

'... And We have made from water every living thing' - Water conservation and the Holy Qur'an

Authorship and Affiliation

Lisa A. Blankinship ^a; Sarah Gillaspie ^b; Khaled Obaideen ^c; Basil H. Aboul-Enein ^d

^a University of North Alabama
Department of Biology
1 Harrison Plaza
Florence, AL, USA
E-mail: lblankinship@una.edu

^b Virginia Commonwealth University
School of Medicine
Department of Family Medicine
1200 E. Broad Street
Richmond, VA 23298
E-mail: gillaspiese@vcu.edu

^c University of Sharjah
Sustainable Engineering Asset
Management Research Group
Sharjah, United Arab Emirates
e-mail: khaled.obaideen@gmail.com

^d London School of Hygiene & Tropical Medicine
Faculty of Public Health and Policy
15-17 Tavistock Place
London
WC1H 9SH
United Kingdom
E-mail: Basil.Aboul-Enein@lshtm.ac.uk

Corresponding Author

Basil H. Aboul-Enein
London School of Hygiene & Tropical Medicine
Faculty of Public Health and Policy
15-17 Tavistock Place
London
WC1H 9SH
United Kingdom
E-mail: Basil.Aboul-Enein@lshtm.ac.uk

Declaration of conflicting interests

The authors declare no potential conflicts of interest with respect to the research, authorship, and/or publication of this article.

Funding

The authors received no financial support for the research, authorship, and/or publication of this article.

Proof for Review

***'...And We have made from water every living thing'* - Water conservation and the Holy Qur'an**

Abstract

Water conservation is of particular importance for arid regions including many Muslim-majority countries. With the added pressures of human population growth and expansion, and global climate change, water conservation efforts are imperative to extend the life of current water supplies as well as source water treatment methods that are religiously congruent. We review Qur'anic verses that address water usage and conservation. We searched the English translations of the King Fahd Complex for the Printing of the Holy Qur'an and the King Saud University Electronic Moshaf Project for Qur'anic scripture related to water and water conservation. A total of 25 verses were found that related to creation, water usage for agriculture and food provision/production, and as a common resource for humanity. Qur'anic scripture encourages gratitude for water and wise stewardship of this resource. Specific prohibitions against the reuse of water (e.g. treated water) were not found and recent Islamic literature supports the use of cleansed greywater. Treated greywater may thus be an additional source for agricultural needs thus reducing stress placed on already limited water supplies. Water conservation falls within Qur'anic scripture.

Keywords

Qur'an; Islam; water conservation; Muslims

Introduction

Water conservation is crucial as it directly impacts the environment, human health, and sustainable development. Freshwater is a limited resource. Only a small percentage (0.5%) of the Earth's water is accessible for human use (United States Bureau of Reclamation. 2020), and based on current practices, the world could face a 40% shortfall in the available supply of water by 2030 (Abderrahman 2000a; Muhammad and Amal 2020). Water conservation helps sustain a balance between water supply and demand, especially in areas facing water scarcity or experiencing large human population growth (Abderrahman 2000a; b). Regions around the world are already facing water scarcity, especially those that are predominantly Islamic in religious faith. An example is Saudi Arabia (Atallah et al. 1999; Abderrahman 2000a), where a human population growth rate increase of more than three percent per year, combined with an arid environment, has led to a dramatic increase in domestic, agricultural, and industrial water demand that has required action (Abderrahman 2000a).

Water plays key roles within an ecosystem. All organisms require at least a minimum amount of water to thrive. As global climates continue to shift, weather patterns will change leading to changes in precipitation which in turn lead to regional variations in water availability; some areas may experience too much water, other areas will experience less water availability. Accessible potable water is only 0.5% of the total water on earth, soil moisture is dropping by 1cm/year, and regions in the Middle East will experience increased drought related conditions (World Meteorological Organization. 2021). As such, water conservation is not only important but imperative to ensure sufficient resources for all thus meeting Surat Al-Qamar verse 54:28.

Developing a culture of water conservation, rather than conservation only during periods of drought, will help alleviate long-term pressure on water supplies thus ensuring sufficient water is available for domestic, agricultural, and industrial needs. Strategies that embrace a common faith, for example Islam, can ensure a greater feeling of responsibility to meet the needs of all stakeholders and communities (Lefers et al. 2015; Kherrimoun 2022) and to raise awareness about the value of water and thus encourage individuals to take responsibility for their water usage. Faith and belief ease the burden of taking action and enhance feelings of shared responsibility. Islam provides holistic and comprehensive solutions, as well as ethical principles to mitigate environmental crises (Gada 2014). After attempting traditional methods of promoting water conservation, Saudi Arabia established legislation in accordance with Islamic laws which has led to positive water demand management and this demonstrates how responsive and reasonable Islamic laws can address the complex challenges of water resource management (Abderrahman 2000a; Baig et al. 2020).

