

The Sharia Ruling on the Use of Treated Wastewater

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Abstract:

In these papers, we dealt with the legal ruling on the use of sewage water for custom and worship after treating it, as it is one of the most important calamities that occupy the reality of people. It is imperative to talk about it in the serious drought that the world is witnessing, which has led to the decay of groundwater and even surface water wealth due to climatic and environmental changes. We have arranged the research on an introduction in which we dealt with the definition of the subject of the research, its importance and problematic, and a preface in the definition of the research terms and the composition of sewage water and the stages of its treatment, and a topic we devoted to the rule of the use of sewage water according to the stages of treatment, and a conclusion that included the most important results of the research.

Key words: sewage water; treatment; using; legal ruling ;habit ; worship.

Introduction

Water is not merely a natural and energy resource bestowed by Allah upon humanity; it is the source of all life. Allah, the Exalted, says:

"And We made from water every living thing." (Qur'an, Surah Al-Anbiya, 21:30)

The need for water stems from this profound divine principle, as it sustains the lives of plants, animals, and human beings alike. It also serves as a means of generating various forms of energy, including hydroelectric and solar energy, in addition to being the sole indispensable source of drinking water. Numerous wars and conflicts have arisen over the control of water resources.

Despite its immense importance, this vital resource is increasingly threatened by depletion, if not eventual exhaustion, due to climate change and the deterioration of the ozone layer caused by environmental pollution associated with industrial development. Consequently, many regions of the world are experiencing severe drought, leading to the decline of both groundwater and surface water resources, including seas and oceans.

In response to this growing crisis, researchers and experts have sought alternative solutions to ensure a sustainable water supply. One of the most significant of these solutions is the treatment of wastewater. Wastewater consists of approximately 95% water, while the remaining 5% comprises pollutants and impurities that can be removed through modern treatment technologies. As a result, the treated water undergoes a complete transformation from its original state and becomes purified.

In light of these scientific developments, an important juristic question arises: Does treated wastewater become pure (ṭāhir) after undergoing purification, thereby making it permissible under Islamic law for ordinary uses—such as irrigation, drinking, and cooking—as well as for acts of worship, including ritual purification from minor and major impurity?

The importance of this topic lies, on the one hand, in humanity's increasing need for water amid its growing scarcity, and on the other hand, in the Islamic legal requirement that water used for purification must be both pure and purifying (ṭāhir and muṭahhir). Accordingly, this study primarily aims to determine the extent to which treated wastewater, at its various stages of treatment, may be considered valid for both customary uses and ritual purification.

To achieve this objective and answer the main research question, the study is organized into an introduction, a preliminary section, one main chapter, and a conclusion.

Introduction

This section presents the topic, its significance, and the research problem.

Preliminary Section

Definitions of the study's key terms, the composition of wastewater, and the stages of its treatment.

First: Definition of wastewater.

Second: Composition of wastewater.

Third: Stages of wastewater treatment.

Main Chapter

The Sharia Ruling on the Use of Wastewater According to the Stages of Treatment

First: The ruling on the use of wastewater during the preliminary and primary treatment stages.

Second: The ruling on the use of wastewater after biological (secondary) treatment.

Third: The ruling on the use of wastewater after tertiary (final) treatment.

Conclusion

This section presents the principal findings of the study.

Preliminary Section

Definitions of the Study Terminology, the Composition of Wastewater, and the Stages of Its Treatment

First: Definition of Sewage Water

1. Definition of Water

Linguistically

The word mā' (water) in Arabic is a collective noun whose singular form is distinguished by the addition of the letter hā'. Its original form is said to be mawah or māh. The terms al-mā'ah and al-māhah denote the singular form. The hamzah in mā' is derived from the letter hā', as evidenced by its various morphological forms, such as the diminutive muwayh and the plurals amwāh (for a small quantity) and miyāh (for abundance). The expression amāha fulān rakiyyatahu means that a person's well produced abundant water, while māhat al-rakiyyah means that the well became rich in extractable water. Likewise, muwayhah 'adhbah refers to fresh, sweet water. The verb mawwaha al-shay' means to coat an object with silver or gold over a base of copper or iron. From this derives tamwīh, meaning disguise, deception, or concealment. The adjectival forms are mā'ī or mawī.¹

Thus, among the lexical meanings of water are abundance, disguise, deception, beauty, fluidity, and flow.

Terminologically

Islamic jurists define water as "a subtle, flowing substance by which every living organism survives and by which ritual impurity is removed, provided it is absolute (unqualified) water, namely that which comes to mind when the word 'water' is mentioned without qualification."²

Chemists define water as "a chemical compound produced by the reaction of oxygen gas with hydrogen gas, represented by the chemical formula H₂O."³ In nature, however, water does not exist in its chemically pure form; rather, it is accompanied by various impurities.

2. Definition of Şarf (Drainage)

The term şarf is the verbal noun of the trilateral verb şarafa, meaning to divert or turn something away from its original course. Thus, şarafahu means "he diverted it," inşarafa means "it turned away," and şārafa nafsahu 'an al-shay' means "he restrained himself from something." Likewise, şurifa ilayhi means "it was returned to him in exchange."⁴

¹ Al-Zabīdī, Tāj al-'Arūs, Dār al-Hidāyah, Vol. 36, p. 506; Al-Rāzī, Mukhtār al-Şiḥāḥ, Beirut: Maktabat Lubnān Nāshirūn, 1415 AH/1995 CE, p. 642; Ibn Manẓūr, Lisān al-'Arab, 1st ed., Beirut: Dār Şādir, Vol. 13, p. 543.

² Al-Ḥaṣḥafī, Al-Durr al-Mukhtār, 2nd ed., Beirut: Dār al-Fikr, 1412 AH/1992 CE, Vol. 1, p. 179.

³ Ghayyab et al., Introduction to Environmental Sciences, 2nd ed., Amman: Dār al-Shurūq, 1966, p. 247.

⁴ Al-Zabīdī, Tāj al-'Arūs, Vol. 24, p. 14; Ibn Manẓūr, Lisān al-'Arab, Vol. 9, p.

Water is described as *ṣarf* (drainage) because it has departed from its original pure state and has become contaminated. Nevertheless, it may be restored to its original purity through treatment. Sewage water therefore belongs to the category of contaminated substances (*mutanajjisāt*), namely substances that are originally pure but become impure through external contamination. Such substances may, in principle, be purified by removing the impurity and its traces. This differs from substances that are inherently impure (*najis al-'ayn*), such as urine, which cannot be purified and therefore fall outside the scope of this study.

