

**INTEGRATED WATER RESOURCES MANAGEMENT  
TO REALIZE SUSTAINABLE DEVELOPMENT GOALS  
ACCORDING TO LAW NUMBER 17 OF 2019  
AND THE PERSPECTIVE OF FIQH BI'AH**

**THESIS**

**BY:**

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**SIN 200203110005**



**CONSTITUTIONAL LAW DEPARTMENT (SIYASAH)**

**FACULTY OF SHARIA**

**STATE ISLAMIC UNIVERSITY MAULANA MALIK IBRAHIM**

**MALANG**

**2023**

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**2023**

## STATEMENT OF THE AUTHENTICITY

In the name of Allah,

With consciousness and responsibility toward the development of science, the writer declares that thesis entitled:

**INTEGRATED WATER RESOURCES MANAGEMENT  
TO REALIZE SUSTAINABLE DEVELOPMENT GOALS  
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AND THE PERSPECTIVE OF FIQH BI'AH**

Is truly a writer's work that can be legally justified. If this thesis is proven to result in duplication or plagiarism from another scientific work, it as a precondition of degree will be stated legally invalid.

Malang, 19 Oktober 2023

Writer,



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**INTEGRATED WATER RESOURCES MANAGEMENT  
TO REALIZE SUSTAINABLE DEVELOPMENT GOALS  
ACCORDING TO LAW NUMBER 17 OF 2019  
AND THE PERSPECTIVE OF FIQH BI'AH**

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## MOTTO

وَجَعَلْنَا مِنَ الْمَاءِ كُلَّ شَيْءٍ حَيٍّ

*“And out of water, We made all living things” (QS. Al-Anbiya: 30)*

*“Dan Dari Air Kami Jadikan Segala Sesuatu Yang Hidup” (QS. Al-Anbiya: 30)*

## TRANSLITERATION GUIDENCE

### A. General

Transliteration transfers Arabic script into Indonesian (Latin) writing, not Arabic translation into Indonesian. Included in this category are Arabic names from Arabs, while Arabic words from nations other than Arabic are written as the spelling of the national language or as written in the reference book. Writing the text's title in the footnotes and bibliography still uses the provisions of this transliteration.

There are several provisions in transliteration that can be used in writing scientific papers. Whether it is national or international standards or requirements specifically used by certain publishers. The transliteration guidelines used in the scientific work of sharia students of UIN Malang are based on the provisions of the 2019 thesis writing guidelines for the Faculty of Sharia, State Islamic University Maulana Malik Ibrahim Malang, namely transliteration based on the Surat Keputusan Bersama (SKB) of the Minister of Religion and the Minister of Education and Culture of the Republic of Indonesia, January 22, 1998, No. 159/1987 and 0543.b/U/1987, as stated in the A Guide Arabic Transliteration, INIS Fellow 1992.

### B. Consonant

A list of Arabic letters and their transliterations into Latin letters can be found on the following page:

Arabic letters	Name	Latin letters	Namr
ا	Alif	Tidak dilambangkan	Tidak dilambangkan
ب	Ba	B	Be

ت	Ta	T	Te
ث	Ṡa	Ṡ	Es (Titik di Atas)
ج	Jim	J	Je
ح	Ḥa	Ḥ	Ha (Titik di Atas)
خ	Kha	Kh	Ka dan Ha
د	Dal	D	De
ذ	Ḍ	Ḍ	Zet (Titik di Atas)
ر	Ra	R	Er
ز	Zai	Z	Zet
س	Sin	S	Es
ش	Syin	Sy	Es dan Ye
ص	Ṣad	Ṣ	Es (Titik di Bawah)
ض	Ḍad	Ḍ	De (Titik di Bawah)
ط	Ṭa	Ṭ	Te (Titik di Bawah)
ظ	Ẓa	Ẓ	Zet (Titik di Bawah)
ع	'Ain	'.....	Apostrof Terbalik
غ	Gain	G	Ge
ف	Fa	F	Ef
ق	Qof	Q	Qi
ك	Kaf	K	Ka
ل	Lam	L	El
م	Mim	M	Em
ن	Nun	N	En
و	Wau	W	We
ه	Ha	H	Ha
أ/ء	Hamzah	.....'	Apostrof
ي	Ya	Y	Ye

Hamzah (ء) located at the beginning of the word follows its vowel without being marked whatsoever. If the hamzah (ء) is located in the middle or at the end, it is written with a sign (').

### C. Vocal, long pronounce, and diphthong

Arabic vowels, such as Indonesian vowels, consist of single or monophthongs and double vowels or diphthongs.

Arabic singular vowels whose symbols are signs or vowels, transliteration as follows:



Sign	Name	Latin letters	Name
َ	fathah	A	A
ِ,	Kasrah	I	I
ُ	Dhammah	U	U

Arabic double vowels whose symbols are a combination of letters and letters, the transliteration is in the form of a combination of letters, namely:

Sign	Name	Latin letters	Name
أَيُّ	Fathah dan ya	Ay	A dan I
قَوْل	Fathah dan Wau	Aw	A dan U

Example:

كَيْفَ : *kaifa*

هَوَّلَ : *haulā*

#### D. Maddah

Maddah or long vowels whose symbols are in the form of letters and letters, transliteration in the form of letters and signs, namely:

Harakat and Letters	Name	Harakat and Letters	Name
آي	Fathah dan alif atau ya	ā	a dan garis di atas
ي	Kasrah dan ya	ī	i dan garis di atas
و	Dammah dan wau	ū	u dan garis di atas

Example:

مَاتَ : *māta*

رَمَى : *ramā*

قِيلَ : qīla

يَتُّوتُ : yamūtu

### E. Ta Marbūṭah (ة)

The transliteration of ta marbūṭah (ة) is twofold, namely: ta marbūṭah (ة) lives by obtaining fathah, kasrah, and ḍammah, the transliteration is [t]. As for ta marbūṭah (ة) who dies or gets breadfruit harkat, the transliteration is [h].