In addition to meeting community needs, water conservation also plays a role in maintaining water quality, which is of great importance for those of Islamic faith to use during ablution, a ritual washing that is performed by Muslims before prayer (Besari et al. 2009). When water sources are overused or polluted, the remaining water may contain higher concentrations of contaminants. By using water efficiently and reducing pollution runoff, water quality can be protected and clean and safe freshwater sources can remain for human and ecological use. Utilizing purified wastewater is one strategy for alleviating water demand pressure yet it has met opposition in predominantly Islamic areas due to a belief that water, once dirty, cannot become clean again. A *Fatwa* (formal ruling of Islamic law) was created to decide that wastewater can be purified through chemical and biological processes. This shows how important religious

considerations are when proposing policy changes, and how Islamic faith can be used to solve challenges in water use for a predominantly Muslim community (Abderrahman 2000a; Wilson and Pfaff 2008).

Water is also essential for maintaining healthy ecosystems including rivers, lakes, wetlands, and marine environments. Conserving water helps sustain the natural habitats and ecosystems that depend on adequate water levels and flows. Additionally, wetlands are key for biological water purification thus by protecting these ecosystems, we preserve biodiversity, support wildlife populations, and maintain the overall health of the environment. A healthy ecosystem through sustainable water use is necessary to maintain food supplies as well as promote good human health and wellbeing. The Holy Qur'an, regarded as the quintessential Islamic text, recognizes this, and already promotes an ethical and social model for regulating the relationship between humans and nature that is synergistic with water stewardship and sustainability (Kula 2001; Laxman et al. 2014; Kherrimoun 2022; Bsoul et al. 2022).

Water conservation is integral to several of the United Nations Sustainable Development Goals (SDGs) including clean water and sanitation, zero hunger, good health and well-being, industry, innovation and infrastructure, sustainable cities and communities, climate action, as well as peace, justice, and strong institutions (Bhaduri et al. 2016; United Nations Department of Economic and Social Affairs Sustainable Development. 2023). There has been no change in most of the SDGs between 2020 and 2023, but many SDGs are not currently on track to be met by 2030 due to economic factors such as the global impacts of the COVID-19 pandemic and political factors such as a lack of individual and governmental buy-in (Gade 2012; United Nations Department of Economic and Social Affairs Sustainable Development. 2023). Many believe the environmental ethics and cooperation between stakeholders that are required to

achieve these SDGs can be nurtured in humans through religion and spirituality, particularly within the 'big 3' religions: Christianity, Judaism, and Islam (Jusoff and Samah 2011; Gade 2012; Laxman et al. 2014).

One of the central goals within the broader context of the United Nations SDGs is to guarantee widespread accessibility and enduring management of water and sanitation for all people. This goal (SDG 6) encompasses the core principles of achieving fairness in both social and environmental contexts, highlighting the importance of ensuring unrestricted availability of uncontaminated and secure drinking water, along with adequate sanitation amenities, for every person, irrespective of their geographic placement or socioeconomic condition. In addition, SDG 6 places significant importance on sustainability, acknowledging that the responsible management of water resources and the preservation of ecological equilibrium are essential for the welfare of present and future populations. This goal exemplifies a steadfast dedication to addressing a fundamental human necessity, while simultaneously adhering to the principles of environmental preservation and social equity (Sachs et al. 2019; Obaideen et al. 2022).

The Qur'an, as the holy scripture of Islam, already emphasizes the concepts of environmental stewardship (Aboul-Enein 2018). It encourages believers to recognize the importance of preserving and responsibly utilizing natural resources, including water. From the Qur'an's perspective, water conservation and environmental stewardship are integral to a believer's spiritual and ethical obligations. By recognizing water as a divine blessing, understanding the importance of responsible resource management, embracing moderation, appreciating creation, and refraining from activities that harm the environment, believers are encouraged to be conscious caretakers of the Earth, ensuring the availability and sustainability of water resources for current and future generations (Al-Damkhi 2008; Haron 2017; Khermimoun

2022). This novel review offers the international readership a first-hand snapshot of Qur'anic verses specifically targeting the importance of water and water conservation as it directly relates to SDG goal 6.

This text examines Qur'anic verses that promote water usage and conservation with the following objectives: to assist religious leadership, environmental advocates, and policymakers to source scriptures that support actions to encourage the conscious conservation of water and to demonstrate how scripture supports SDG 6. To achieve these objectives, Qur'anic scriptures were reviewed that addressed water usage and conservation in the context of SDG 6. Examples of how currently communities are practising water conservation in arid regions and the ability of biological treatment to purify wastewater are provided.

