khalifah*, humans must ensure that the use of nature does not disrupt the ecological balance and that the rights of all living creatures are respected. This principle of justice is essential because environmental management should not be evaluated solely based on short-term gains, but also on its implications for sustainability and the well-being of future generations. In the context of tidal flood mitigation, this implies that policies must extend beyond technical measures and ensure that their benefits are distributed equitably among coastal communities, thereby preventing social and ecological disparities (Fauziah et al., 2025).

Accordingly, this verse teaches that policies addressing tidal flooding should uphold ecological justice prioritizing balance and environmental preservation rather than favoring a single group or sector. As stewards of the earth, humans must avoid policies that benefit only a small number of stakeholders while potentially harming the environment or neglecting affected communities. In practice, this implies that every mitigation measure should be inclusive, carefully considering its impact on all parties involved. The steps taken must be sustainable, equitable, and designed not to exacerbate existing ecological damage, but instead to strengthen long-term environmental resilience.

QS. Fāṭir [35]:39

Tafsir *Al-Jalalayn* explains that the verse highlights the role of human beings as *khalifah* on earth—entrusted with the responsibility not only to utilize natural resources, but also to preserve and sustain them. According to this interpretation, stewardship goes beyond benefiting from the earth's provisions; it requires maintaining ecological balance so that nature can continue to serve future generations. From this perspective, the *khalifah* is understood as a steward responsible for ensuring the sustainability of natural resources and maintaining environmental balance. This emphasis on preservation is particularly relevant to tidal flood mitigation, where humans are expected to play an active role in protecting and sustaining coastal ecosystems that support life.

In his commentary, *Al-Tabari* added that the *khalifah* is entrusted with

the responsibility of maintaining the Earth's balance and well-maintained resources for future generations. This duty includes sustainable management of natural resources and ensuring the long-term viability of existing ecosystems. *Al-Tabari* stresses that stewardship requires awareness of the consequences of exploiting natural resources, ensuring that such use does not result in lasting environmental damage. In the context of tidal flood mitigation, this perspective implies that responses to flooding should prioritize sustainable measures—such as protecting coastal vegetation, planting mangroves, and managing infrastructure in ways that strengthen coastal resilience against ecological disasters.

This perspective is highly relevant to tidal flood mitigation efforts, as preserving coastal ecosystems and preventing further environmental degradation form an essential part of the *khalifah's* responsibility to ensure that the earth remains capable of sustaining human life in the future. Through sustainable coastal management, such as planting mangroves to strengthen shoreline and protecting coastal vegetation that serves as a natural buffer, communities can reduce the impact of the tidal flooding and enhance resilience to ecological disasters. Therefore, the concept of *khalifah* in this verse teaches that tidal flood mitigation is not merely a technical issue, but also a moral and spiritual commitment to safeguarding environmental sustainability as part of humanity's entrusted role as stewards of the earth. (Kholil, 2024).

Implementation of the Caliphate Values in Community-Based Mitigation Practices

Implementation of the *khalifah* values in community-based tidal flood mitigation can be understood as a process when the mandate to protect earth translated as a real good collective action as environmental maintenance, strengthening socio-religious solidarity, and strategies of household adaptation. Within the framework of the Living Qur'an, Qur'anic values transcend mere textual interpretation; they manifest vividly in social behavior, daily habits, and community traditions. These values becomes a living response to pressing ecological threats, such as tidal flooding. (Sayuti et al., 2024).

At the household level, the result that came from interviews shows that physical adaptation of the dwelling becoming the most practical and

immediate form of mitigation. For example, raising the house so that it can still be inhabited even when there is flooding. This adaptation practice demonstrates a survival orientation born from repeated flooding experiences, while emphasizing that community-based mitigation is not always large-scale, but comes from domestic decisions for maintaining family survival. However, the interview findings also highlight the stark limitations of individual adaptation. When tidal floods reach critical levels ranging from half a meter to over a meter high temporary displacement often becomes unavoidable. This reality underscores that while individual efforts are vital, effective mitigation still demands much stronger structural support.

What is characteristic of the context of religious communities is the presence of a socio-spiritual dimension as part of community mitigation. Interview findings indicate that *istighosab* (collective prayer) is practiced as a form of spiritual effort as well as a means of strengthening community solidarity in facing tidal flooding. This practice is not positioned as a substitute for technical measures, but rather operates alongside practical actions such as using water pumps or installing generators to drain inundated areas. From the perspective of khalifah values, this pattern shows that responsibility for the environment is closely connected to togetherness within the community. People strengthen their social bonds through religious practices, while at the same time taking real actions to reduce risks and lessen the impact of tidal flooding. (Falahuddin, 2020).