If a word ending in ta marbūṭah (ة) is followed by a word that uses the clothing al- and the readings of the two words are separate, then ta marbūṭah (ة) is transliterated with ha (h). Example:

رَوْضَةُ الْأَطْفَالِ : rauḍah al-aṭfāl

الْمَدِينَةُ الْفَضِيلَةُ : al-madīnah al-fāḍīlah

الْحِكْمَةُ : al-ḥikmah

### F. Syaddah (Tasydid)

Syaddah or tasydid which in the Arabic writing system is denoted by a tasydid sign (ّ), in this transliteration is denoted by the repetition of letters (double consonants) marked with shadah.

Example: *ar rajulu*

*kullukum*

### G. Definite Articles

The definite articles in Arabic script is denoted by the letter alif lam ma'arifah (ال) However, in the transliteration guidelines, the definite articles is transliterated as usual, al-, either when followed by the letter shamsiah or the

letter qamariah. The definite articles does not follow the sound of the direct letter that follows it. The definite articles is written separately from the word that follows it and is connected by a horizontal line (-). Examples:

الشَّمْسُ : *al-syamsu* (*bukan asy-syamsu*)

الزَّلْزَلَةُ : *al-zalزالah* (*bukan az-zalزالah*)

الفُلْسَفَةُ : *al-falsafah*

الْبِلَادُ : *al- bilādu*

#### H. Hamzah

The rule of transliterating the letter hamzah becomes an apostrophe ('), but this only applies to the hamzah in the middle and at the end of the word. However, if hamzah is at the beginning it is not symbolized, because in Arabic writing it is alif.

Example:

تَأْمُرُونَ : *ta'murūna*

النَّاءُ : *al-nau'*

شَيْءٌ : *syai'un*

أَمْرٌ : *umirtu*

#### I. Writing Arabic Words Commonly Used in Indonesian

A transliterated Arabic word, term, or sentence is a word, term, or sentence that has not been standardized in Indonesian. Words, terms, or sentences that are already familiar and part of the Indonesian treasury, or have

often been written in Indonesian writing, are no longer written according to the transliteration method above. For example the word Qur'an (from the Qur'ān), sunnah, hadith, special and general. However, if the words become part of a series of Arabic texts, they must be transliterated in their entirety.

Example:

*Fī ḡilāl al-Qur'ān*

*Al-Sunnah qabl al-tadwīn*

*Al-'Ibārāt Fī 'Umūm al-Lafẓ lā bi khuṣūṣ al-sabab*

#### **J. Lafẓ Al-Jalālah (الله)**

The word "Allah" preceded by particles such as jarr and other letters or positioned as muḍāf ilaih (nominal phrase), is transliterated without the letters hamzah. Example:

دِينُ اللَّهِ : *dīnullāh*

As for ta marbūṭah at the end of the word attributed to lafẓ al-jalālah, transliterated with the letter [t]. Example:

هُمُ فِي رَحْمَةِ اللَّهِ : *hum fi raḥmatillāh*

#### **K. Capital Letters**

Although the Arabic writing system does not recognize capital letters (All Caps), in transliteration these letters are subject to provisions on the use of capital letters based on the applicable Indonesian spelling guidelines (EYD). Capital letters, for example, are used to write.

## ACKNOWLEDGMENT

بِسْمِ اللَّهِ الرَّحْمَنِ الرَّحِيمِ

Alhamdulillahirabbil'alamin, who has given grace and help in writing a thesis entitled: **"INTEGRATED WATER RESOURCES MANAGEMENT TO REALIZE SUSTAINABLE DEVELOPMENT GOALS ACCORDING TO LAW NUMBER 17 OF 2019 AND THE PERSPECTIVE OF FIQH BI'AH"** we can complete well. We say prayers and greetings to His Majesty the Prophet Muhammad SAW who has given us watun hasanah to us in living this life shari'i. By following him, may we be among the believers and have his intercession at the end of the world.

Amien.

From all the teaching, advice, guidance, and helps of service for us to finish this thesis, then with all humility, the writer will express the gratitude which is unequalled to:

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2. Prof. Dr. Sudirman Hasan, MA., CAHRM, as the Dean of Syariah Faculty of The State Islamic University Maulana Malik Ibrahim of Malang.
3. Dr. H. Musleh Harry, SH, M.Hum, as the Head of Constitutional Law Department of Syariah Faculty of The State Islamic University Maulana Malik Ibrahim of Malang.

4. Mr. Dr. H. Musleh Harry, SH, M.Hum (Main Examiner), Mrs. Sheila Kusuma Wardani Amnesti, SH., M.H (Chairman), Mrs. Dra. Jundiani, SH., M.Hum (Secretary), in the thesis session panel thank you for being willing to test and provide input, criticism and suggestions on the thesis that the author examined.
5. Dra. Jundiani, SH., M. Hum, as my thesis supervisor. The writer thanks for her spending time to guide, direct, and motivate to finish writing this thesis. The writer hopes that she and her family will be blessed by Allah.
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8. The staff of Syariah Faculty of The State Islamic University Maulana Malik Ibrahim of Malang.
9. My beloved father Erri Syahril Ambuwaru and beloved mother Evi Yohana, as my parents, who because of the prayers, affection, and struggle that have been given, finally the author was able to complete step by step, especially in completing this thesis; and
10. All parties that cannot be mentioned one by one, thank you very much for all the help, enthusiasm, motivation, and prayers that have been given so far, hopefully these things can become Jariyah's charity in the future, the author would like to thank him for his participation in the completion of this thesis.

With the completion of this thesis report, it is hoped that the knowledge we have gained during college can provide charitable benefits for life in the world and the hereafter. As a human being who never escapes error, the author really hopes for the door of forgiveness as well as criticism and suggestions from all parties for efforts to improve in the future.

Malang, 19 Oktober 2023  
Writer,

A handwritten signature in black ink, appearing to read 'Agniski Pininta', with a stylized, somewhat abstract form.

**Agniski Pininta**

**SIN. 200203110005**

## ABSTRAK

Agniski Pininta, NIM (200203110005), **Pengelolaan Sumber Daya Air Terpadu Untuk Mewujudkan *Sustainable Development Goals* Menurut Undang-Undang Nomor 17 Tahun 2019 Dan Prespektif Fiqh Bi'ah**, Skripsi Program Studi Hukum Tata Negara (Siyasah), Fakultas Syariah, Universitas Islam Negeri Maulana Malik Ibrahim Malang. Dosen Pembimbing: Dra. Jundiani., S.H., M.Hum.