3. Definition of *Ṣiḥḥī* (Sanitary)

The term *ṣiḥḥī* is derived from *ṣiḥḥah* (health), which denotes the opposite of illness and signifies recovery from disease. It is said that a person *ṣaḥḥa min 'illatihi* or *istaṣaḥḥa*, meaning that he recovered from his illness. The term also conveys the broader meaning of being free from defects or deficiencies.⁵

4. Definition of Sewage Water as a Compound Term

The World Health Organization (WHO) defines sewage water as:

"All forms of wastewater generated by various human activities (domestic, commercial, and industrial). It is sometimes referred to as sewer water or sewage because it is generally conveyed through the public sewerage network within urban areas."⁶

For the purposes of this study, this definition may be summarized as:

All wastewater generated by various human activities and conveyed through the public sewerage network.

Second: Composition of Sewage Water

Sewage water consists primarily of 99% water and 1% solid matter, which includes impurities and pollutants.⁷

1. Water

The water component originates from potable water that has been used for various purposes while still containing many of the chemical elements originally present before use.

2. Impurities

Impurities accompany water use and vary in both type and quantity depending on the nature of water consumption. Industrial wastewater differs significantly from domestic wastewater, stormwater, infiltration water, and street-washing water.

Domestic Sewage

⁵ Ibn Fāris, *Maqāyīs al-Lughah*, Dār al-Fikr, 1399 AH/1979 CE, Vol. 3, p. 343.

⁶ Al-Zabīdī, *Tāj al-'Arūs*, Vol. 6, p. 528; Ibn Manẓūr, *Lisān al-'Arab*, Vol. 2, p. 507.

⁷ Al-Zabīdī, *Tāj al-'Arūs*, Vol. 6, p. 528; Ibn Manẓūr, *Lisān al-'Arab*, Vol. 2, p. 507.

Domestic sewage includes wastewater discharged from household sanitary facilities, toilets, kitchen sinks, and other domestic appliances. The principal impurities consist of food residues, human excreta, as well as substances resulting from bathing, laundering clothes, washing utensils, cleaning floors, and other household cleaning activities.

Industrial Wastewater

Industrial wastewater varies according to the type of industrial process, the nature of the liquid involved, the quantity of water used, the raw materials employed, and the proportion of industrial residues discharged into the sewerage system. Certain industrial effluents contain much higher concentrations of organic matter, suspended solids, and dissolved substances than domestic sewage, whereas others contain lower concentrations. For example, wastewater from the paper manufacturing industry contains high concentrations of suspended and dissolved organic matter, while cooling water used in industrial processes is generally free from impurities. It should also be noted that some industrial wastes contain toxic or harmful substances that adversely affect microorganisms, which play an essential role in wastewater treatment processes.⁸

Stormwater

Stormwater contains materials transported by rainfall during precipitation and surface runoff across rooftops and land surfaces.

Infiltration Water

Infiltration water refers to surface water or groundwater that enters sewer pipes when the groundwater table lies above the sewer level. The quantity of infiltration depends on the groundwater level relative to the sewer pipes, the quality of pipe joints, the type, diameter, and length of sewer pipes used, and the type of manhole covers installed.

Street washing water: This water, which is contaminated, is discharged into drains and then into the sewerage network, carrying with it sand, paper, oils, and grease.⁹

3. Pollutants: Treated wastewater contains a wide range of pollutants, including suspended solids, biodegradable organic matter, pathogenic microorganisms (such as bacteria, fungi, algae, viruses, worms, and certain parasites), refractory organic compounds resistant to degradation, heavy metals, dissolved inorganic constituents, and nutrients. These pollutants may be classified as follows:¹⁰

A. Physical Pollutants:

⁸ World Health Organization (WHO), Guidelines for the Design, Operation and Maintenance of Wastewater Treatment Plants, Regional Centre for Environmental Health Activities, Jordan, 2004. Ghraybah et al., Introduction to Environmental Sciences, pp. 276–277.

⁹ The Ruling on the Use of Treated Wastewater in Islamic Jurisprudence, Raw'ah Mohammed Hammadi, College of Islamic Sciences, University of Mosul, Syria, 2018, p. 131.

¹⁰ Wastewater Treatment Technology, United Nations Economic and Social Commission for Western Asia (ESCWA), 1st ed., New York, 2003, p. 3.

The most significant are sand and inert impurities.

B. Chemical Pollutants:

These pollutants may be organic, such as oils, grease, pesticides, and proteins, or inorganic, such as acids, nitrogen, phosphorus, and sulfur. They may also be gaseous, including ammonia and methane. Among the most hazardous chemical pollutants commonly found in wastewater are residues of fungicides, bactericides, herbicides, insecticides, phosphorus compounds, toxic chlorides, industrial detergents, as well as inorganic and organic substances. Wastewater may also contain toxic elements such as lead, nickel, mercury, chromium, cobalt, and cadmium at concentrations exceeding internationally accepted limits. These toxic elements accumulate in the soil and are transferred through the food chain to plants, animals, and ultimately humans, causing serious diseases. Furthermore, they bring about significant changes in the physicochemical properties of the soil.

C. Biological Pollutants:

The most important biological contaminants include dead animals and various pathogenic microorganisms, including viruses, bacteria, parasitic worms, and protozoa.

Virus Group: Adenoviruses, enteroviruses, and hepatitis viruses.

Bacterial Group: Pathogenic coliform bacteria, fecal coliform bacteria, *Salmonella* species, and *Shigella* species.

Parasitic Worm Group: Hookworms, *Ascaris*, pinworms, *Taenia saginata*, and *Taenia solium*.

Protozoan Group: Single-celled organisms such as *Entamoeba*.

The danger posed by these organisms lies in their ability to transmit numerous diseases to humans and animals through direct use of wastewater or through exposure of agricultural produce to contaminated water.¹¹

Third: Stages of Wastewater Treatment

Wastewater treatment is carried out in four main stages: preliminary treatment, primary treatment, biological (secondary) treatment, and tertiary (final) treatment. These stages are explained as follows:

1. Preliminary Treatment Stage:

At this stage, large solid materials, sand, and gravel are removed from wastewater to protect treatment plant equipment and prevent pipeline blockages during subsequent treatment stages. The principal units of this stage include:

A. Screens:

¹¹ The Ruling on the Use of Treated Wastewater in Islamic Jurisprudence, Ramadan Hamdoun Ali Ramo Al-Kiki and Rawae' Mohammed Mahdi, research published in *Islam Al-Musayriqat Journal*, January 2018, pp. 150–151.

Screens are used to retain and remove large solid materials (such as wood and paper) that may obstruct plant operations, damage mechanical equipment, or clog pipelines and the openings of various treatment units.

B. Comminutors (Grinding or Crushing Devices):

These devices are designed to shred, crush, or grind solid materials carried by wastewater that pass through the screen openings, thereby reducing their size and minimizing their adverse effects, particularly on pumps.