The integration of the four verses on stewardship (*khalifah*) in tidal flood mitigation can be understood as an effort to position the Al-Qur'an not merely as a normative reference, but as an ethical framework that guides how communities and governments interpret the causes of tidal flooding, determine response strategies, and evaluate the sustainability of their actions. The four verses employed QS. Al-An'ām [6]:165, QS. Yūnus [10]:14, QS. Şād [38]:26, and QS. Fāṭir [35]:39 collectively construct a coherent value framework: the trust (*amanah*) of managing the earth, accountability for human actions, justice in decision-making, and the mandate to cultivate and sustain the earth responsibly over the long term. (Izza, 2019). This series is in line with the research direction that places the concept of the caliphate as an ethical basis for reading the relationship between humans and the environment while assessing mitigation practices at the local level.

وَهُوَ الَّذِي جَعَلَكُمْ خَلَائِفَ الْأَرْضِ وَرَفَعَ بَعْضَكُمْ فَوْقَ بَعْضٍ دَرَجَاتٍ لِيَبْلُوكُمْ فِي مَا آتَاكُمْ ۗ إِنَّ رَبَّكَ سَرِيعُ الْعِقَابِ وَإِنَّهُ لَغَفُورٌ رَحِيمٌ

“And it is He who has made you rulers (*khalifah*) on earth and He exalted some of you above others several degrees, to test you regarding what He gave you. Indeed, your Lord is very quick in his punishment, and indeed He is Most Forgiving, Most Merciful.”

This verse was revealed as a response to the denial of the people who did not carry out their mandate as caliphs properly, and destroyed the earth and its contents. In the context of tidal flood mitigation, this verse serves as a reminder that environmental degradation can stem from human negligence in caring for the earth. Therefore, the role of humans as *khalifah* is to manage and protect the earth wisely—preventing further damage and addressing the harmful impacts caused by activities that disrupt and degrade ecosystems.

In Surah Al-An‘ām [6]:165, the role of the *khalifah* is framed as both a sacred trust and a test of what humanity has been given. It suggests that our position on Earth isn't merely a privilege, but a trial to see how we handle the resources, power, and blessings entrusted to us. In the context of the Sayung incident, this verse is relevant because the questionnaire findings show that tidal flooding is not understood as just a natural event, although it is also closely related to human activities that disrupt the balance of the coastal environment, for example, building development that does not pay attention to spatial planning and groundwater exploitation. It means, the experience of tidal flooding encourages the reading that coastal vulnerability is not neutral, but rather formed from human choices in managing space and resources.

In *Tafsir Al-Jalalayn*, this verse affirms that Allah appoints human beings as *khalifah* on earth so that they manage it with full responsibility. Al-Jalalayn explains that humans are not merely rulers or authorities on earth, but caretakers entrusted with maintaining ecological balance and refraining from abusing available resources. The concept of *khalifah* carries a responsibility (*amanah*) for humans to protect and care for the earth so that it remains safe and sustainable, including coastal ecosystems that are vulnerable to environmental change. In the context of tidal flood mitigation, this verse teaches us that as *khalifahs*, we must take full accountability for environmental degradation, especially in coastal areas. Which can worsen ecological disasters like these floods.

As stewards of the earth, the *khalifah* should take care of ecological stability and act in accordance with the principles of justice taught in the Al-Qur'an. In his commentary, *Al-Qurtubi* adds that as *khalifahs*, humans must not act solely for short-term gains. Instead, we have a responsibility to prioritize the sustainability and well-being of future generations. In the context of tidal flood mitigation, this implies that every decision must be made with a focus on the long-term impact it will have on coastal communities and the surrounding ecosystems. That is why, equitable tidal flood mitigation efforts must involve all parties, including communities, the government, and other stakeholders, to ensure that solutions can reduce the impacts of tidal flooding and increase community resilience to ecological disasters.

ثُمَّ جَعَلْنَاكُمْ خَلَائِفَ فِي الْأَرْضِ مِنْ بَعْدِهِمْ لِنَنْظُرَ كَيْفَ تَعْمَلُونَ

“Then We made you successors in the land after them so that We may observe how you will do.”

This verse was revealed in response to people who caused damage on earth and failed to carry out their responsibility as *khalifah*. In the context of tidal flood mitigation, it serves as a reminder that environmental harm caused by unfair or irresponsible management, such as development that ignores ecological sustainability can make coastal conditions even worse. Therefore, the verse calls on humanity to carry out their role as *khalifah* with responsibility and justice, particularly in safeguarding the earth from harm caused by human activities.