---

**Kata Kunci: Fiqh Bi'ah, Pengelolaan Sumber Daya Air Terpadu, Sustainable Development Goals, UU Nomor 17 Tahun 2019**

Meningkatnya jumlah penduduk menyebabkan meningkatnya permintaan akan air. Persoalan ini didukung dengan menurunnya kualitas dan terbatasnya ketersediaan air bersih. Tujuan dari penelitian ini adalah mengkaji permasalahan pendayagunaan sumber daya air yang menyangkut dengan konsep *sustainable development goals* dan konsep fiqh bi'ah dengan rumusan masalah 1) Bagaimana pendayagunaan sumber daya air terpadu menurut Pasal 23 ayat (2) Undang-Undang Nomor 17 Tahun 2019 untuk mewujudkan prinsip *sustainable development goals*?; 2) Bagaimana pendayagunaan sumber daya air terpadu untuk mewujudkan prinsip *sustainable development goals* perspektif fiqh bi'ah?.

Penelitian ini menggunakan jenis penelitian yuridis normatif. Sedangkan pendekatan yang digunakan adalah pendekatan perundang-undangan dan pendekatan konseptual yang akan diselaraskan dengan ketentuan peraturan perundang-undangan dan dalam perspektif Fiqh Bi'ah. Penelitian ini menggunakan sumber data data primer, dan data sekunder.

Hasil dari penelitian ini menunjukkan bahwa pendayagunaan sumber daya air yang di atur di dalam Undang-Undang RI No. 17 Tahun 2019 yang bertujuan memanfaatkan sumber daya air secara berkelanjutan dengan prioritas utama untuk pemenuhan air bagi kebutuhan pokok sehari-hari masyarakat. Pendayagunaan sumber daya air dengan prinsip berkelanjutan bertujuan untuk mencapai tujuan dari *sustainable development goals*. Salah satu targert dalam *sustainable development goals* adalah air bersih dan sanitasi. Dimana kegiatan pendayagunaan sumber daya air berprinsip berkelanjutan ini dapat menurunkan angka krisis air bersih di Indonesia. Dalam konteks Fiqh Bi'ah, terdapat beberapa cara yang dapat membantu mencapai *Sustainable Development Goals*, yaitu larangan pemborosan air, upaya pemeliharaan ekosistem air, dan larangan pencemaran air.



## ABSTRACT

Agniski Pininta, NIM (200203110005), **Integrated Water Resources Management to Achieve Sustainable Development Goals According to Law Number 17 of 2019 and Fiqh Bi'ah Perspective**, Thesis of the Constitutional Law Study Program (*Siyasah*), Faculty of Sharia, Maulana Malik Ibrahim State Islamic University Malang. Supervisor: Dra. Jundiani., S.H., M.Hum.

---

**Keywords: Fiqh Bi'ah, Law Number 17 of 2019, Sustainable Development Goals, Water Resources Utilization**

The increasing population has led to an increasing demand for water. This problem is supported by the declining quality and limited availability of clean water. The purpose of this research is to examine the problem of utilization of water resources related to the concept of SDGs and the concept of fiqh bi'ah with the formulation of the problem 1) How is the integrated utilization of water resources according to 23 paragraph 2 of Law Num. 17 of 2019 to realize the principle of SDGs?; 2) How is the utilization of integrated water resources to realize the principle of SDGs from the perspective of fiqh bi'ah?

This research use normative juridical research methods. While the approach used is a statutory approach and a conceptual approach that will be harmonized with the provisions of the legislation and in the perspective Fiqh Bi'ah. This research uses primary data, and secondary data.

The results of this study indicate the utilization of water resources regulated in Law No. 17 of 2019 to utilize water resources in a sustainable manner with the main priority being the fulfillment of water for the daily needs of the community. The utilization of water resources with sustainable principle to achieve the goals of SDGs. One of the targets in the SDGs is clean water and sanitation. Where the utilization of water resources with sustainable principles can lower the number of clean water crises in Indonesia. In the context of Fiqh Bi'ah, there are several ways that can help achieve SDGs, namely the prohibition of water waste, efforts to maintain water ecosystems, and prohibition of water pollution.

## ملخص البحث

أجنيسكي بينيتا. الرقم الجامعي (200203110005). الإدارة المتكاملة للموارد المائية لتحقيق أهداف التنمية المستدامة وفقا للقانون رقم 17 لعام 2019 ومنظور فقه البيئة. البحث العلمي. قسم القانون الدستوري (السياسة). كلية الشريعة. جامعة مولانا مالك إبراهيم الإسلامية الحكومية مالانج. المشرفة: السيدة جوندياي، الماجستير.

## الكلمات الرئيسية: الفقه البيئي، استغلال الموارد المائية، أهداف التنمية المستدامة، القانون رقم 17 لعام 2019

يؤدي تزايد عدد السكان إلى زيادة الطلب على المياه. ويدعم هذه المشكلة تدهور نوعية المياه النظيفة ومحدودية توافرها. أهداف هذا البحث هو دراسة مشاكل استغلال الموارد المائية المتعلقة بمفهوم أهداف التنمية المستدامة ومفهوم فقه البيئة مع صياغة المشكلات (1) كيف يتم استغلال الموارد المائية المتكاملة وفقا للمادة 23 الفقرة 2 من القانون رقم 17 لعام 2019 لتحقيق مبدأ أهداف التنمية المستدامة؟ (2) كيف يتم استغلال الموارد المائية المتكاملة لتحقيق مبدأ أهداف التنمية المستدامة من منظور فقه البيئة؟

استخدم هذا البحث مناهج البحث القانوني المعياري. بينما يتم استخدام النهج القانوني والنهج المفهومي ويتم مزامتهما مع أحكام القوانين ومنظور فقه البيئة. استخدم هذا البحث على مصادر البيانات الأساسية والثانوية.

