



## Water Management and Islamic Economic Development: Crisis in The Muslim World

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### ARTICLE INFO

### ABSTRACT

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Ensuring access to clean water and sanitation for all is one of the seventeen Sustainable Development Goals (SDGs) set by the United Nations. The importance of management and universal access to drinking water, sanitation, and hygiene, not only for individual health and well-being, but also for socio-economic progress. Good water management contributes to economic development in several ways, including increasing agricultural productivity, supporting the industrial and energy sectors, facilitating tourism and recreation, and contributing to poverty alleviation. Water management and stewardship is a recommendation embedded in Islamic teachings with various basic values that serve as the foundation for its implementation. However, the majority of Muslim countries (OIC) are still lagging behind in terms of water management and sanitation compared to non-OIC countries, with various accompanying issues. This paper explains the relationship between water management and economic development, along with views from an Islamic perspective and the actual conditions in Muslim countries.

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### Introduction

It is a commonly understood fact that water is a very important necessity for the life and livelihood of all living things. Ensuring access to clean water and sanitation for all is one of the 17-point Sustainable Development Goals set by the United Nations for the period 2015–2030 (Ojha, Surampalli and Bárdossy, 2017). This is stated in the Sustainable Development Goals 6 (SDG 6) which explains that the goal of sustainable development is to strive to ensure the availability and sustainable management of water and sanitation for all, focusing on drinking water and sanitation, sustainable water resources management, water quality, integrated water resources management (IWRM), water-related ecosystems, and their supporting environments (UNESCO, 2023).

The importance of universal access to drinking water, sanitation, and hygiene, not only for the health and well-being of individuals, but also for socio-economic progress. This is due to its direct impact on poverty, hunger, and inequality. For example, the 2019 Annual Water Report by

the United Nations (UN-Water, 2020) found that access to drinking water and sanitation impacts development, peace, and humanitarian assistance. However, adequate water and sanitation infrastructure is highly dependent on the amount of water resources and the management of these resources.

The increase in global population inevitably results in an increase in water demand in the water and sanitation sector. This increase in demand can have a major impact on a country's ecosystem as it often requires increased pumping, treatment, and transportation of energy-intensive water (UN-Water, 2020). In addition, poor management of water resources in the water and sanitation sector can also pose additional risks in developing countries where water is unaffordable, inaccessible, or physically scarce – especially in crises such as the COVID-19 pandemic where access to safe water and sanitation services is an important intervention that can suppress the spread of the virus.

Access to drinking water, sanitation, and hygiene has improved greatly since the early 2000s. According to the latest World Indicators data from the World Bank, the proportion of the global population that has access to basic drinking water increased from 86.5 percent in 2010 to 89.6 percent in 2017. However, this implies that around 0.7 billion people still lack these essential services. In OIC member countries, 84.6 percent of the population had access to at least basic drinking water in 2017, which is relatively low compared to non-OIC developing countries (88.3 percent) and developed countries (99.5 percent). Regionally, there are still disparities in basic drinking water coverage in various regions of OIC countries (SESRIC, 2021).

Water is the source of life and blessings from Allah (QS Al-Araf/57:28). No living thing can survive without water and every living thing is created from water (QS An-Nur: 45; Al-Anbiya: 30). Gilli (2004) states that water preservation and conservation is a teaching embedded in Islam because the statements and teachings of the Quran and Sunnah have defined the correct use of water. Gilli (2004) suggests using Islamic principles related to water to develop water management and conservation policies and campaign for them. Prophet Muhammad (peace be upon him) forbade polluting water and commanded not to waste water even if one stands near running water (Kaya, 2022).

## **Method**

This was a qualitative descriptive study. This paper seeks to explore again the relationship between water management and economic development, as well as Islamic views on it, by explaining the values of water management in Islam. In addition, the actual conditions of water and sanitation management in OIC countries will be displayed, as well as accompanying issues.

## **Result and Discussion**

### **A. Water Management in Islam**

#### **1. Water in the Quran**

In the Qur'an, water is referred to by the term *ma'* or *al-ma'* (its defined form) and is mentioned in various places 63 times. Other words mentioned in the Quran related to the meaning of water are *mathar* (rain) 7 times, *'ain* (spring, plural *'uyun*) 21 times, *yanbu* (source of water, plural *yanabi*) 2 times, *nahr* (river, plural *anhar*) 58 times, and *bahr* (sea, double word and plural *bahran/bahrain* and *bihar/abhur*) mentioned 41 times. The many mentions of water in the Quran indicate the meaning of water which is very important in life and the necessity to pay attention, research and study it (Muhammadiyah, 2016).