Methods

The Holy Qur'an was comprehensively reviewed in two formats in Arabic, both in electronic and hard copy (The Noble Qur'an. 1993; The Holy Qur'an. 2023). In order to refine the accuracy of each thematic narrative verse for relevant content, the key phrases and terms that were used included: 'water'; 'river', 'rainwater' OR 'rain-water'; 'reservoir'; 'waterway'; 'rainfall'; 'freshwater'; 'stream'; 'water well'; and 'rain'. Both electronic and hard copy formats were reviewed to identify themes and content connecting to concepts and practices, and guidelines as they relate to the importance of water conservation. All relevant contents were translated by the King Fahd Complex for the Printing of the Holy Qur'an and the King Saud University Electronic Moshaf Project (The Holy Qur'an. 2023) to English and then tabulated by Qur'anic chapter, verse, narrative citation, and relevant SDG 6 targets (Table 1). For the purpose

of this review, the *Hadith* (sayings of the Prophet Muhammed) and *Sunnah* (traditions and practices of the Prophet Muhammed) were excluded from the review.

Results

Twenty-five verses in the Qur'an were found to address water conservation (Table 1). Of these verses, Surat Al-Nahl (The Bees) contains three. Two verses are located in Surat Al-Kahf (The Cave). The remaining Surat contain one verse each: Surat Al-Anbiya (The Prophets), Surat Qaf (The Letter Q), Surat An-Nazi' at (Those Who Drag Forth), Surat An-Naml (The Ant or The Ants), Surat Al-An'am (The Grazing Livestock or The Cattle), Surat At-Tariq (The Night comer or The Morning Star), Surat Ta-Ha (The Letters T-H), Surat Al-Hijr (The Rocky Tract or The Stoneland), Surat Az-Zumar (The Throngs, The Troops, or The Groups), Surat Fatir or Al-Mala'ikah (The Originator of Creation or The Angels), Surat Az-Zukhruf (The Gold Adornments or Ornaments of Gold), Surat Al-Baqarah (The Cow or The Heifer), Surat Al-Hajj (The Pilgrimage), Surat As-Sajdah (The Prostration or Adoration), Surat Al-Mu'minin (The Believers), Surat An-Nur (The Light), Surat Al-Furqan (The Criterion), Surat Al-Waqu'ah (The Event or The Inevitable), Surat Al-Mulk (The Sovereignty, Control, or The Dominion), and Surat Al-Qamar (The Moon). Of these verses, 22 verses were revealed in Mecca and three in Medina. No contradiction between verses was found.

Furthermore, we established connections between the 25 Qur'anic verses and SDG 6 targets ('clean water and sanitation for all'). The verses encompass the entirety of SDG 6's multifaceted objectives, with six distinct targets (see Table 2). Six verses align with Target 6.1, which seeks to achieve universal and equitable access to safe and affordable drinking water for all. Five verses align with Target 6.2, focusing on access to adequate and equitable sanitation and

hygiene. Four verses relate to Target 6.3, which emphasizes the improvement of water quality by reducing pollution, eliminating dumping, and minimizing the release of hazardous substances. Four verses are linked to Target 6.4, which aims to significantly enhance water-use efficiency across all sectors and ensure the sustainable extraction and supply of fresh water to combat water scarcity. Three verses are associated with Target 6.5, highlighting the implementation of integrated water resources management at all levels, including transboundary cooperation where applicable. Three verses align with Target 6.6, focusing on the protection and restoration of water-related ecosystems, encompassing mountains, forests, wetlands, rivers, aquifers, and lakes.

Discussion

Qur'anic verses that address and promote the importance of water can be divided into five groups: creation (four verses referenced), contribution to growth (12 verses referenced); provision or food production (seven verses referenced), common resource (one verse referenced), and gratitude for the blessing of water (two verses referenced). These verses highlight the importance of water as a resource and directly tie into water conservation, especially Surat Al-Qamar verse 54:28 which states that 'water is shared between them, each one's right to drink being established [by turn]'.

In relation to water as a divine blessing, Surat Qaf verse 50:9 notes that water is a blessing and important for agricultural use, 'And We have sent down blessed water from the sky and made grow thereby gardens and grain (every kind of harvests) reaped.' Surat Qaf verse 50:9, Surat An-Naml verse 27:60, Surat Al-Kahf verse 18:33 and 45, Surat Al-An'am verse 6:99, Surat Az-Zumar verse 39:21, Surat Fatir or Al-Mala'ikah verse 35:27, Surat Az-Zukhruf verse 43:11, Surat Al-Hajj verse 22:63, and Surat Al-Mu'minun verse 23:18 all address the importance

of water in making plants grow while Surat An-Nazi'at verse 79:30-33, Surat Ta-Ha verse 20:53-54, Surat Al-Hijr verse 15:22, Surat Al-Baqarah verse 2:22, Surat As-Sajdah verse 32:27, Surat An-Nahl verse 16:10, and Surat Al-Waqi'ah verse 56:68-70 address water provision and agricultural importance.