أظهرت نتائج هذا البحث أن استغلال الموارد المائية ينظمه قانون جمهورية إندونيسيا رقم 17 لعام 2019 والذي يهدف إلى استغلال الموارد المائية بشكل مستدام مع إعطاء الأولوية القصوى لتلبية الاحتياجات اليومية الأساسية للمجتمع. يهدف استغلال الموارد المائية مع المبادئ المستدامة إلى تحقيق أهداف التنمية المستدامة. ومن بين الأهداف الواردة في أهداف التنمية المستدامة المياه النظيفة والصرف الصحي. حيث يمكن لهذا المبدأ المستدام لأنشطة استغلال الموارد المائية أن يقلل من عدد أزمات المياه النظيفة في إندونيسيا. في سياق الفقه بيئة، هناك عدة طرق يمكن أن تساعد في تحقيق أهداف التنمية المستدامة. وهي حظر هدر المياه، والجهود المبذولة للحفاظ على النظم الإيكولوجية للمياه، وحظر تلوث المياه.

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# CHAPTER I

## INTRODUCTION

### A. Research Background

The most important element for all living things to survive is water. Water is essential for almost all living things, especially humans. As living things, humans mostly need water for activities such as cooking, cleaning, bathing, and even for work, in agriculture, fisheries, animal husbandry, and other fields. In addition, water provides a means of survival for animals and plants. In the Qur'an Surah An-Nahl verse 65, Allah mentions that with water, He gave life to the earth and all living things in it.

Water is a compound that is needed in human life. The existence of humans who desperately need water embodies the idea that water is a gift, and the source of life contains universal values that persist in the customs, ideas, and even religions embraced by people around the world. Water and its function can be studied in the Qur'an in Suras Al-Baqarah:164, Al-Hajj: 5, Al-Furqan:48, and Sura Al-Qaaf: 9. In the holy book the Qur'an also explains the word 'water' which is mentioned more than sixty times, 'river' more than fifty times, and 'sea' more than forty times.<sup>1</sup>

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<sup>1</sup> Jundiani, "Urgensi perubahan Paradigma Hukum dalam Pengelolaan Sumber Daya Air Nasional," *Ulul Albab* 5, no. 1 (2015): 210–211, <https://doi.org/10.18860/ua.v5i1.6154>.



According to Ahmad Fahmi Abu <sup>2</sup> In Al-Handasah in 1932, water is the main natural resource that sustains human life. Because everyone has a natural right to water (*Haqq Kauni*). Without exception, everyone has natural rights, which are not affected by one's sex, creed, or race. Everyone has a natural right to water, which ensures that their need for water is met. Due to the same natural rights (*Mas'uliyah Kauni*), safeguarding water will ensure its availability.

Article 33 paragraph 3 of the 1945 Constitution concerning National Economy and Social Welfare<sup>3</sup> which states that "Earth and water and the natural resources contained therein are controlled by the state and used for the greatest prosperity of the people", recognizing water as a basic human need. This constitution firmly establishes a social unity between the state and its people. Article 5 of Law Number 17 of 2019 concerning Water Resources<sup>4</sup>, states that the State guarantees the right of everyone to obtain water for basic needs at least daily to realize a healthy, clean, and productive life. The content of the article expressly indicates that access to clean water is a human right owned by everyone, especially the population of Indonesia. The central and

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<sup>2</sup> Ija Suntana, *Politik Hukum Islam, Digital Library UIN Sunan Gunung Djati Bandung* (Bandung: CV Pustaka Setia, 2014), 111.

<sup>3</sup> Lembaran Negara Republik Indonesia Undang-Undang Dasar Negara Republik Indonesia Tahun 1945 No. 75 .

<sup>4</sup> Lembaran Negara Republik Indonesia Tahun 2019 No. 190".

local governments are jointly responsible for providing these guarantees, including ensuring that everyone has access to water sources.<sup>5</sup>

In accordance with the dynamics of development, Indonesian people increasingly need clean water every year for drinking purposes as well as for the needs of households, businesses, and other commercial businesses. Rainwater, river water, and groundwater are other sources that can help clean water needs.<sup>6</sup>

Water and sanitation go hand in hand. Whenever there is clean water or drinking water, there must also be wasted water, and clean water wastes 85% of its purity. For example, if one person uses 100 liters of water every day for drinking, bathing, washing, and latrines, then about 85 liters of that water is disposed of as wastewater every day. Therefore, sanitation will be equated with clean water. Good sanitation facilities by health standards and a clean healthy lifestyle are important elements in efforts to improve community welfare.<sup>7</sup>

Most natural resources, including water, are essential to the life and survival of all organisms, including humans. Not only for humans but also for

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<sup>5</sup> Wiwit Kurnia, “Pengelolaan Air Oleh Pihak Swasta Menurut Undang- Undang Nomor 17 Tahun 2019 Tentang Sumber Daya Air Dalam Perspektif Hukum Islam” (UIN Syarif Hidayatullah Jakarta, 2021), 2, [https://repository.uinjkt.ac.id/dspace/bitstream/123456789/56656/1/WIWIT\\_KURNIA - FSH.pdf](https://repository.uinjkt.ac.id/dspace/bitstream/123456789/56656/1/WIWIT_KURNIA_-_FSH.pdf).

<sup>6</sup> Heru Hendrayana, “PENGELOLAAN AIRTANAH DI INDONESIA Sebuah Ulasan dan Pemikiran,” *Teknik-UGM, Fakultas,* 2007, 1, [https://www.academia.edu/download/35487935/Ketahanan\\_Air-Pengelolaan\\_Airtanah\\_di\\_Indonesia\\_Heru\\_Hendrayana.pdf](https://www.academia.edu/download/35487935/Ketahanan_Air-Pengelolaan_Airtanah_di_Indonesia_Heru_Hendrayana.pdf).

<sup>7</sup> Elysia V, “Air dan Sanitasi Dimana Posisi Indonesia. Seminar Nasional Peran Matematika, Sains, dan Teknologi dalam Mencapai Tujuan Pembangunan Berkelanjutan/SDGs,” *Universitas Terbuka*, 2018, 157, [http://repository.ut.ac.id/7467/1/08\\_Vita\\_Elysia.pdf](http://repository.ut.ac.id/7467/1/08_Vita_Elysia.pdf).

other living things as well as the environment. Water is an essential component of life as a result of environmental systems, and consequently, the human need for water periodically increases along with the number of people who need it. Not only because water needs are increasingly complex and diverse, but also because more and more people need it.<sup>8</sup>

One of the problems faced by Indonesian people today is access to clean water. The critical condition of clean water is greatly affected by the indefinite logging of forests upstream, as well as excessive use of water and its resources, exacerbating water problems. Upstream areas are used differently, there is uncontrolled deforestation<sup>9</sup>, and there is ever-increasing exploitation of water and its resources in various locations. Diversion of the use of large and uncontrolled catchment areas from their sources in various places. Poorly managed large-scale water catchment basins provide ecological-hydrological balance so that water availability during the dry season is eventually reduced when the ecological-hydrological balance is disturbed.<sup>10</sup>

A study (SKAMRT) conducted by the Ministry of Health in 2020, it was revealed that 7 out of 10 households in Indonesia consume drinking water contaminated by *Escherichia coli* (*E. coli*) bacteria. In this context, the

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<sup>8</sup> Jundiani, "Urgensi perubahan Paradigma Hukum dalam Pengelolaan Sumber Daya Air Nasional," 211.