C. Grit Chambers:

These units are intended to separate and remove coarse sand and gravel that have passed through the screens and grinding or crushing devices. Their purpose is to reduce the load of inorganic sediments, thereby improving the efficiency of treatment processes in the subsequent stages.

d. Grease and Oil Traps.¹²

2. Primary Treatment Stage

The primary treatment stage aims to remove floatable and settleable organic and inorganic suspended solids. The main units of this stage include:

a. Flotation Tanks:

These tanks are used to separate and remove lightweight suspended solids from wastewater by flotation. Air is injected into the wastewater, producing bubbles that rise to the surface while carrying the lightweight particles with them.

b. Primary Sedimentation Tanks:

These tanks are designed to separate and remove settleable solids, most of which consist of sand along with a small proportion of organic matter. The sludge—defined as the solid material removed from wastewater by sedimentation or flotation and containing microbial biomass generated during the treatment process, commonly referred to as primary sludge—settles at the bottom of the tank. It is then collected and conveyed to a central or final sludge pit to facilitate its removal. In some cases, chemical coagulants such as alum, ferric chloride, and lime are added to enhance the sedimentation process.

Accordingly, this stage represents the physical and mechanical treatment of wastewater. During primary treatment, approximately 35–50% of biodegradable organic matter and 50–70% of suspended solids can be removed.¹³

3. Biological (Secondary) Treatment Stage

¹² Al-Sarawi, *Wastewater Treatment and Plant Operation*, 3rd ed. (Beirut: Dar Al-Kutub Al-Ilmiyyah, 2006), pp. 44, 50, 61, 63, and 328.

¹³ Al-Sarawi, *Wastewater Treatment and Plant Operation*, op. cit., pp. 63, 328–329; Ramadan Hamdoun, *The Ruling on the Use of Treated Wastewater in Islamic Jurisprudence*, op. cit., pp. 146–147.

The biological or secondary treatment stage is the most important phase of wastewater treatment. Its primary objective is to convert suspended organic matter that was not removed during primary sedimentation, as well as certain dissolved organic substances, into stable compounds or inert materials through the action of bacteria and other microorganisms. These materials are subsequently settled and separated from the water, after which the treated effluent is disinfected. The principal units of this stage include:

a. Aeration Tanks:

The purpose of aeration tanks is to decompose organic matter and other pollutants and convert them into stable compounds through oxidation. This process is carried out by naturally occurring microorganisms in wastewater, particularly bacteria. In the presence of oxygen, these microorganisms consume organic matter and transform it into stable substances. As they grow and reproduce, they form a biological mass known as activated sludge, which is subsequently separated from the treated water.

This stage may also include the removal of nutrients such as nitrogen and phosphorus. If present in excessive concentrations, these nutrients can pollute the receiving water body (such as a river or stream), harm aquatic life, or contaminate the soil when the treated water is used for agricultural irrigation.

b. Secondary Sedimentation Tanks:

In this unit, biologically treated wastewater passes through sedimentation tanks where the activated sludge, together with any remaining suspended solids, is settled and separated from the water.

A portion of the settled sludge is returned to the aeration tank to maintain the biological treatment process, while the remaining portion is transferred to subsequent sludge treatment stages. The secondary-treated effluent then proceeds to additional treatment stages after most biodegradable pollutants and pathogenic microorganisms have been removed.

c. Disinfection:

The objective of disinfection is to eliminate all pathogenic bacteria present in the treated water. It serves as the final step complementing the preceding treatment processes. Disinfection may be carried out using several methods; however, the most widely used is chlorine gas and its compounds, owing to their low cost and long-lasting disinfecting effect. In addition to destroying pathogenic microorganisms, chlorine also removes compounds responsible for unpleasant taste and odor, as well as other living organisms present in the water.

Accordingly, this stage constitutes the biological treatment of wastewater, through which approximately 90% of biodegradable organic matter and 85% of suspended organic matter are removed.¹⁴

4. Tertiary (Final) Treatment Stage

The tertiary treatment stage generally aims to improve the quality of treated water by removing contaminants that cannot be eliminated through the previously mentioned conventional treatment methods. These contaminants include nitrogen, phosphorus, organic matter, suspended solids, slowly degradable substances, and toxic materials. As a result, the treated water becomes safe and suitable for a wide range of uses, particularly the irrigation of certain agricultural crops. The principal treatment units at this stage include:

a. Filtration:

This process is intended to separate and remove very fine suspended solids by passing the water through a filtering medium such as sand or fine inert materials, including anthracite coal. Impurities are retained on the surface of the filter medium through adsorption and within the small pores between the filter particles. The filtering medium may also consist of very fine screens.

b. Chemical Precipitation and Reverse Osmosis:

This process involves chemical precipitation and reverse osmosis through the use of reverse osmosis units.

c. Disinfection Using Physical Methods:

Heat and light are among the most important physical disinfectants. Heating water to its boiling point destroys most pathogenic bacteria, while sunlight—particularly ultraviolet (UV) radiation—is an effective disinfectant against bacteria and viruses.

d. Disinfection Using Chemical Agents:

Some developing countries disinfect the final treated water using chlorine, sodium hypochlorite (Javel), or similar disinfectants. This is the final treatment step, after which the water becomes free from harmful contaminants and suitable for many beneficial uses.¹⁵

Thus, this stage comprises several treatment processes, including filtration, adsorption of organic compounds using activated carbon, chemical precipitation, reverse osmosis, and disinfection, thereby producing water that is free from pollutants and suitable for numerous applications.

Section: The Sharia Ruling on the Use of Wastewater According to the Treatment Stages

First: The Ruling on Using Wastewater During the Preliminary and Primary Treatment Stages

¹⁴ Ramadan Hamdoun, *The Ruling on the Use of Treated Wastewater*, op. cit., pp. 147–148.

¹⁵ Khalil Muhammad Ahmad Al-Sayyid, *Sanitary Engineering: Drinking Water and Wastewater*, 1st ed. (Cairo: Dar Al-Kutub Al-Ilmiyyah, 2004), p. 323; Al-Sarawi, *Wastewater Treatment*, op. cit., pp. 246–247; Ramadan Hamdoun, *The Ruling on the Use of Treated Wastewater*, op. cit., pp. 148–149.

Based on the characteristics of these two treatment stages, the water cannot be regarded as either pure (ṭāhir) or purifying (ṭahūr) because it still contains impurities and filth. This is evidenced by the persistence of changes in its taste, color, and odor due to contamination. Consequently, it is impermissible to use wastewater at these two stages for either ordinary daily use or acts of worship. In this regard, Bakr Abu Zayd identified three reasons that characterize sewage water before purification and which continue to apply after the preliminary and primary treatment stages:

The presence of impure waste affecting its taste, color, and odor.

The presence of infectious waste, disease-causing organisms, and a high concentration of germs and bacteria.