The Qur'an addresses human attitudes towards the gift of water in Surat Al-Waqi'ah verse 56:68-70 and Surat Al-Mulk verse 67:30. Because water is a divine gift, it should be received with thanks. Because water is a communal resource, it should be shared and used wisely.

One key aspect of water conservation is water treatment, or how can water be made 'clean' for reuse. Water collection from homes during storm events has been utilized by many civilizations throughout history. However, for arid regions, stormwater may not prove sufficient as human populations increase and climate change shifts rainfall patterns. Domestic 'gray water' collected from washing or bathing processes offers an additional source of water. Leas et al. (2014) note that pollution of water resources increases as populations grow and climate change limits rainfall thus leading to increased pressures for potable water. Additionally, the use of fossil water from deep underground aquifers, water available in often imported water-rich foods, or even desalination processes are not economically sustainable for many Middle Eastern and North African countries. As a result, treatment of greywater becomes important as a potential source of water for agricultural use and aquifer stabilization (Leas et al. 2014). Since the Qur'an does not specifically prohibit the use of gray water, the use of which has been recognized as a way to conserve water as observed in Muslim-majority countries (Prathapar et al. 2005; Abusam 2008; Redwood 2008; Suratkon et al. 2014; Al-Alawi et al. 2021).

Ahmed et al. (2005) note that water reuse is first dependent upon policy so policy development that permit water cleansing and reuse must be in place before utilization of treated greywater for secondary purposes such as irrigation. Human health, cultural practices, and availability of technology should all be considered in addition to treatment costs when developing strategies for treating and utilizing greywater for secondary purposes (Ahmed et al., 2005). Costs for greywater collection can be prohibitive as dual plumbing systems are required for public and private spaces to separate grey and blackwater. However, the reuse of greywater offsets some cost associated with producing potable freshwater by decreasing the need to produce freshwater for non-potable purposes (Jamrah et al. 2008). As such, greywater use for secondary purposes is of interest to some semi-arid and arid countries such as Oman (Ahmed et al. 2005; Prathapar et al. 2005; Jamrah et al. 2008). As noted by Prathapar et al. (2005) and Jamrah et al. (2008), Oman faced an increased need for potable water due to population growth and low water recharge from rain events. Additionally, costs for the development of desalination plants and drilling of wells were economically challenging. As a result, greywater treatment and reuse for non-potable consumption was of interest to Omani leadership (Prathapar et al. 2005). As an example of greywater treatment and reuse, Prathapar et al. (2006) report using a small-scale sand filter-based system to collect and clean ablution water from mosques in Oman. While water collection was varied in volume due to frequency of mosque visitation, water purified via sand filters was noted to have a higher than acceptable number of coliform bacteria thus requiring that sand filtered water be chlorinated before use. Further, to help regulate the amount of water available for secondary uses, holding tanks were recommended to store water during period of higher production (Prathapar et al. 2006).

The correlation between the verses from the Qur'an and SDG 6 is readily apparent. SDG 6 places its emphasis on the provision of universal access to clean water and sanitation, while concurrently tackling issues related to water scarcity, water quality, and the implementation of sustainable water management practices. The verses found in the Qur'an emphasize the importance of water in supporting life, agriculture, and the environment, thus closely aligning with the principles outlined in SDG 6. Surat Al-Qamar 54:28 speaks to water as a common resource, thus aligning with SDGs 6.1 and 6.5. SDG 6.B emphasizes the importance of local community involvement in water resource management. Additionally, SDG 6.3 addresses the reuse of purified wastewater which some Islamic states have addressed via a *Fatwa* (Abderrahman 2000a; b; Wilson and Pfaff 2008). Note that religious leadership of various , in addition to larger faith-based organizations, can strongly influence members of their faith community to accept the SDGs thus leading to greater participation within religious communities worldwide (Tomalin et al. 2019).

Qur'anic verses underscore the significance of water as a 'divine' gift, indispensable for the sustenance of all organisms and the facilitation of agricultural activities. The significance of responsible water management, water conservation, and the revitalization of arid lands through water provision are emphasized. Furthermore, it is worth noting that the verses found in the Qur'an frequently establish connections between the life-sustaining attributes of water and more extensive insights into the patterns and processes of existence and the natural world.