<sup>9</sup> Deforestation, according to KBBI, is cutting down forests converted to non-forest uses such as settlements, agriculture, plantations, and livestock.

<sup>10</sup> Jundiani, "Urgensi perubahan Paradigma Hukum dalam Pengelolaan Sumber Daya Air Nasional," 211.

importance of the availability of clean and suitable water for consumption as a vital component in the human body is becoming increasingly evident. However, this situation also raises concerns because according to the Ministry of National Development Planning, the achievement of safe sanitation levels in Indonesia is still very low. In 2020, only 7% of Indonesia's population had access to safe sanitation. The comparison also shows that this achievement is far below countries such as Thailand which achieved sanitation rates of 26%, and India which reached 46%.<sup>11</sup>

According to a report from the United Nations (UN) in 2019, it was noted that around 2.2 billion people, or a quarter of the world's total population still face difficulties in obtaining a safe supply of drinking water for consumption. At the same time, 4.2 billion people do not have access to adequate sanitation services, and 3 billion people do not have basic handwashing facilities. On the other hand, based on information submitted by Bappenas, the availability of water in most areas of Java and Bali has now reached the level of scarcity to crisis. In addition, projections show that in South Sumatra, West Nusa Tenggara, and South Sulawesi, water availability is also expected to experience levels of scarcity or crisis by 2045. This situation of water scarcity also includes drinking water supply. According to the 2020-2024 RPJMN, only 6.87 percent of all households can access safe drinking water. Meanwhile, based on the 2020 National Socioeconomic

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<sup>11</sup> Retnosuryandari, "Teknologi dan Krisis Air," Pusat Studi Lingkungan Hidup Universitas Gajah Mada, diakses 4 September 2023, <https://pslh.ugm.ac.id/teknologi-dan-krisis-air/>.

Survey (Susenas) conducted by BPS, around 90.21 percent of households have access to adequate drinking water, although the distribution of this access is uneven.<sup>12</sup>

The achievement of sanitation and clean water is focused on the Sustainable Development Goals (SDGs), with a target of 2030, ensuring that everyone has access to clean water and sustainable sanitation. Water is part of the environment that has a close relationship with sustainable development because water is an important component of sustainable development. Not only drinking water is important for human survival but water is also needed for all types of human activities and enterprises, among others, food production, energy generation, resource extraction, industrial development, commercial activities, ecosystem preservation, and other places of use. So sustainable development cannot be achieved without water security. This means that to ensure sustainable development for the world, there must be an adequate amount of water with appropriate quality for the wider community.<sup>13</sup>

The Sustainable Development Goals are focused on achieving sanitation and clean water. According to Ishartono and Raharjo, SDGs are a series of diverse and all-encompassing goals for 2030 that are shared to maintain harmony in the three pillars of sustainable development, especially

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<sup>12</sup> Envihsafkm, "Krisis Air Bersih," Environmental Health Nature, diakses 4 September 2023, <https://envihsa.fkm.ui.ac.id/2021/09/30/krisis-air-bersih/>.

<sup>13</sup> Asit K Biswas dan Cecilia Tortajada, *Water Security, Climate Change and sustainable development: An introduction* (Singapore: Springer, 2016), 2, <https://link.springer.com/book/10.1007/978-981-287-976-9>.

in the ecological, social, and economic fields. These three aspects are supported by five main principles; people, earth, well-being, peace, and collaboration. What must be achieved by 2030 translates into 17 global goals concerning common goals.<sup>14</sup> Clean water and sanitation is one of the goals listed in Goal 6 of the SDGs, which is to ensure everyone has access to clean water and sanitation.

One of the basic principles of a healthy, prosperous, and peaceful society is access to clean water and good sanitation. Some homes in Indonesia do not have such basic facilities. Systems that provide access to clean water and sanitation will help the environment and public health. To build a healthy atmosphere that prioritizes monitoring of several environmental components to prevent diseases originating from the environment and can interfere with human health, clean water sanitation is needed.

Water suitable for sanitary purposes is water that has no aroma, no taste is not cloudy, and has a low turbidity. In addition, this water must be free of *Escherichia coli* (*E. coli*) bacteria and contain low amounts of chemicals, such as balanced pH, iron levels, detergents, cyanide, pesticides, lead, zinc, and so on. Meanwhile, the standards for safe drinking water are that water must be protected from pollution, there must be no animals that can cause disease, and there must be no breeding grounds for animals or bacteria. In terms of physical characteristics, safe drinking water must be odorless, have a

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<sup>14</sup> Ishartono dan Santoso Tri Raharjo, "Sustainable Development Goals (SDGs) Dan Pengentasan Kemiskinan," *Social Work Jurnal* 6, no. 2 (2021): 168, <https://doi.org/10.1201/9781003080220-8>.

clear color, and neutral taste, not be exposed to direct sunlight, have a cool temperature ranging from 10 to 25 degrees Celsius, and contain no sediment at the bottom of the water.<sup>15</sup>

The SDGs have targets on water resources management which by 2030, improve water quality by reducing pollution, eliminating discharge, minimizing the release of hazardous materials and chemicals, halving the proportion of untreated wastewater, and significantly increasing recycling, as well as safe reuse of recyclables globally and achieving access to adequate and equitable sanitation and hygiene for all. Of course, the purpose of these SDGs is in line with Article 23 paragraph (2) of Law Number 17 of 2019.<sup>16</sup>

In Law Number 17 of 2019 relating to water resources, it is stipulated that every Indonesian citizen has the right guaranteed by law to have access to water to meet their basic daily needs. The principles contained in this law also refer to the Preamble to the 1945 Constitution which mandates the state's obligation to protect all Indonesian people and promote the general welfare. Therefore, it is natural that the state must participate in efforts to ensure the availability of water for the needs of its people. The granting of authority over water resources management to the government is regulated in Law Number 17 of 2019 Article 23 paragraph (2). Article 23 paragraph (2) reads "Water Resources Management Activities include Water Resources Conservation, Water Resources Utilization, and Water Damage Control." The Use of Water

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<sup>15</sup> Envihsafkm, "Krisis Air Bersih."