Its inherently repulsive and filthy nature, considering both its origin and the insects and vermin that develop within sewage, which are regarded as impure both naturally and according to Islamic law.¹⁶

Second: The Ruling on Using Wastewater During the Biological (Secondary) Treatment Stage

As previously explained, this stage removes a significant proportion of the pollutants that remain after the preliminary and primary treatment stages. Consequently, the treated water becomes largely free from harmful contaminants and may be suitable for certain uses, including the irrigation of agricultural crops and watering livestock.

However, the use of water treated only to this stage for drinking or ritual purification remains impermissible because it still retains traces of impurity. This is evidenced by the fact that a further treatment stage is required to eliminate the remaining pollutants.

With regard to its use for irrigation, Islamic jurists have differed and adopted two opinions.

The First Opinion: It is permissible to irrigate crops, fruits, and livestock with impure water (at this treatment stage), and such irrigation does not render them impure. This is the opinion of the Hanafis—provided that the water does not alter the color, smell, or taste of what is given to livestock¹⁷ as well as the Malikis,¹⁸ the Shafi'is¹⁹ and the Hanbalis concerning the watering of animals. It is also one narration from Imam Ahmad, preferred by Ibn 'Aqīl, regarding the irrigation of crops and fruits.²⁰ Their opinion is based on the following evidence:

1. Yazid reported:

¹⁶ The opinion of Shaykh Bakr Abu Zayd—the sole dissenting opinion—presented within the resolution of the Islamic Fiqh Academy affiliated with the Muslim World League, adopted during its Eleventh Session held in Makkah from 13–20 Rajab 1409 AH (19–26 February 1989); Al-Jizani, *Fiqh al-Nawāzil: A Foundational and Applied Study*, 2nd ed. (Saudi Arabia: Dar Ibn al-Jawzi, 1427 AH/2006), Vol. 2, p. 142.

¹⁷ Al-Haskafī, *Al-Durr al-Mukhtar*, op. cit., Vol. 6, p. 385; Ibn Nujaym, *Al-Bahr al-Ra'iq* (Beirut: Dar al-Ma'rifah), Vol. 6, p. 187; Al-Kasani, *Bada'i' al-Sana'i'* (Beirut: Dar al-Kitab al-'Arabi, 1982), Vol. 1, p. 66.

¹⁸ Al-Hasuqi, *Hashiyat al-Hasuqi* (Beirut: Dar al-Fikr), Vol. 1, pp. 38, 61.

¹⁹ Al-Rafi'i, *Fath al-'Aziz bi Sharh al-Wajiz* (Dar al-Fikr), Vol. 4, pp. 654–655; Al-Mawardi, *Al-Iqna' fi al-Fiqh al-Shafi'i*, p. 33.

²⁰ Ibn Qudamah, *Al-Mughni*, 1st ed. (Beirut: Dar al-Fikr, 1405 AH), Vol. 11, p. 66; Al-Mardawi, *Al-Insaf fi Ma'rifat al-Rajih min al-Khilaf*, 2nd ed. (Dar Ihya' al-Turath al-'Arabi), Vol. 1, p. 62, and Vol. 10, p. 368.

“Sa'd ibn Abi Waqqas (may Allah be pleased with him) used to carry a basket of human excrement to one of his lands.”²¹

This report indicates the permissibility of fertilizing land with manure,²² as Al-Rafi'i from Imam Al-Juwayni:

“It was not prohibited due to the pressing need, which approaches the level of necessity. Reliable authorities have transmitted this practice from the Companions of the Prophet (peace and blessings be upon him).”²³

2. Impurities undergo transformation (istihalah) within crops and fruits, leaving no trace of their original nature. Consequently, their legal ruling should cease to apply. What matters is not the original substance but the present nature of the object itself. It is inconceivable for the ruling of impurity to remain after both its name and characteristics have disappeared, since legal rulings are contingent upon names and descriptions, existing when they exist and ceasing when they cease. Thus, the Qur'anic and Prophetic texts prohibiting carrion, blood, pork, and wine do not apply—either literally or by analogy—to crops, fruits, ashes, salt, soil, or vinegar.²⁴

3. This is further supported by analogy with substances purified through transformation, such as blood, which is transformed within an animal's body into milk. Allah, the Exalted, states that milk comes forth “from between excretion and blood.”²⁵ Likewise, wine becomes pure through transformation according to sound analogy, for it is deemed impure due to its intoxicating nature. Once the effective cause of impurity disappears, the ruling also disappears. Accordingly, valid analogy extends this principle to all impurities that undergo complete transformation.²⁶

4. Those who distinguish between the transformation of wine and other impurities argue that wine became impure through transformation and was likewise purified through transformation. It may be replied that blood, urine, and human excrement similarly became impure through transformation and are purified through transformation. Thus, sound analogy accords with the textual evidence, whereas opinions contradicting this principle are in conflict with both analogy and the revealed texts.²⁷

²¹ Narrated by Al-Bayhaqi, Al-Sunan al-Kubra, Book of Sharecropping (Kitab al-Muzara'ah), Chapter: “On the Use of Animal Manure and Human Excrement in Agricultural Land,” Hadith No. 12094, 1st ed. (Hyderabad: Majlis Da'irat al-Ma'arif al-Nizamiyyah, 1344 AH), Vol. 6, p. 138. Ibn al-Mulaqqin stated in Al-Badr al-Munir: “A weak hadith has been reported on this issue; he then cited the narration of Ibn 'Abbas: ‘We used to lease the land of the Messenger of Allah (peace be upon him) on the condition that it would not be fertilized with human excrement.’” 1st ed. (Riyadh: Dar al-Hijrah, 1425 AH/2004 CE), Vol. 5, pp. 29–30.

²² Ibn Qudamah, Al-Mughni, previously cited, Vol. 11, p. 66.

²³ Al-Rafi'i, Fath al-'Aziz bi Sharh al-Wajiz, previously cited, Vol. 4, pp. 654–655; Al-Nawawi, Al-Majmu' Sharh al-Muhadhdhab (Beirut: Dar al-Fikr), Vol. 4, p. 448.

²⁴ Ibn al-Qayyim, I'lam al-Muwaqqi'in 'an Rabb al-'Alamin, 1st ed. (Saudi Arabia: Dar Ibn al-Jawzi, 1423 AH), Vol. 3, p. 183.

²⁵ Ibn Qudamah, Al-Mughni, previously cited, Vol. 11, p. 66; Al-Mardawi, Al-Insaf, previously cited, Vol. 10, p. 368; Ibn al-Qayyim, I'lam al-Muwaqqi'in, previously cited, Vol. 3, p. 183.

²⁶ Ibn al-Qayyim, I'lam al-Muwaqqi'in 'an Rabb al-'Alamin, previously cited, Vol. 3, p. 183.

²⁷ Ibn al-Qayyim, I'lam al-Muwaqqi'in 'an Rabb al-'Alamin, previously cited, Vol. 3, pp. 183–184.