These verses address the spiritual and moral value of water, the responsibilities of stewardship, and the importance of sustainable water practices. Furthermore, these verses may be communicated by environmental health educators and water conservationists as a culturally

congruent influential source in Muslim majority countries to promote and campaign for water conservation.

Conclusion

With water scarcity becoming more prevalent in arid environments, water conservation moves from a community issue to a regional problem. By seeking guidance from holy scriptures, it is more likely that community members will conserve this resource. By seeing water as a divine blessing and a resource to be stewarded for the good of everyone and as a scriptural responsibility, conservation efforts become easier to practise daily and develop into life-long habits.

Buy-in from community members will be directly related to how easily daily practice changes can be implemented, the consistency of community leaders to support conservation goals, and infrastructure updates to sustain long-term conservation efforts. While infrastructure improvements may require investment in new technologies, there has been much research into more efficient methods for water management. As communities in arid regions continue to grow, develop, and place burdens on limited water supplies, they will have to conserve water and wastewater recycling is a promising method for water conservation for example in Tunisia, Jordan, Israel and Cyprus (Qadir and Sato (2015). Depending on the size of community, volume of water to be recycled, and the level of water contamination, water recycling can be accomplished with limited infrastructure updates as biological, rather than chemical, processes are often key to water purification. In addition to agricultural reuse, treated wastewater is suitable for groundwater recharging, recreational use, potable consumption, and industrial use. For example, in Windhoek (Namibia) treated wastewater was added to the drinking water supply

with no ill health effects and that microbes play a key role in decontamination of pollutants and biological hazards such as pathogens (Bitton 2010). While wetlands or clarifiers would be the natural and conventional means of bioremediation of wastewater, aquaculture and biomembrane systems can be utilized in arid regions to help limit water evaporation during treatment processes.

Community leaders can encourage buy-in from community members by practising conservation methods themselves and being consistent with promoting conservation measures. The US Environmental Protection Agency recognizes that community members are more likely to participate in change that leadership believes in and is willing to adapt; community leaders influence not only policy changes but also membership action changes (U.S. Environmental Protection Agency. 2000). Additionally, religious leadership can cite holy scripture in support of conservation efforts. One goal of this paper is to provide evidence that the Qur'an promotes water as a resource to be shared and thus water conservation is also supported by scripture. Tomalin et al (2019) note that religion is a powerful influence in culture, economics, politics, and society. If faith leaders promote global SDGs, it is more likely that these goals will be achieved. In the case of SDG 6, this would ensure water resources were used more wisely, shared among community members as directed by the Qur'an, and sustained. We offer support for Islamic leadership's influence in meeting SDG 6 through *Fatwa* that permit the reuse of treated wastewater, thus meeting water sustainability goals. While individuals may perceive treated wastewater as 'dirty', if religious leadership approves of water reuse and deems it 'pure' then community members will accept it as such. By providing the *Fatwa* for wastewater recycling, religious leadership has taken strong initial steps towards conserving the blessing of clean water.