<sup>16</sup> Lembaran Negara Republik Indonesia Tahun 2019 No. 190.

Resources and Control of the Impact of Water Damage is an important part of Law Number 17 of 2019 in Article 23 paragraph (2). In this law, Water Resources conversion refers to efforts to maintain the continuity of existence, characteristics, and functions of Water Resources so that they are always available in sufficient quantity and quality to meet the needs of humans and other living things, both now and in the future.<sup>17</sup>

Law Number 17 of 2019 concerning Water Resources (hereinafter referred to as UUSDA) is the focus of further legal analysis. This law does not clearly and unequivocally regulate three important elements in fulfilling the right to access clean water, namely availability, quality, and affordability. It involves physical affordability, acquireability, and the principle of non-discrimination. If analyzed further, UUSDA tends to focus more on water resource management than describing the government's responsibility to provide quality water services to residents in full. Regulations related to clean water and health in various treaties, including laws in countries such as Indonesia, basically refer to the principle of human rights that cannot be reduced (non-derogable rights). This includes fundamental rights such as the right to life, the right to be free from slavery, and other rights of a fundamental nature. The human right to clean and healthy water is part of the right to life that directly affects the existence of human life. Imagine how

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<sup>17</sup> Putu Eka Purnamaningsih dan Kadek Wiwin Dwi Wismayanti, "Implementasi Undang-Undang No 17 Tahun 2019 Tentang Sumber Daya Air Di Provinsi Bali," *Jurnal Binawakya* 16, no. 9 (2022): 7348–49, <https://doi.org/10.33758/mbi.v16i9.1555>.



human life would be threatened if the water supply was reduced, polluted, or not of adequate quality. Water is the essence of life itself.<sup>18</sup>

The failure of the Government of Indonesia in realizing clean water and sanitation and integrated water resources management activities starts from the 2004 UUSDA water governance policy which is a failure of the state in fulfilling and guaranteeing the people's right to water which is also part of human rights. the state's target for the people is to have access to clean water and sanitation has failed miserably, one simple indicator is the proliferation of bottled water businesses as an alternative for the people to meet their needs for clean water, and the failure of integrated water resources management activities is the weak intersectoral coordination within government agencies. Coordination between government agencies has been implemented. However, the realization of the agreements that have been formed has been very slow. As well as weak monitoring and evaluation, integrated water resources management has not been well coordinated. In addition, failures arise due to current planning, institutional, management, and economic problems associated with water resources management. The role of inter-sectors in fostering activity actors has not been optimized and integrated, environmental management through business economic development is also still very minimal. Meanwhile, the concepts of environment and economy are considered contradictory. Integrated water resources management (upstream-

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<sup>18</sup> JYA Wattimena, "Pemenuhan Hak atas Air Bersih dan Sehat, Serta Hak Menggugat Masyarakat," *Balobe Law Journal* 1, no. 1 (2021): 11, <https://doi.org/10.47268/balobe.v1i1.497>.

downstream) can be done by improving the monitoring system of river water quality and quantity. In addition, efforts must also be made to control water pollution and improve water use.

Indonesian national law and Islamic law are increasingly in line. Under these conditions, in the era of globalization, it is still possible to deploy Islamic legal figures to answer all the challenges faced by the people. Islam also recognizes that everything on earth was created by Allah solely for the pleasure of humans, but if there is injustice in finding what Allah made, this has an impact on legal balance which has a significant impact on Islamic law. Justice will be achieved in addressing the demands that can maintain part of human existence by utilizing Islamic law such as Fiqh Bi'ah.

Fiqh Bi'ah helps believers understand that they have a responsibility to care for and protect nature from any harm and destruction, that endangers their own lives, and that environmental issues cannot be separated from their responsibilities as believers.<sup>19</sup>

In connection with these problems, the author is finally motivated to conduct research on how water resources are managed. Then the author will compile the research in the form of a thesis with the title: "Integrated Water Resources Management to Realize the Principles of Sustainable Development Goals According to Law Number 17 of 2019 and the Perspective of Fiqh Bi'ah".

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<sup>19</sup> Muhammad Ghufon, "Fiqh Lingkungan," *Jurnal Al-Ulum* 10, no. 1 (2010): 171, <https://media.neliti.com/media/publications/184392-none-72bdf600.pdf>.

## **B. Scope of Problem**

From the background description above, the author needs to set problem boundaries to clarify the scope of the problem to be studied so that this research can be carried out in focus. The focus of the situation in this study is a review of the *Fiqh Bi'ah* perspective on the management of water resources according to Article 23 paragraph (2) of Law Number 17 of 2019 by using the utilization of water resources to realize the 6th principle of sustainable development goals, namely clean water, and sanitation.

## **C. Statement of Problem**

From the background that the author has described above, the author needs to formulate several problems as follows;

1. How is integrated water resources utilization according to Article 23 paragraph (2) of Law Number 17 of 2019 to realize the principle of sustainable development goals?
2. How is the utilization of integrated water resources to realize the principle of sustainable development goals from the perspective of fiqh bi'ah?

## **D. Objective of Research**

Based on the background explanation and several problem formulations that the author has compiled above, the following are the objectives that the author wants to achieve;

1. To analyze and describe the management of water resources according to Article 23 paragraph (2) of Law Number 17 of 2019 to realize the principle of sustainable development goals.
2. To analyze and describe the relevance of fiqh bi'ah to water resources management according to Article 23 paragraph (2) of Law Number 17 of 2019 to realize the principle of sustainable development goals.

#### **E. Benefit of Research**

The benefits of this research are expected to provide several benefits, among others;

##### **1. Theoretical Benefits**

Theoretically, this research is expected to benefit the development of legal science in general and integrated water resources management according to Article 23 paragraph (2) of Law Number 17 of 2019 to realize the principle of sustainable development goals.