From various contexts of verses in the Qur'an that talk about water and words that are similar to, along with the hadiths of the Prophet Muhammad SAW, can be found the position and function of water, including, first, water is the source of life and the origin of all the creation of living things. Allah said "and we made out of water all living things" (QS Al-Anbiya (21): 30). Second, water serves as a basic need for living things. Allah Almighty provides water for human and animal consumption, as well as for growing plants (QS. Al-Nahl (16): 10-11). Third, water serves as a means of conservation (maintenance and protection) of the soil. Water can improve the quality of land that was once dry and barren to be fertile and can be used by humans for agricultural facilities (QS Al-Baqarah (2): 164 and QS al-Hajj (22): 5). Fourth, water becomes a means of purification and sanitation. Allah sent down water (rain) from the sky so that people could use it as a means of cleansing and purifying themselves (QS. Al-Anfal (8): 11). Water plays an important role in the process of *thaharah* (purification) before a Muslim performs worship (QS al-Maidah (5): 6). Fifth, water such as rivers and seas became a means of transportation (QS Al-Baqarah (2): 164 and QS al-Nahl (16): 14). Sixth, water serves as a source of energy. This is found along with the development of water utilization technology such as for steam engines and power plants. This is certainly very helpful for production activities in the economy. The utilization of water as energy can be indicated in QS Al-Jasiyah (45): 12.

#### **2. Basic values of Water Management in Islam**

As a perfect religion, Islam is full of basic values (*al-qiyam al-asasiyyah*) that can be used as guidelines in all aspects of life including water management. These basic values are extracted from the understanding of the Quran and hadith which are then used as a philosophical basis for compiling universal principles (*al-usul al-kulliyah*) and legal provisions or implementing formulations (*al-ahkam al-far'iyah*) in water management. These basic values include (Muhammadiyah, 2016):

##### **a. Tawhid**

The principle of tawhid is the foundation of the unity of creation, regulation and maintenance of all living things by Allah SWT. Tawhid is the basis of how the relationship between creatures and their gods and the relationship between creatures, including humans and water. With the vision of monotheism, man is made aware that man and water are part of the unity of the universe whose relationship is governed by revelation. Thus, the management and maintenance of water is a religious obligation and not merely a worldly duty (QS Al-An'am (6): 162 and QS Az-Zariyat (51): 56).

b. Gratitude

Gratitude is essentially an awareness of the affection that Allah SWT gives to His creatures, which is shown by using the gifts of Allah SWT in their place and in line with His will. Thus, whatever the conditions faced, the Muslim use of water will always be filled with a sense of joy for the blessings obtained, accompanied by efforts to continue to maintain these favors and strive so that the blessings in the form of water can be obtained better. With this understanding of gratitude, Allah will increase the blessings that humans have (QS Ibrahim (14): 7).

c. Justice (al-'adl)

Adequacy in managing water means that every member of society has the right to obtain water fairly, considering that water is a basic need for humans. Thus, water management and distribution must refer to the value of justice. Allah Almighty forbids the unequal distribution of wealth and assets and breeds injustice (QS Al-Hashr (59): 7)

d. Moderation and Balance (al-wasatiyyah wa al-tawazun)

Moderation is a trait that Allah attaches to Muslims (QS al-Baqarah (2): 143), thus becoming the basis of Muslim behavior in overcoming the problem of excess water (which leads to waste) as well as lack of water that causes drought. The principle of balance in the use of water is related to the awareness of the obligation to maintain the sustainability of water, along with the recognition of human rights to water (QS Al-Rahman (55): 7-9).

e. Efficiency / abandonment of unnecessary (al-fa'aliyyah)

In the use of water, efficiency means using water resources appropriately, according to needs and not excessively. Islam stresses that water should not be wasted and not used in something that does not bring benefits. As the Prophet said that "the best of one's Islam is to abandon the unnecessary" (H.R. Malik).

f. Concern (al-inayah)

Water management and use must be accompanied by high care. In this regard, there are at least three aspects that must be cared about by humans in the Islamic view. First, concern for others. Islam encourages caring for others in accessing water resources. The Prophet (peace be upon him) condemned the practice of water monopoly or disregard for others who have difficulty in obtaining

water. In the hadith it is said that Allah will not speak and will kill those who one of them "has excess water in the desert, but he prevents it from travellers who need it" (H.R. Muslim). Based on the invitation of the Prophet (PBUH), Uthman (r.a.) then bought the well of Ruma and entrusted it for public use (H.R. Al-Bukhari).