Tafsir Al-Jalalayn on QS. Yūnus [10]:14 emphasizes that humans, as *khalifah* on earth, bear the responsibility to act righteously and uphold justice in caring for the earth. This verse indicates that stewardship is not limited to managing natural resources, but also includes ensuring that such management is carried out with fairness and balance—for both humanity and the environment. In this sense, the *khalifah* is expected to preserve ecological and social equilibrium so that all elements of the earth can coexist harmoniously. In the context of tidal flood mitigation, this means that policies should not focus only on physical infrastructure. They also need to protect the well-being of coastal communities and ensure that the environment remains sustainable in the long term.

Surah Yūnus [10]:14 brings the dimension of accountability into sharp

focus: humanity is established as *khala'if* (successors or stewards) on the Earth specifically so that our actions can be observed and put to the test. When viewed through the lens of tidal flood (*rob*) mitigation, this message serves as a clear mandate for tangible and evaluable outcomes. It suggests that our responsibility shouldn't end with high-level discourse or academic rhetoric; instead, it demands that we produce real, measurable indicators of action that can be assessed and held to account. Questionnaire results reveal strong expectations for concrete and comprehensive government measures—such as sea embankments, river normalization, mangrove planting, pumping systems, improved drainage, and road elevation—along with an emphasis on coordination and community involvement to ensure that responses are not merely temporary. These findings highlight the need for continuous evaluation: whether the interventions genuinely reduce inundation, whether environmental maintenance is carried out consistently, and whether collaboration between government and community remains sustained over time. At the same time, The interview provides an overview of the dynamics of socio-religious endeavors such as *istighosah* which strengthens togetherness. However, it still need to be understood that it needs to run with practical endeavors like installing a water pumps and adaptation of physical housing. Nevertheless, Surah Yūnus [10]:14 provides a framework where spirituality and technical pragmatism are unified under a single evaluative logic. It suggests that faith is not just a feeling, but something that must be validated through concrete work and measurable impact.

يَدَاوُدُ إِنَّا جَعَلْنَاكَ خَلِيفَةً فِي الْأَرْضِ فَاحْكُم بَيْنَ النَّاسِ بِالْحَقِّ وَلَا تَتَّبِعِ الْهَوَىٰ فَيُضِلَّكَ عَن سَبِيلِ اللَّهِ ۚ إِنَّ الَّذِينَ يُضِلُّونَ عَن سَبِيلِ اللَّهِ لَهُمْ عَذَابٌ شَدِيدٌ مِّمَّا نَسُوا الْحِسَابَ

"[We said], "O David, indeed We have made you a successor upon the earth, so judge between the people in truth and do not follow [your own] desire, as it will lead you astray from the way of Allāh." Indeed, those who go astray from the way of Allāh will have a severe punishment for having forgotten the Day of Account."

This verse came down as a warning for leaders for not to follow their desires and make an unfair decision, because this decision could be harm for many people. In the context of tidal flood mitigation, this teaches us that every policy and decision made to address the crisis must be rooted in justice for everyone involved, especially the vulnerable coastal communities who are on the front lines of these ecological disasters. Even more, the verse serves as a

sobering reminder: any negligence in managing our natural resources or any failure to prioritize ecological balance will only accelerate environmental decay, ultimately endangering the lives of those who come after us.

QS. Şād [38]:26 conveys an important message about the duty of a *khalifah* to lead with justice and to safeguard the earth's sustainability. In *Tafsir Al-Jalalayn*, it is emphasized that a *khalifah* is responsible not only for governing, but also for maintaining ecological balance so that life on earth can continue sustainably. The verse teaches that every decision made by a *khalifah* must be grounded in justice toward both humanity and the environment. In the context of tidal flood mitigation, this implies that policies designed to address tidal flooding must consider ecosystem balance. Efforts should not focus solely on physical development, but must also protect and preserve vulnerable coastal environments from further degradation.

QS. Şād [38]:26 emphasizes justice in decision-making and warns against following personal desires. In environmental governance, this verse can be operationalized as a call for ecological justice: development policies, licensing, and resource use must not generate unequal risk or deepen the vulnerability of coastal communities. Interview findings clearly show that people associate the worsening of tidal flooding with large-scale developments such as factories and infrastructure. Respondents expressed concern that some policies and permits may not have fully considered their environmental impacts. Likewise, questionnaire results indicate that weak supervision of spatial planning and unplanned development are seen as factors that have contributed to the increasing severity of tidal flooding. Through the ethical lens of QS. Şād [38]:26, tidal flood mitigation should not focus solely on addressing surface symptoms (such as standing water), but also on restoring governance justice. This includes enforcing disciplined coastal spatial planning, regulating groundwater extraction, and upholding the precautionary principle ensuring that development decisions are not driven by short-term interests at the expense of environmental sustainability and the well-being of affected communities.