##### **2. Practical Benefits**

It is hoped that the results of this research can be helpful and provide explanations for practitioners, the general public, and other researchers to understand and contribute to the needs both informationally in developing further research and in implementation related to the management of water resources according to Article 23 paragraph (2) of Law Number 17 of 2019 to realize the principle of sustainable development goals. This

research is expected to make a scientific contribution and add to the treasures of legal science and information regarding integrated water resources management according to Article 23 paragraph (2) of Law Number 17 of 2019 in realizing the principle of sustainable development goals.

## **F. Method of Research**

### **1. Type of Research**

The type of research that will be used is normative juridical research, which is research conducted with data collection methods used in research, including review studies of books, laws, cases, literature, records, and reports<sup>20</sup> that have to do with integrated water resources management to realize the principle of sustainable development goals based on Article 23 paragraph (2) of Law Number 17 of 2019 and the perspective of fiqh bi'ah. This research is called library research because it emphasizes library data collection.

### **2. Research Approach**

The research approach is a method or a way to obtain information from various aspects to find the issue being sought for answers. Following this type of research, namely normative juridical research, the researcher

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<sup>20</sup> Saifullah, *Tipologi Penelitian Hukum (Sejarah, Paradigma dan Pemikiran Tokoh di Indonesia)* (Bandung: PT Refikka Aditama, 2018), 112.

uses a statutory approach (Statue Approach) and a conceptual approach (Conceptual Approach).

- a. The Statue Approach includes a review of all laws and regulations relating to the legal issues at hand. In this case, the author looks at the legal framework, namely Article 23 paragraph (2) of Law Number 17 of 2019, which regulates water resources.<sup>21</sup>
- b. The conceptual approach examines concepts that depart from the views and doctrines that develop in legal science. The conceptual approach also starts from the ideas and ideologies that extend to science. Understanding these views and principles is the basis for the author to build an argument to solve the issue.<sup>22</sup> This research will conduct a concept study related to the view of fiqh bi'ah regarding the management of water resources to realize the principle of sustainable development goals according to Article 23 paragraph (2) of Law Number 17 of 2019 and the perspective of fiqh bi'ah, which will contribute to the scientific treasury and comprehensive understanding.

Through a conceptual approach, the author will discuss existing views or doctrines in the field of environmental law relating to Integrated Water Resources Management. The concepts

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<sup>21</sup> Peter Mahmud Marzuki, *Penelitian Hukum*, Cet.16 (Jakarta: Kencana, 2021), 136.

<sup>22</sup> Marzuki, 177.

to be examined include the concept of sustainable development goals and the concept of integrated water resources management, as well as the concept of fiqh bi'ah. Through these three approaches, the author will gain an understanding of building a legal argument that will help solve the issue.

### 3. Legal Materials

#### a. Primary legal materials

Primary legal materials in this research are Article 23, paragraph (2) of Law Number 17 of 2019, the UN 2030 Agenda for Sustainable Development, and books. This is done to obtain an integral understanding from various perspectives of interpretation.

#### b. Secondary legal materials

Secondary legal materials are supporting data.<sup>23</sup> Secondary legal material is a scalpel for reviewing and explaining primary legal material. It has no juridically binding force comprising books, literature, journals, or scientific works related to this research.<sup>24</sup>

#### c. Tertiary Legal Materials

Tertiary legal materials are supporting legal materials, including materials that provide explanations of primary legal sources

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<sup>23</sup> Sofyan A. P. Kau, *Metode Penelitian Hukum Islam* (Yogyakarta: Mitra Pustaka, 2013), 155.

<sup>24</sup> Marzuki, *Penelitian Hukum*, 181.

and secondary legal sources, including dictionaries, encyclopedias, and others.<sup>25</sup>

#### 4. Legal Material Collection Technique

The method of collecting legal materials is carried out by determining legal materials, inventorying relevant legal materials, and studying legal materials from various literatures in the form of books related to the problems reviewed by the author, then recording in detail so that a complete and transparent discussion of the problem identification that has been made is obtained.<sup>26</sup>

#### 5. Analysis of Legal Materials

The author tests credibility by increasing tenacity when analyzing legal materials. Reading various book references and research results or documentation related to the findings studied is one way the author can increase persistence. The author's perspective will be broader and sharper due to this reading, making it possible to determine whether the legal material found is reliable.

In addition, the author also uses the interpretation analysis method, which essentially refers to evaluating and assessing the significance of information obtained, such as survey research findings, observations, experiments, or narrative research reports. Therefore, in this case, data

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<sup>25</sup> Kau, *Metode Penelitian Hukum Islam*, 155.

<sup>26</sup> Marzuki, *Penelitian Hukum*, 237.



interpretation is a critical thinking skill writers can use better to understand book texts, graphs, and tables. This must be done correctly because of the importance of data interpretation.

## **G. Previous Research**

Previous research is information that contains research conducted previously, and this previous research can be in the form of a journal or article that has been published. This previous research can also be dissertations and theses, which have a relationship with the problem being studied to avoid duplication and will explain the originality of the research and show differences in previous research. The research that is used as a guideline in this research is as follows:

1. Wiwit Kurnia (Thesis 2021), Syarif Hidayatullah State Islamic University Jakarta, on "Water Management by Private Parties According to Indonesian Law Number 17 of 2019 concerning Water Resources in the Perspective of Islamic Law". The thesis research uses normative legal research methods and library research using a statutory approach and a conceptual approach that will be harmonized with the provisions of laws and regulations and in the perspective of Islamic law. This research discusses that the state is responsible for managing water resources by the

constitutional mandate to guarantee, protect, and fulfill human rights to water.<sup>27</sup>

2. Mita Permata Sari (Thesis 2022), Raden Intan Islamic University Lampung. This thesis uses a cross-sectional research method with 70 respondents obtained from the random sampling method by examining "Field Assessment of SDGs Achievements in the Field of Clean Water and Proper Sanitation in Zone II of Bandar Lampung City." The study results showed that 58.5% and 34.2% of respondents fell into the safe access to clean water and proper sanitation category.<sup>28</sup>
3. Theresia Indah Budhy S., I Ketut Sudana, Septyana Eka Rahmawati, Roni Handayani (Journal 2022), UNDIKMA Service Journal. The journal uses an extension service method that takes place offline and online to reduce the spread of Covid-by examining "Improving Public Health to Achieve SDGs Through Clean Water Management Counseling during the Covid-19 Pandemic in Kalimas Village, Situbondo Regency". The results of this study show that the community understands the importance of clean water for health. The construction of reservoirs proves the application of infrastructure development to support pure water treatment. The Kalimas Village community still needs material and non-material assistance to

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<sup>27</sup> Wiwit Kurnia, "Pengelolaan Air Oleh Pihak Swasta Menurut Undang- Undang Nomor 17 Tahun 2019 Tentang Sumber Daya Air Dalam Perspektif Hukum Islam."