Second, concern for the quality and sustainability of water resources. In the Quran, Allah Almighty has warned that there are limitations in water resources and the potential loss of water availability by the will of Allah Almighty. Al-Mu'minun (23): 18). This is because there are differences in the volume of availability and rainfall in one region with another. Water may disappear and no longer be able to meet human needs due to problems with water quantity and quality. According to the Qur'an, this problem could have arisen due to the actions of man himself (QS Al-Rum (30): 41). Therefore, humans should anticipate by managing water well and avoid destructive behaviours such as waste and excessive exploitation of nature so that the problem of water sustainability and sufficiency can be prevented and overcome.

Third, concern for the ecosystem (flora and fauna). Allah Almighty created the earth and human life in an orderly ecosystem (QS Al-Mulk (67): 3) where every element of life, namely humans and flora and fauna have dependence on one another. Like interconnected chains, the loss of one element will threaten the existence of other elements, so all elements of the ecosystem must be maintained. In this case, like humans, flora and fauna also need water to continue to survive.

Fourth, concern in studying water. A better understanding of water will lead to the ability to manage it properly in order to provide more benefits in a sustainable manner. In addition, it will avoid poor water management that can lead to disasters such as floods and droughts.

## **B. Actual Conditions of Water Management in OIC Countries**

### **1. Water and Sanitation Management Condition Report**

As part of the Sustainable Development Goal, global efforts to ensure the availability and sustainable management of water and sanitation for all groups continue to be encouraged, focusing on drinking water and sanitation, sustainable water resource management, water quality, integrated water resource management, water-related ecosystems, and their supporting environments. However, the report shows that the proportion of people who have not been reached by adequate water and sanitation is still quite large. According to the latest figures from 2020, 26 percent of the world's population (2 billion people) do not have access to safely managed drinking water services. An estimated 46 percent or 3.6 billion people do not have access to safely managed sanitation. In addition, 29 percent or 2.3 billion people do not have basic cleaning services, including 670 million people who do not have hand washing facilities at all. More than half of these people (374 million) live in fragile contexts (WHO/UNICEF, 2021).

In OIC member states alone, in 2017, 84.6 percent of the population had access to at least basic drinking water. However, this figure is relatively low compared to non-OIC developing countries (88.3 percent) and developed countries (99.5 percent). Regionally, there are disparities in basic drinking water coverage in different OIC regions. Member countries in MENA (Middle East and North Africa), ECA (Europe and Central Asia), and ESALA (East and South Asia and Latin America) achieved basic drinking water service coverage of 90 percent or more, while countries in SSA (Sub-Saharan Africa) recorded coverage rates of only 64 percent (SESRIC, 2021).

Compared to access to drinking water, the attainment rate of basic and safely managed sanitation worldwide is relatively lower. Unfortunately, in OIC member countries, the proportion of people who have basic sanitation levels is the lowest in the world, at 64.2 percent. In comparison, 70.2 percent of the population in non-OIC developing countries and 99.4 percent in developed countries have at least access to basic sanitation. Among OIC regions, the proportion of people with access to at least basic sanitation was highest in ECA at 97.6 percent, followed by MENA with 90.6 percent, ESALA with 63.2 percent, and SSA with 32.4 percent (SESRIC, 2021).

Another important element of safe and adequate drinking water, sanitation and hygiene services is access to basic handwashing facilities which include soap and water. This element has particular relevance to global health emergencies and pandemics, such as the unprecedented COVID-19 pandemic. According to the World Bank's World Development Indicators, in 2017, accessibility of basic handwashing facilities with soap and water was relatively better in OIC member countries than in other developing countries. During the same period, the proportion of the population with access to basic handwashing was 40.6 percent in OIC member countries, and this ratio remained above non-OIC developing countries during the period under review. A regional breakdown of OIC data shows that, in 2017, the lowest coverage of basic handwashing services including soap and water was in SSA (26 percent), followed by ECA (26.5 percent), MENA (44.8 percent), and ESALA (51.9 percent) (SESRIC, 2021). However, this still shows that the proportion of people who do not have adequate access to handwashing is still quite large in OIC countries.