References

- Abderrahman WA (2000a) Application of Islamic Legal Principles for Advanced Water Management. *Water International* 25(4), 513-518. <https://doi.org/10.1080/02508060008686865>.
- Abderrahman WA (2000b) Water Demand Management and Islamic Water Management Principles: A Case Study. *International Journal of Water Resources Development* 16(4), 465-473. <https://doi.org/10.1080/713672529>.
- Aboul-Enein BH (2018) 'The earth is your mosque': narrative perspectives of environmental health and education in the Holy Quran. *Journal of Environmental Studies and Sciences* 8(1), 22-31. <https://doi.org/10.1007/s13412-017-0444-7>.
- Abusam A (2008) Reuse of greywater in Kuwait. *International Journal of Environmental Studies* 65(1), 103-108. <https://doi.org/10.1080/00207230701868204>.
- Ahmed M, Prathapar A and Al-Abri A (2005) Greywater reuse guidelines for Oman: A proposal. Second Oman-Japan Joint Symposium: Preservation of Environmental and Water Resources amid Economic Development, Oman.
- Al-Alawi A, Sohail M, Kayaga S and Al-Alawi A (2021) Water management in mosques of Oman. *Sustainable Water Resources Management* 7(6), 95. <https://doi.org/10.1007/s40899-021-00581-1>.
- Al-Damkhi AM (2008) Environmental ethics in Islam: principles, violations, and future perspectives. *International Journal of Environmental Studies* 65(1), 11-31. <https://doi.org/10.1080/00207230701859724>.
- Atallah S, Khan MZ and Malkawi M (1999) Water conservation through Islamic public awareness in the Eastern Mediterranean Region. *Eastern Mediterranean Health Journal* 5(4), 785-797.
- Baig MB, Alotibi Y, Straquadine GS and Alataway A (2020) Water Resources in the Kingdom of Saudi Arabia: Challenges and Strategies for Improvement. In Zekri S (ed), *Water Policies in MENA Countries*. Cham: Springer International Publishing, 135-160.
- Besari ARA, Zamri R, Yusaeri A, Md.Dan MP and Prabuwo AS (2009) Automatic ablution machine using vision sensor. In: *2009 IEEE Symposium on Industrial Electronics and Applications, ISIEA 2009 - Proceedings*.
- Bhaduri A, Bogardi J, Siddiqi A, Voigt H, Vörösmarty C, Pahl-Wostl C, Bunn SE, Shrivastava P, Lawford R, Foster S, Kremer H, Renaud FG, Bruns A and Osuna VR (2016) Achieving Sustainable Development Goals from a Water Perspective. *Frontiers in Environmental Science* 4. <https://doi.org/10.3389/fenvs.2016.00064>.
- Bsoul L, Omer A, Kucukalic L and Archbold RH (2022) Islam's Perspective on Environmental Sustainability: A Conceptual Analysis *Social Sciences* 11(6). <https://doi.org/10.3390/socsci11060228>.
- Gada M (2014) Environmental Ethics in Islam: Principles and Perspectives. *World Journal of Islamic History and Civilization* 4(4), 130-138. <https://doi.org/10.5829/idosi.wjihc.2014.4.4.443>.
- Gade AM (2012) Tradition and Sentiment in Indonesian Environmental Islam. *Worldviews: Global Religions, Culture, and Ecology* 16(3), 263-285. <https://doi.org/10.1163/15685357-01603005>.
- Haron M (2017) Drawing on African Muslims' Intangible Assets: Doing Jihad against Climate Change. *The Ecumenical Review* 69(3), 348-361. <https://doi.org/10.1111/erev.12298>.

- Jamrah A, Al-Futaisi A, Prathapar S and Harrasi AA (2008) Evaluating greywater reuse potential for sustainable water resources management in Oman. *Environmental Monitoring and Assessment* 137(1-3), 315-327. <https://doi.org/10.1007/s10661-007-9767-2>.
- Jusoff K and Samah SAA (2011) Environmental Sustainability: What Islam Propagates. *World Applied Sciences Journal* 12, 46-53.
- Kherrimimoun J (2022) Environmental Crisis, Concept of Sustainable Development, Islamic Values, and a Global Alternative. *International Journal of Religion and Spirituality in Society* 12(2), 191-205. <https://doi.org/10.18848/2154-8633/CGP/V12I02/191-205>.
- Kula E (2001) Islam and environmental conservation. *Environmental Conservation* 28(1), 1-9.
- Laxman L, Ansari AH and Zawawi M (2014) The Islamic approach to conserving biodiversity for global sustainability: an exploration. *Advances in Environmental Biology* 8(3), 748-764.
- Leas EC, Dare A and Al-Delaimy WK (2014) Is gray water the key to unlocking water for resource-poor areas of the Middle East, North Africa, and other arid regions of the world? *Ambio* 43(6), 707-717. <https://doi.org/10.1007/s13280-013-0462-y>.
- Lefers R, Maliva RG and Missimer TM (2015) Seeking a consensus: water management principles from the monotheistic scriptures. *Water Policy* 17(5), 984-1002. <https://doi.org/10.2166/wp.2015.165>.
- Muhammad S and Amal S (2020) Religious based water management campaigns for sustainable development: prospects and challenges. *IOP Conference Series: Earth and Environmental Science* 477(1), 012018. <https://doi.org/10.1088/1755-1315/477/1/012018>.
- Obaideen K, Shehata N, Sayed ET, Abdelkareem MA, Mahmoud MS and Olabi AG (2022) The role of wastewater treatment in achieving sustainable development goals (SDGs) and sustainability guideline. *Energy Nexus* 7, 100112. <https://doi.org/10.1016/j.nexus.2022.100112>.
- Prathapar SA, Ahmed M, Al Adawi S and Al Sidiari S (2006) Design, construction and evaluation of an ablution water treatment unit in Oman: a case study. *International Journal of Environmental Studies* 63(3), 283-292. <https://doi.org/10.1080/00207230600773257>.
- Prathapar SA, Jamrah A, Ahmed M, Al Adawi S, Al Sidairi S and Al Harassi A (2005) Overcoming constraints in treated greywater reuse in Oman. *Desalination* 186(1), 177-186. <https://doi.org/10.1016/j.desal.2005.01.018>.
- Qadir M and Sato T (2015) Water Reuse in Arid Zones. In Eslamian S (ed), *Urban Water Reuse Handbook*. 1st ed. Boca Raton: CRC Press, 8.
- Redwood M (2008) The application of pilot research on greywater in the Middle East North Africa region (MENA). *International Journal of Environmental Studies* 65(1), 109-117. <https://doi.org/10.1080/00207230701850152>.
- Sachs JD, Schmidt-Traub G, Mazzucato M, Messner D, Nakicenovic N and Rockström J (2019) Six Transformations to achieve the Sustainable Development Goals. *Nature Sustainability* 2(9), 805-814. <https://doi.org/10.1038/s41893-019-0352-9>.
- Suratkon A, Chan CM and Ab Rahman TST (2014) SmartWUDHU': Recycling Ablution Water for Sustainable Living in Malaysia. *Journal of Sustainable Development* 7(6), 150-157.
- The Holy Qur'an. (2023) King Saud University Electronic Moshaf Project. Available at <http://quran.ksu.edu.sa/index.php?l=en> (accessed Aug 22 2023).