5.The Muslim scholars unanimously agree that if an animal is fed impure substances and is subsequently confined and fed pure feed, its milk and meat become lawful. Likewise, if crops and fruits are irrigated with impure water and are later irrigated with pure water before harvest, they become lawful because the attribute of impurity has been transformed into purity. Conversely, if a pure substance changes into an impure one—such as water or food turning into urine or excrement—it becomes impure. If transformation is sufficient to convert purity into impurity, how can it not likewise convert impurity into purity? Indeed, Allah brings forth the pure from the impure and the impure from the pure.²⁸

6.The Prophet (peace and blessings be upon him) ordered the graves of the polytheists to be exhumed from the site of his mosque, yet the soil itself was not removed.²⁹

The Second Opinion

The second opinion holds that it is impermissible to irrigate crops and fruits with impure water, and that such irrigation renders them impure. This is the well-known position of the Hanbali school.³⁰ Their evidence includes the following:

1.It was narrated from Ibn Abbas (may Allah be pleased with them both):

“We used to lease the land of the Messenger of Allah (peace and blessings be upon him) on the condition that it would not be fertilized with human excrement.”³¹

They argued that crops nourished by impurities absorb them into their structure, while transformation (istihalah) does not purify impurities. Had the produce remained lawful, imposing such a condition would have been meaningless. Therefore, crops and fruits grown in this manner are considered impure and prohibited.³²

2.They distinguish between the transformation of wine and that of urine or excrement. Wine became impure through transformation and was purified through another transformation, whereas this ruling does not extend to other impurities.³³

3.They also draw an analogy with the jallalah (animals habitually fed on impurities). Although the impurities consumed by such animals undergo transformation within their bodies, the animals are not

²⁸ Ibn al-Qayyim, *I'lam al-Muwaqqi'in 'an Rabb al-'Alamin*, previously cited, Vol. 3, p. 183.

²⁹ Narrated by Al-Bukhari, *Sahih al-Bukhari*, Book of Prayer, Chapter: "Whether the Graves of the Polytheists of the Pre-Islamic Era May Be Exhumed and Their Place Used for Mosques," Hadith No. 428, 1st ed. (Dar Tawq al-Najah, 1422 AH), Vol. 1, p. 94; and Muslim, *Sahih Muslim*, Book of Mosques, Chapter: "The Construction of the Prophet's Mosque," Hadith No. 524 (Beirut: Dar Ihya' al-Turath al-'Arabi), Vol. 1, p. 373; Ibn al-Qayyim, *I'lam al-Muwaqqi'in*, previously cited, Vol. 3, p. 183.

³⁰ Ibn Qudamah, *Al-Mughni*, previously cited, Vol. 11, p. 66; Al-Mardawi, *Al-Insaf*, previously cited, Vol. 10, p. 368.

³¹ Narrated by Al-Bayhaqi, *Al-Sunan al-Kubra*, Book of Sharecropping, Chapter: "On the Use of Animal Manure," Hadith No. 12097, previously cited, Vol. 6, p. 139. Al-Bayhaqi commented: "It is a weak hadith."

³² Ibn Qudamah, *Al-Mughni*, previously cited, Vol. 11, p. 66; Ibn Muflih, *Al-Mubdi' Sharh al-Muqni'*, (Riyadh: Dar 'Alam al-Kutub, 1423 AH/2003 CE), Vol. 9, p. 179.

³³ Ibn al-Qayyim, *I'lam al-Muwaqqi'in 'an Rabb al-'Alamin*, previously cited, Vol. 3, p. 183.

considered lawful until they are confined and fed pure food.³⁴ It should be noted that there is scholarly disagreement regarding the permissibility of benefiting from such animals a discussion that also extends, by analogy, to fish raised in treated wastewater but this issue falls outside the scope of the present discussion.

Preferred Opinion

The stronger view—and Allah knows best—is that treated wastewater at this stage should not be used for irrigation, because it still carries elements of impurity. This likely explains why modern states establish regulations and standards governing the agricultural reuse of treated wastewater and provide farmers with detailed guidance concerning its safe use, including restrictions on crop types and irrigation methods. These regulations include:

Farmers must obtain authorization from the Ministry of Agriculture before using treated wastewater to irrigate crops requiring high-quality standards.

The water must comply with the established standards for secondary and tertiary treated wastewater. Physical and chemical analyses of soils on farms using treated wastewater must be conducted in accredited laboratories to monitor and assess the effects of such irrigation on soil quality.³⁵

Furthermore, agricultural authorities continue to advise against irrigating vegetables that are normally eaten raw with treated wastewater. In addition, the issue of *istihalah* remains a matter of scholarly disagreement. According to the Shafi'i school and the authoritative position within the Hanbali school, transformation does not necessarily result in purification.³⁶

Third: The Ruling on the Use of Wastewater at the Third (Final) Treatment Stage

Treated Sewage Water at This Stage

At this stage, treated sewage water is considered ritually pure (*ṭāhir*), as confirmed by experts. However, Muslim jurists have differed regarding the permissibility of its use, adopting two principal opinions:

The First Opinion

The Council of Senior Scholars in Saudi Arabia and the Islamic Fiqh Council of the Muslim World League maintain that it is permissible to use impure water after it has been purified for both customary purposes and acts of worship, unless its use for drinking is shown to cause health hazards. In such a case, abstention is based on protecting human health rather than on the water's ritual impurity. Their evidence includes the following:

³⁴ Ibn Qudamah, *Al-Mughni*, previously cited, Vol. 11, p. 66.

³⁵ Ramadan Hamdoun, *The Ruling on the Use of Wastewater*, previously cited, p. 154.

³⁶ The dissenting opinion of Shaykh Bakr Abu Zayd, as recorded in the resolution of the Islamic Fiqh Academy affiliated with the Muslim World League, previously cited.

A large quantity of water contaminated by impurity becomes pure once the cause of its alteration is removed. This may occur by adding pure water—upon which there is scholarly consensus—or through prolonged standing, exposure to sunlight and wind, or by adding soil or similar substances, according to the preferred opinion of many jurists. The legal ruling ceases when its effective cause (*'illah*) ceases. Accordingly, if contaminated sewage water—which is undoubtedly abundant—is purified through modern technical treatment processes that eliminate the impurities affecting it, it may be judged pure, since the cause of its impurity, namely the change in its color, taste, or odor due to contamination, has disappeared. Indeed, the legal ruling revolves around its effective cause, existing or ceasing with it.

This view is further supported by the established juristic maxim that a large quantity of water contaminated by impurity becomes pure once the impurity and its effects have completely disappeared.³⁷

The Second Opinion

This is the opinion of Bakr Abu Zayd, who held that treated sewage water should not be used for purification or any other purpose. His arguments include the following:

Untreated sewage water contains numerous harmful elements. Therefore, after treatment, the issue is whether all these harmful characteristics have truly been eliminated. The mere disappearance of the water's taste, color, and odor does not necessarily mean that all harmful substances and pathogenic microorganisms have been removed.