### **C. Issues of Inequality and Disparity in Access to Water and Sanitation**

A review of OIC member countries' data in the World Bank's World Development Indicators shows that differences in access to water and sanitation services are not limited to the OIC regional level, but also extend at the urban-rural level in OIC member countries. In fact, in some cases, urban-rural gaps persist in member countries from regions that perform relatively better in terms of overall service coverage trends. For example, although coverage of basic and safely managed drinking water services is relatively higher in ECA, the proportion of the population with safely managed drinking water in Uzbekistan is as high as 86.1 percent in urban areas compared to only

31.1 percent in rural areas. Similar things happened in various other countries in various OIC regions.

Similarly, data from various OIC member countries show that coverage of safely managed sanitation is relatively better in urban areas than in rural areas. For example, urban-rural coverage rates for safely managed sanitation were 41.5 percent - 18.9 percent in Djibouti, 23.4 percent - 6.9 percent in Niger, and 20.3 percent - 8.4 percent in Sierra Leone, respectively. In contrast, in Mali, Iraq and Algeria, safely managed sanitation coverage is higher in rural than urban areas. In Mali, rural sanitation coverage was 25.5 percent and urban 9.1 percent; in Iraq, rural sanitation coverage was 45 percent and urban 39.4 percent; and in Algeria, rural sanitation coverage was 20.8 percent and urban 16.5 percent.

Data on coverage of basic handwashing facilities also show urban-rural disparities in access to hygiene services. Regional and urban-rural disparities in access to water and sanitation services are also reflected in variations in mortality rates caused by unsafe water and sanitation, and lack of hygiene in OIC member countries. The use of unsafe and inadequate water and sanitation services results in the spread of disease through pathogens ingested and/or circulated through the use of such services.

#### **D. Gender Issues in Water Supply and Sanitation**

In many communities around the world, responsibility for managing household water, sanitation and hygiene falls on the shoulders of women and girls. In low-income neighbourhoods and countries, SIDA (2015) found that women are more likely to be primarily involved in collecting, transporting, and using water. Likewise, the United Nations in the Millennium Development Goals Report 2012 states that women bear the main burden for collecting water in Sub-Saharan Africa (SESRIC, 2021).

In line with this, data from 29 OIC member countries show that the main responsibility for water collection falls on the shoulders of women and girls, regardless of the location of the water source. In addition, the lack of clean water and sanitation facilities affects women disproportionately. COHRE (2008) found that women, compared to men, are more likely to defecate and urinate in unguarded or remote areas outside their towns and villages after dark - which also makes them vulnerable to assault and rape. Women often compensate for lack of access to adequate sanitation facilities by changing their diet and water intake - which has a significant impact on their health. Unsafe and unhygienic sanitation facilities are also a major cause of disease transmission among women in poor households (Masgon and Gensch, 2019).

The hours women spend managing water and sanitation services inhibit the time they can spend on education and/or income generation. This is partly why the lack of safe and adequate

water and sanitation services contributes to continued poverty and inequality in low-income households. However, even with their extensive knowledge and expertise on water and sanitation management, women are still underrepresented in policy and decision-making mechanisms related to water resources management. According to Masgon and Gensch (2019), this lack of representation is a direct result of "a combination of discrimination, lack of political will or attention, and inadequate legal structures" that undermine women's knowledge of water and sanitation management and weaken their participation in water resources planning programs.

## Conclusion

Effective and sustainable water management is a key factor in sustainable economic development. Good water management contributes to economic development in several ways, including increasing agricultural productivity, supporting the industrial and energy sectors, facilitating tourism and transportation, and meeting people's basic needs. In addition, sustainable water management also helps to maintain environmental sustainability, improve quality of life, and protect aquatic ecosystems. Basically, good water management and maintenance is recommended and even required in Islam. Various philosophical values in Islam are in line with efforts in sustainable water management and sanitation, which in turn will become a solid pillar in the process of economic development.

Facts show that globally there is still a significant proportion of people who do not have access to adequate water and sanitation. This is also the case in Muslim countries that are members of the OIC. Even when compared to non-OIC countries, both developing and developed, it appears that Muslim countries are still lagging behind in this aspect. Not to mention there are still issues that must be addressed such as inequality and disparity in access to water and sanitation and gender issues. Of course, this reality is something that can hinder efforts to alleviate poverty and sustainable economic development. All of this is a challenge in order to be able to identify and formulate concrete steps in solving the existing problems.

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