- The Noble Qur'an. (1993) *With English translation of the meanings and commentary*. Medina, Saudi Arabia: King Fahd Complex for the Printing of the Holy Qur'an.
- Tomalin E, Haustein J and Kidy S (2019) Religion and the Sustainable Development Goals. *The Review of Faith & International Affairs* 17(2), 102-118.
<https://doi.org/10.1080/15570274.2019.1608664>.
- U.S. Environmental Protection Agency. (2000) Using Water Efficiently: Ideas for Communities. Available at <https://www.epa.gov/sites/default/files/2017-03/documents/ws-ideas-for-communities.pdf> (accessed Sept 23rd 2023).
- United Nations Department of Economic and Social Affairs Sustainable Development. (2023) Global Sustainable Development Report 5 2023. Available at <https://sdgs.un.org/sites/default/files/2023-06/Advance%20unedited%20GSDR%2014June2023.pdf> (accessed Aug 23rd 2023).
- United States Bureau of Reclamation. (2020) Water Facts - Worldwide Water Supply Available at <https://www.usbr.gov/mp/arwec/water-facts-ww-water-sup.html> (accessed Sept 24th 2023).
- Wilson Z and Pfaff B (2008) Religious, philosophical and environmentalist perspectives on potable wastewater reuse in Durban, South Africa. *Desalination* 228(1), 1-9.
<https://doi.org/10.1016/j.desal.2007.07.022>.
- World Meteorological Organization. (2021) Wake up to the looming water crisis, report warns. Available at <https://public.wmo.int/en/media/press-release/wake-looming-water-crisis-report-warns> (accessed Sept 5th 2023).

Table 1. Verses from the Qur'an and related SDG 6 Targets

Chapter Title	Place of Revelation	Citation (Chapter: Verse)	Narrated Verse	Related SDG 6 Targets
Surat Al-Anbiya (The Prophets)	Mecca	21:30	...And We have made from water every living thing.	SDG 6.1
Surat Qaf (The Letter Q)	Mecca	50:9	And We have sent down blessed water from the sky and made grow thereby gardens and grain (every kind of harvests) reaped.	SDG 6.4
Surat An-Nazi'at (Those Who Drag Forth)	Mecca	79:30–33	And after that He spread the earth, and brought forth there from its water and its pastures, to be as provision for you and your grazing livestock.	SDG 6.3
Surat An-Naml (The Ant or The Ants)	Mecca	27:60	Is He [not best] who created the heavens and the earth and sent down for you water from the sky, causing to grow thereby gardens of joyful beauty and delight which you could not [otherwise] have grown the trees thereof?	SDG 6.6
Surat Al-Kahf (The Cave)	Mecca	18:45	And put forward to them the example of the life of this world, it is like the water (rain) which We send down from the sky, and the vegetation of the earth mingles with it, and becomes fresh and green...	SDG 6.2
Surat An-Nahl (The Bees)	Mecca	16:11	With it (the rain) He brings up for you the crops, olives, dates, the grapes and every kind of fruit. Verily! In this is indeed evidence and manifest sign for people who give it thought.	SDG 6.5
Surat Al-An'am (The Grazing Livestock or The Cattle)	Mecca	6:99	And it is He who sends down rain from the sky, and with it We bring forth diverse vegetation of all things. We produce from it green stalks from which We produce grains arranged in layers. And from the palm trees - of its emerging fruit are clusters hanging low. And [We produce] gardens of grapevines, olives and pomegranates, similar yet different (in diversity). Look at their fruits when it yields and [at] its ripeness. Indeed! In these things, there are signs for people who believe.	SDG 6.3
Surat At-Tariq (The Night comer or The Morning Star)	Mecca	86:12	By the sky which gives rain again, and the earth which splitteth (with the growth of trees and plants).	SDG 6.4
Surat Ta-Ha (The Letters T–H)	Mecca	20:53–54	Who has made earth for you like a bed (spread out); and has opened roads (ways and paths) for you therein; and has sent down water from the sky. And We have brought forth with it various kinds of vegetation. Eat and	SDG 6.5