Agricultural authorities consistently advise against irrigating vegetables that are consumed raw with such water, let alone drinking it directly. One of the objectives of Islamic law is the preservation of human life and health. Hence, the Prophet (peace be upon him) prohibited exposing healthy individuals to contagious diseases. Preventing harm to the body is as obligatory as safeguarding religion.

Even if the health-related concerns were eliminated, the issue of natural human aversion (*istikhbāth* and *istiḡdhār*) would remain, given that the original source of the water is human urine and feces. Consequently, its use in both religious practices and ordinary activities remains objectionable.

According to the Shāfi'ī school and the relied-upon opinion within the Ḥanbalī school, transformation (*istiḥālah*) in this context does not result in purification. They support this position with the hadith prohibiting riding or consuming the meat and milk of *al-jallālah* (animals that habitually feed on filth).³⁸

³⁷ The complete texts of both resolutions will be presented later when discussing the causes of disagreement and the scholarly analysis.

³⁸ Al-Jizani, *Fiqh al-Nawazil*, previously cited, Vol. 2, p. 141.

The disagreement among early jurists concerning transformation dealt with the conversion of specific impure substances into pure ones in well-defined cases. They did not address the modern reality of sewage systems containing vast quantities of impurities, waste, and hospital effluents. Moreover, Muslims have never reached a level of necessity that would require purifying sewage for drinking or ritual purification. The permissibility adopted in non-Muslim countries cannot be taken as evidence because of the corruption of their customs resulting from disbelief.

An alternative exists in desalinating seawater, even if this entails higher costs. These expenses can be covered by modest increases in water consumption fees without causing undue hardship. Such an approach also implements the Islamic principle prohibiting extravagance in the use of water.³⁹

Causes of the Juristic Disagreement and Discussion

From the foregoing presentation of the juristic opinions and their evidence, the following becomes evident:

1. The Concept of Transformation (Istiḥālah)

The principal reason for the disagreement concerns whether transformation (istiḥālah) changes the very essence and reality of a substance, thereby rendering it pure and lawful for use after having been impure.

Linguistically, istiḥālah is the verbal noun of istaḥāla, meaning "to become transformed" or "to undergo a change." It may also denote something becoming impossible to attain or realize. A thing is said to have undergone istiḥālah when it changes from one state or nature to another, such as water becoming hot or cold while retaining its essential identity.⁴⁰ Likewise, anything that departs from its original state to another condition is described as having changed (ḥāla or istaḥāla). Thus, istiḥālah signifies transformation and alteration from one intrinsic nature or characteristic to another.⁴¹

Accordingly, the general linguistic meaning of istiḥālah revolves around change, transformation, and transition from one state to another, or the impossibility of remaining in its former condition.

As for its technical definition in Islamic jurisprudence (fiqh), istiḥālah (transformation) refers to the transformation of a substance through the disappearance of its original reality,⁴² or the cessation of the attribute upon which the legal ruling concerning that substance is based.⁴³

³⁹ Ibn ʿUmar reported: "The Messenger of Allah (peace be upon him) prohibited eating the meat of al-jallālah and drinking its milk." Narrated by al-Tirmidhī in Sunan al-Tirmidhī, Book of Foods, Chapter: Eating the Meat and Drinking the Milk of al-Jallālah, Hadith No. 1824 (Beirut: Dār Iḥyāʾ al-Turāth al-ʿArabī), Vol. 4, p. 270. Al-Tirmidhī classified it as ḥasan gharīb.

⁴⁰ The dissenting opinion of Shaykh Bakr Abu Zayd included in the resolution of the Islamic Fiqh Council of the Muslim World League, previously cited.

⁴¹ Al-Manāwī, Al-Tawqīf ʿalā Muḥimmāt al-Taʿārīf, 1st ed. (Beirut–Damascus: Dār al-Fikr al-Muʿāṣir, 1410 AH), p. 55; Aḥmad Mukhtār ʿUmar, Al-Muʿjam al-Lughah al-ʿArabiyyah al-Muʿāṣirah, 1st ed. (ʿĀlam al-Kutub, 1429 AH/2008 CE), Vol. 1, pp. 586–587.

⁴² Al-Baḥr al-Rāʾiq, Ibn Nujaym, previously cited, Vol. 1, p. 239.

⁴³ Ibid., Vol. 1, p. 239.

In scientific terminology, it is defined as: “Any chemical reaction that converts a substance into another compound, such as the conversion of oils and fats, regardless of their source, into soap.”⁴⁴

The majority of jurists, including the Hanafis, Malikis, and one opinion within the Hanbali school,⁴⁵ maintain that *istiḥālāh* changes the reality of an impure substance, thereby rendering it pure. They argue that when an impure substance undergoes transformation and its characteristics and properties are altered, it ceases to be impure because impurity is a legal description attached to a specific substance. Once that description disappears, the ruling of impurity also ceases.⁴⁶

In contrast, the Shafi‘i school⁴⁷ and the predominant opinion of the Hanbali school hold that the⁴⁸ transformation of an impure substance and the disappearance of its impure characteristics—even if replaced by pleasant and desirable qualities—do not render it pure. They rely on the narration of Anas ibn Malik (may Allah be pleased with him), who reported:

“The Prophet (peace and blessings be upon him) was asked about wine that is turned into vinegar, and he replied: ‘No.’”⁴⁹

According to this view, anything that comes into contact with wine becomes impure by virtue of that contact, and an intrinsically impure substance cannot purify another substance. Thus, transformation brought about through external intervention does not result in purification. They therefore distinguish between wine into which something has been deliberately introduced and wine that naturally transforms into vinegar. In the latter case, no impurity has been intentionally introduced, nor has there been any deliberate unlawful act concerning the wine.⁵⁰

The preferred opinion—and Allah knows best—is that of the majority of jurists. This is because the transformation of a substance necessarily entails the disappearance of the legal attribute attached to it. Furthermore, the new substance resulting from the transformation of an impure material is not encompassed by the texts prohibiting the original substance; therefore, it remains subject to the original presumption of permissibility.

Explaining this principle, Ibn Nujaym stated:

“The Lawgiver attached the ruling of impurity to that specific reality. When that reality ceases to exist, even through the disappearance of some of its essential components, the ruling likewise ceases. Grape juice is pure; when it becomes wine it becomes impure; and when it turns into vinegar it

⁴⁴ Muhammad al-Huwārī, Transformation of Impurities and the Relationship of Its Legal Rulings to the Use of Prohibited and Impure Substances in Food and Medicine, www.islamfeqh.com (accessed 15 April 2022).