هُوَ الَّذِي جَعَلَكُمْ خَلَائِفَ فِي الْأَرْضِ ۖ فَمَنْ كَفَرَ فَعَلَيْهِ كُفْرُهُ ۖ وَلَا يَزِيدُ الْكَافِرِينَ كُفْرُهُمْ عِنْدَ رَبِّهِمْ إِلَّا مَقْتًا ۖ وَلَا يَزِيدُ الْكَافِرِينَ كُفْرُهُمْ إِلَّا خَسَارًا

“It is He who has made you successors upon the earth. And whoever disbelieves - upon

him will be [the consequence of] his disbelief. And the disbelief of the disbelievers does not increase them in the sight of their Lord except in hatred; and the disbelief of the disbelievers does not increase them except in loss."

This verse came down as a reminder for people that sustainability of the earth is a trust that has given by a God to humans. In the context of tidal flood mitigation, this verse underscores that environmentally destructive actions, such as illegal deforestation or development that ignores ecological considerations—disrupt natural balance and threaten humanity's future. Therefore, as khalifah, humans are given the responsibility to care for the earth and manage natural resources wisely, so they can continue to support all living beings and keep the planet sustainable for the future.

In QS. Fāṭir [35]:39, Allah affirms that human beings, as *khalifah* on earth, bear a profound responsibility to protect and cultivate the earth. In *Tafsir Al-Jalalayn*, it is explained that a *khalifah* is not merely a manager, but also a guardian of nature—entrusted with preserving the earth's balance so that it can continue to sustain life for future generations. In the context of tidal flood mitigation, this verse is very relevant because that is emphasized how important to maintain sustainability of nature, that is includes coastal ecosystem are often affected by ecological disasters such as tidal flooding. As a *khalifah*, humans are expected to ensure that the use and management of natural resources is carried out in a way that does not damage nature itself, but rather strengthens the earth's carrying capacity so that it becomes more sustainable.

Surah Fāṭir [35]:39 reinforces the mandate of the *khalifah*, which is best understood through the lens of *'imārat al-ard* the sacred calling to cultivate and prosper the Earth while ensuring its ecological longevity. In a very practical sense, this involves a profound obligation to protect our coastal landscapes: preserving mangrove forests, safeguarding the quality of our soil and water, and fostering a community-wide "culture of mitigation." It's an approach that moves beyond temporary fixes, focusing instead on building a way of life that is fundamentally rooted in environmental sustainability. Field findings show several actions that reflect this responsibility, such as working together to clean drainage channels, keep the environment clean, and plant mangroves. These efforts show that mitigation does not always have to involve large-scale projects, but can also take the form of ongoing care for ecosystems and environmental infrastructure carried out by the community at

the local level. In this way, QS. Fāṭir [35]:39 provides an ethical foundation for ecosystem-based mitigation. It encourages approaches that go beyond relying solely on hard infrastructure to block floodwaters, by also restoring and strengthening natural coastal buffers that reduce long-term risk.

If those four verses be synthesized, then the integration its integration forms a technical and ethical mitigation model that will strengthen each others. Technical intervention like sea stump-plan, retention pond, water pump, and infrastructure development be showed up in the interviews as government responses; while adaptation of household (raise up the house) and solidarity strenghteness (*istighosah*) appear as a community responses (Zayyadi & Unsiyyah, 2025).

CONCLUSION

This research bringing up the *khalifah* concept in the Sayung District, Demak Regency, about flooding mitigation has relevance for encouraging ecological and social awareness of coastal society. Communities internalize the value of *khalifah* as a moral responsibility to protect and manage the earth through collective actions such as mutual cooperation (*gotong royong*), mangrove planting, and adapting houses to recurring tidal inundation. Qur'anic verses—such as QS. Al-An'ām [6]:165, QS. Yūnus [10]:14, QS. Šād [38]:26, and QS. Fāṭir [35]:39 underscore humanity's role as stewards of the earth, accountable for environmental preservation and ecological justice. These findings show that social and spiritual aspects play an important role in dealing with tidal flooding, including activities such as *istighosah* that help strengthen togetherness and collective resilience. This study concludes that handling tidal flooding requires not only technical measures, but also support from religious values that encourage real action to protect coastal ecosystems and improve the well-being of the community. Integrating *khalifah* values into mitigation policies can reinforce social cohesion, improve ecological resilience, and ensure that mitigation efforts remain just and sustainable. Future research is encouraged to expand study locations and conduct comparative analyses across coastal regions; deepen examination of actors and governance structures (government, industry, community groups, and religious institutions); and apply evaluative designs to more rigorously measure how the integration of Qur'anic values influences behavioral change, adaptive capacity, and socio-ecological resilience.

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