			pasture your cattle; Indeed! In this are proofs and signs for men of understanding.	
Surat Al-Hijr (The Rocky Tract or The Stoneland)	Mecca	15:22	And We send the fecundating winds, then cause the water to descend from the sky, therewith providing you with water for sustenance, though ye are not the guardians of its stores.	SDG 6.1
Surat Az-Zumar (The Throngs, The Troops, or The Groups)	Mecca	39:21	Seest thou not that He sends down water from the sky, and leas it through water springs in the earth, Then He causes to grow, therewith, crops of various colors: then it withers; thou wilt see it grow yellow; then He makes it dry up and crumble away. Truly, in this, is a reminder to men of understanding.	SDG 6.3
Surat Fatir or Al-Mala'ikah (The Originator of Creation or The Angels)	Mecca	35:27	See you not that He sends down water from the sky, and We produce thereby fruits of varying colors, and among the mountains are streaks white and red...	SDG 6.2
Surat Az-Zukhruf (The Gold Adornments or Ornaments of Gold)	Mecca	43:11	And Who sends down rain from the sky in due measure, and We revive thereby a dead land...	SDG 6.6
Surat Al-Baqarah (The Cow or The Heifer)	Medina	2:22	[He] who made for you the earth a resting place for you, and the sky a canopy and sent down water from the sky and brought forth thereby fruits as provision for you...	SDG 6.1
Surat Al-Hajj (The Pilgrimage)	Medina	22:63	Do you not see that He has sent down water from the sky and the earth becomes green? Verily, He is most kind and courteous, well-acquainted with all things.	SDG 6.4
Surat An-Nahl (The Bees)	Mecca	16:65	And He sends down water from the skies, and gives therewith life to the earth after lifelessness...	SDG 6.6
Surat As-Sajdah (The Prostration or Adoration)	Mecca	32:27	And do they not see that We drive water to parched soil (bare of herbage), and produce therewith crops, providing food for their cattle and themselves? Have they not the vision?	SDG 6.3
Surat Al-Kahf (The Cave)	Mecca	18:33	Each of the gardens brought forth its produce and failed not in the least therein, and We caused a river to gush forth in the midst of them.	SDG 6.5
Surat An-Nahl (The Bees)	Mecca	16:10	It is He who sends down water from the sky: from it ye drink, and out of it (grows) the vegetation on which ye send your cattle to pasture.	SDG 6.2

Surat Al-Mu'minun (The Believers)	Mecca	23:18	And We have sent down from the sky water in measured amount and settled it in the earth...	SDG 6.1
Surat An-Nur (The Light)	Medina	24:45	God has created every moving (living) creature from water...	SDG 6.2
Surat Al-Furqan (The Criterion)	Mecca	25:54	And He it is Who has created man from water...	SDG 6.2
Surat Al-Waqi'ah (The Event or The Inevitable)	Mecca	56:68-70	See ye the water Which ye drink? Do ye bring it down (in rain) from the Clouds or do We? Were it our Will, we could make it brackish (salt and unpalatable). If you would only act grateful (give thanks).	SDG 6.1
Surat Al-Mulk (The Sovereignty, Control, or The Dominion)	Mecca	67:30	Say, "Have you considered: if your water was to become sunken [into the earth], then who could bring you flowing water?"	SDG 6.1
Surat Al-Qamar (The Moon)	Mecca	54:28	And inform them that the water is shared between them, each one's right to drink being established [by turn].	SDG 6.4

Table 2. Relevant Targets for Sustainable Development Goal 6 aligned with the Holy Qur'an

Target	Stated Objective
6.1	By 2030, achieve universal and equitable access to safe and affordable drinking water for all
6.2	By 2030, achieve access to adequate and equitable sanitation and hygiene for all and end open defecation, paying special attention to the needs of women and girls and those in vulnerable situations
6.3	By 2030, improve water quality by reducing pollution, eliminating dumping and minimizing release of hazardous chemicals and materials, halving the proportion of untreated wastewater and substantially increasing recycling and safe reuse globally
6.4	By 2030, substantially increase water-use efficiency across all sectors and ensure sustainable withdrawals and supply of freshwater to address water scarcity and substantially reduce the number of people suffering from water scarcity
6.5	By 2030, implement integrated water resources management at all levels, including through transboundary cooperation as appropriate
6.6	By 2030, protect and restore water-related ecosystems, including mountains, forests, wetlands, rivers, aquifers and lakes