⁴⁵ Al-Durr al-Mukhtār, al-Ḥaṣḥafī, previously cited, Vol. 1, p. 209.

⁴⁶ Al-Sharḥ al-Kabīr with Ḥāshiyat al-Dusūqī, al-Dardīr (Beirut: Dār al-Fikr), Vol. 1, p. 50.

⁴⁷ Al-Mughnī, Ibn Qudāmāh, previously cited, Vol. 1, p. 88.

⁴⁸ Badā’i’ al-Ṣanā’i’, al-Kāsānī, previously cited, Vol. 1, p. 85.

⁴⁹ Rawḍat al-Ṭālibīn, al-Nawawī (Beirut: Al-Maktab al-Islāmī, 1405 AH), Vol. 4, p. 72.

⁵⁰ Al-Mughnī, Ibn Qudāmāh, previously cited, Vol. 1, p. 88.

becomes pure once again. Thus, we know that the transformation of a substance necessarily entails the disappearance of the legal attribute attached to it.”⁵¹

Similarly, Ibn Taymiyyah, while discussing the permissibility of substances resulting from the transformation of impure materials, stated:

“This is undoubtedly the correct view. These transformed substances are not included in the texts prohibiting the original impure substances, neither explicitly nor implicitly. Therefore, they are neither prohibited nor analogous to prohibited things. Rather, they fall under the general texts permitting wholesome substances, and they are also analogous to other substances unanimously regarded as lawful. Hence, both textual evidence and analogical reasoning support their permissibility.”⁵²

2. If transformation (*istiḥālah*) changes the reality of a substance, can the purification achieved through wastewater treatment be regarded as *istiḥālah*?

Those who oppose this characterization argue that the processes involved in treating wastewater cannot be classified as the *istiḥālah* discussed by classical jurists and upon which they based legal rulings. Their arguments include the following:

a. During wastewater treatment, pollutants and harmful substances are removed through filtration and purification, followed by disinfection using chlorine or other sterilizing agents. This process resembles purification rather than transformation. In the *istiḥālah* intended by the jurists, the entire substance is converted into a completely different substance whose characteristics and properties change so fundamentally that it acquires a new identity and a different name. Examples include wine transforming into vinegar, whereby its properties are completely altered and it becomes known as vinegar, or blood being transformed into milk. By contrast, treated wastewater merely undergoes intensive purification to remove contaminants; the water remains water and does not become a different substance. Thus, the process is one of purification rather than the complete transformation contemplated by *istiḥālah*.

b. The concept of *istiḥālah* itself is disputed among jurists, as some scholars do not consider it a means of purification, as previously discussed. Moreover, wine, blood, and partially digested food (*farth*) are originally pure in essence before changing into other pure substances: wine into vinegar—despite the prohibition against intentionally converting wine into vinegar—and blood and digested matter into milk. Furthermore, the legal precedent upon which analogy (*qiyās*) is based should not itself be disputed; otherwise, analogy becomes invalid. Likewise, the impurity attributed to polytheists is

⁵¹ Ṣaḥīḥ Muslim, Book of Drinks, Chapter: “The Prohibition of Intentionally Converting Wine into Vinegar,” Hadith No. 1983, Vol. 3, p. 1573.

⁵² Al-Mabsūṭ, al-Sarakhsī, 1st ed. (Beirut: Dār al-Fikr, 1421 AH/2000 CE), Vol. 24, pp. 42–43.

considered spiritual rather than physical, which is why the Prophet (peace and blessings be upon him) did not order the removal of the soil after the graves of the polytheists were exhumed.

c. Wastewater treatment relies on mechanical equipment. Such machinery may malfunction, lose efficiency over time, or deteriorate. Consequently, concerns arise regarding the potential impact on agriculture and public welfare should untreated wastewater leak due to equipment failure or reduced operational effectiveness.

d. The treatment process also differs fundamentally from the methods mentioned by classical jurists for purifying impure water. It does not involve adding another substance, mixing with soil, allowing prolonged standing, or exposure to sunlight, as discussed in the classical legal texts. Rather, it consists entirely of removing harmful contaminants through mechanical processes carried out in successive treatment stages. Accordingly, the process depends entirely on technological intervention rather than any intrinsic transformation occurring within the water itself.

e. Furthermore, although the Council of Senior Scholars—which considers treated wastewater pure and permissible for use—allowed its utilization after purification, it nevertheless recommended avoiding its use for drinking whenever alternative sources are available. One such alternative is seawater desalination, whose purity is unanimously established in Islamic law, making it a safer option for both human welfare and agricultural use.

The Permissible Opinion

Those who permit the use of treated wastewater maintain that the process of wastewater treatment constitutes *istiḥālah* (transformation), a concept recognized by classical jurists upon which they based numerous legal rulings. Their view is supported by the following evidence, as stated in the resolutions of Islamic fiqh councils:

A. Resolution of the Council of Senior Scholars of the Kingdom of Saudi Arabia

Resolution No. (64), issued on 25/10/1398 AH, states:

"Based on the opinions of Islamic scholars that a large quantity of water contaminated by impurity becomes pure once its impurity-induced change disappears—whether naturally, through the addition of pure water, by prolonged standing, or through the effects of sunlight, wind, or similar causes—because the legal ruling ceases with the disappearance of its effective cause; and since contaminated water can be purified by various methods; and since purifying and cleansing it from impurities through modern technological treatment methods is considered among the most effective means of filtration and purification, whereby extensive material efforts are exerted to remove impurities, as confirmed by qualified experts whose knowledge, experience, and integrity are beyond doubt; therefore, the Council considers such water to be pure after complete purification, provided that it returns to its original natural state, with no trace of impurity remaining in its taste, color, or odor. It is therefore permissible to use it for ritual purification (removing both minor and major states of ritual

impurity) and for removing physical impurities. It is also permissible to drink it unless its use is proven to cause health harm, in which case its use should be avoided for the preservation of life and prevention of harm, not because of impurity. Nevertheless, the Council recommends avoiding its use for drinking whenever an alternative source of water is available, as a precaution for health, to prevent possible harm, and because people naturally find such water objectionable."

B. Resolution of the Islamic Fiqh Council of the Muslim World League

The Islamic Fiqh Council of the Muslim World League, during its Eleventh Session held in Makkah from 13–20 Rajab 1409 AH (corresponding to 19–26 February 1989 CE), issued the following resolution:

"The Council examined the question concerning the legal status of sewage water after treatment: Is it permissible to use it for ablution (wuḍū') and ritual bathing (ghusl)? Is it permissible to use it for removing impurities? After consulting specialists in chemical purification methods, who explained that purification is achieved through four stages—sedimentation, aeration, disinfection by eliminating microorganisms, and chlorination—such that no trace of impurity remains in the water's taste, color, or odor, and since these experts are trustworthy Muslims known for their honesty and reliability, the Council resolved that if sewage water is purified through these methods or equivalent processes so that no trace of impurity remains in its taste, color, or odor, it becomes ṭahūr (pure and purifying). It is therefore permissible to use it for ritual purification and for removing impurities, based on the established juristic principle that abundant water contaminated by impurity regains its purity once the impurity disappears and no trace of it remains. And Allah knows best."

Preferred Opinion

The primary objective of treating wastewater through modern technological methods is to recover potable water for drinking, cooking, irrigation, and purification. Populations living in arid regions or in areas affected by drought due to climatic and environmental changes often suffer from severe water shortages or even complete water scarcity. In many cases, no practical alternative exists, or available alternatives—such as seawater desalination—remain inaccessible because of technological limitations, inadequate implementation capabilities, or their extremely high costs, even for many developed countries.

Furthermore, reliable scientific experts affirm that contemporary purification techniques effectively remove impurities and treat wastewater with a degree of certainty that leaves no room for doubt, and that these methods are significantly more effective than the traditional purification methods discussed by classical jurists. Through this treatment process, the impure substance undergoes a complete transformation into a new substance that differs from the original in both name and characteristics. Consequently, it becomes pure and purifying, making it permissible to benefit from it in both ordinary and religious contexts.

However, as recommended by the Council of Senior Scholars, it is preferable to avoid drinking such water whenever an alternative source is available, as a precautionary measure for protecting public health rather than because the water remains impure.

This conclusion is supported by the evidences previously discussed and is consistent with the higher objectives (maqāṣid) of Islamic law. The necessity of securing adequate water resources outweighs any doubts that have already been resolved by qualified experts. Moreover, the treatment and reuse of wastewater serve an important environmental protection function.

Conclusion

From the foregoing discussion, the study has reached the following conclusions:

Sewage wastewater refers to all forms of used water generated by various human activities and conveyed through the public sewerage network.

Sewage wastewater consists primarily of water, accounting for approximately 99% of its composition, together with suspended and dissolved solids known as impurities and contaminants resulting from its use.

The water component originates from previously used potable water and retains the chemical elements it contained before use. The impurities arise from water use and vary in type and quantity according to the source of wastewater, such as industrial effluents, domestic wastewater, stormwater, infiltration water, or street-washing water. Contaminants include numerous physical pollutants (such as sand), organic chemical pollutants (such as oils), inorganic chemical pollutants (such as acids), gaseous pollutants (such as ammonia), and biological contaminants, including dead animals and various pathogenic microorganisms (viruses, bacteria, worms, and protozoa). These pollutants accumulate in the soil and enter the food chain through plants and animals, eventually reaching humans, where they may cause serious diseases and significant changes in the physicochemical properties of the soil.

The treatment of sewage wastewater proceeds through four main stages: preliminary treatment, primary treatment, secondary (biological) treatment, and tertiary (final) treatment.

During the preliminary treatment stage, large solid materials, sand, and grit are removed to protect treatment equipment and prevent pipe blockages in subsequent stages. Primary treatment aims to remove floatable and settleable organic and inorganic solids. Secondary (biological) treatment converts suspended organic matter that has not settled in primary sedimentation tanks, together with certain dissolved organic substances, into stable compounds or inert materials through the action of bacteria and other microorganisms. These materials are then separated from the water, after which the treated water is disinfected. The tertiary (final) treatment stage further improves water quality by removing contaminants that cannot be eliminated through conventional treatment methods, such as nitrogen, thereby producing water that is safe and suitable for a wide range of uses.

It is not permissible to use sewage wastewater after the preliminary and primary treatment stages, whether for ordinary purposes or acts of worship, because the water cannot yet be regarded as pure or purifying. It still contains impurities and filth, as evidenced by the alteration of its essential characteristics—taste, color, and odor—due to contamination.

Water treated only through the secondary (biological) stage should not be used for drinking or ritual purification because it still retains some impurities, as indicated by the necessity of the remaining treatment stage, which removes many additional contaminants. As for its use in irrigation, jurists have differed in their opinions. The stronger view appears to be that its use for irrigation is also impermissible at this stage because it continues to contain impurities. This explains why many countries have established regulations and standards governing the agricultural reuse of treated wastewater and have issued guidelines for farmers on its proper handling.

According to technical experts, sewage wastewater that has undergone tertiary (final) treatment is considered pure. However, Islamic jurists differ regarding its legal ruling. One opinion permits the use of previously impure water after purification for both ordinary use and acts of worship, except where drinking it may pose health risks, in which case avoidance is recommended as a precaution for health rather than because of ritual impurity. This view is based on the principle that a large quantity of water contaminated by impurity becomes pure once the impurity and its traces disappear. The opposing view prohibits its use for purification, drinking, and other purposes, arguing that although changes in taste, color, and odor may disappear, harmful pathogens and causes of disease may still remain. Agricultural authorities, for example, continue to advise against irrigating vegetables consumed raw with treated wastewater. Even if this concern were eliminated, they argue that the original sense of repugnance associated with such water would remain. They also reject reliance on practices adopted in non-Muslim countries and instead point to alternatives such as seawater desalination.

The principal cause of disagreement among jurists concerns the doctrine of *istiḥālah* (transformation)—namely, whether transformation changes the essential nature of a substance so that it becomes pure and lawful after having been impure. The preferred opinion is that of the majority of jurists, who maintain that transformation does indeed alter the substance itself, resulting in the disappearance of its previous ruling. Once the impure substance has transformed into a new substance, it is no longer subject to the original prohibition and therefore returns to the basic ruling of permissibility. A further disagreement concerns the legal characterization of modern wastewater treatment: does the purification process constitute *istiḥālah*? Those who prohibit its use argue that modern treatment cannot be equated with the transformation discussed by classical jurists, whereas those who permit it consider modern treatment to be a valid form of *istiḥālah*.

In light of the foregoing discussion, the stronger opinion appears to be that the use of modern technologies to purify sewage wastewater and recover fresh water is justified by the pressing need for water for drinking, cooking, irrigation, and purification. Communities living in arid regions or areas affected by drought due to climate and environmental changes often suffer from severe water shortages, while practical alternatives, such as seawater desalination, may be unavailable or inaccessible. Moreover, reliable technical experts affirm that contemporary treatment methods effectively remove impurities and contaminants with a degree of certainty exceeding the purification methods discussed by classical jurists. The impure substance is transformed into a new substance that differs in both name and characteristics and therefore becomes pure and purifying, making its use for irrigation and ablution permissible. Nevertheless, it remains preferable, as recommended by the Council of Senior Scholars, to avoid drinking such water whenever a suitable alternative exists, as a precaution for public health rather than because of ritual impurity. This conclusion is supported by the evidence presented in this study and is consistent with the higher objectives (Maqāṣid) of Islamic law, particularly the preservation of life and the protection of the environment.

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