<sup>28</sup> Mita Permata Sari, "Asesmen lapangan capaian sdgs bidang air bersih dan sanitasi layak pada zona ii kota bandar lampung," [SKRIPSI] Universitas Islam Raden Intan Lampung (UIN Raden Intan, 2022), [http://repository.radenintan.ac.id/22368/1/COVER BAB 1 BAB 2 DAPUS.pdf](http://repository.radenintan.ac.id/22368/1/COVER%20BAB%201%20BAB%202%20DAPUS.pdf).

increase the SGDs (Sustainable Development Goals) index according to government targets.<sup>29</sup>

4. Putu Eka Purnamaningsih, Kadek Wiwin Dwi Wismayanti, (Journal 2022), *Binawakya Journal*. This journal research used data collection methods through observation, interviews, and documentation studies. This research was conducted in one of the places in the Bali area by examining "Implementation of Law Number 17 of 2019 concerning Water Resources in Bali Province". The research results from this journal show that the implementation of Law No. 17 of 2019 concerning Water Resources in Bali province has not run optimally due to the lack of socialization provided by the government regarding the procedures for implementing groundwater licensing.<sup>30</sup>
5. Nadia Astriani, Ida Nurlinda, Amiruddin. A. Dajaan Imami, Chay Asdak (Journal 2020). This journal research examines "Water Resources Management Based on Traditional Wisdom: Environmental Law Perspective." This research discusses the management of water resources based on traditional wisdom, which is based on the philosophy of living in harmony, harmony, and balance with nature. This research also discusses

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<sup>29</sup> Theresia Indah Budhy S et al., "Meningkatkan Kesehatan Masyarakat Guna Mencapai Tujuan SDGs Melalui Penyuluhan Pengelolaan Air Bersih pada Masa Pandemi Covid-19 di Desa Kalimas Kabupaten Situbondo," *Jurnal Pengabdian UNDIKMA* 3, no. 1 (2022): 8, <https://doi.org/10.33394/jpu.v3i1.4938>.

<sup>30</sup> Purnamaningsih dan Wismayanti, "Implementasi Undang-Undang No 17 Tahun 2019 Tentang Sumber Daya Air Di Provinsi Bali."

the practice of water resources management based on traditional wisdom and sustainable water resources management principles.<sup>31</sup>

*Table 1 Previous Research*

No.	Name/Title/University /Year	Statement of Problem	Research Results	Differences	Equation
1	Wiwit Kurnia / Water Management by Private Parties According to Indonesian Law Number 17 of 2019 concerning Water Resources in the Perspective of Islamic Law / Comparative Mazhab Study Program, Faculty of Sharia and Law, State Islamic University (Uin) Syarif Hidayatullah Jakarta / 2021	<ol style="list-style-type: none"> <li>1. What are the rules of Water Resources management according to Law Number 17 of 2019?</li> <li>2. How is the practice and development of water management by private parties in Law Number 17 of 2019 concerning Water Resources?</li> </ol>	The researcher found that the state is responsible for managing water resources per the constitutional mandate to guarantee, protect, and fulfill the human right to water.	The difference between these two studies is that this study examines water management by the private sector. Meanwhile, what the researchers are doing is studying integrated water resources management. Another difference in the research conducted by Wiwit Kurnia is that it needs to examine	The similarities between these two studies are studied from Indonesian law No. 17 of 2019 concerning Water Resources, and this research is examined from the perspective of Islamic law.

<sup>31</sup> Nadia Astriani et al., "Pengelolaan Sumber Daya Air Berdasarkan Kearifan Tradisional: Prespektif Hukum Lingkungan," *Arena HUKUM* 13, no. 2 (2020): 283, <https://doi.org/10.21776/ub.arenahukum.2020.01302.1>.

		<p>3. How is the review of Islamic law and positive law (Law Number 17 of 2019 concerning Water Resources) regarding water management by private parties?</p> <p>4. What limits the private sector in water resources management in Law No. 17/2019?</p>		sustainable management.	
2	<p>Mita Permata Sari / Field Assessment of Sdgs Achievements Clean Water and Proper Sanitation in Zone II of Bandar Lampung City / Biology Education Study Program, Faculty of Tarbiyah and Keguruan, Raden Intan Islamic University Lampung / 2022</p>	<p>1. How is the Field Assessment of Sustainable Development Goals (SDGs) achievements in the field of clean</p>	<p>The results of the study with a total of 58.5% and 34.2% respondents who fall into the category of safe access to clean water and</p>	<p>The difference in research from these two studies lies in the analysis of Mita's brother examining field research by conducting research in</p>	<p>The similarities between the two studies lie in the studies related to clean water sanitation and sustainable programs, namely</p>

		<p>water in Zone II of Bandar Lampung city?</p> <p>2. How is the field assessment of Sustainable Development Goals (SDGs) achievements in the field of proper sanitation in zone II of Bandar Lampung City?</p>	proper sanitation.	the zone II area of Bandar Lampung city. The difference also lies in the data collection method and the data management method carried out by the researcher.	sustainable development goals.
3.	<p>Theresia Indah Budhy S, I Ketut Sudana, Septyana Eka Rahmawati, Roni Handayani/ Improving Public Health to Achieve SDGs through Clean Water Management Counseling during the Covid-19 Pandemic in Kalimas Village, Situbondo Regency/Jurnal Pengabdian UNDIKMA: Jurnal Hasil Pengabdian &amp; Pemberdayaan kepada Masyarakat Vol. 3, No. 1/2022</p>	<p>This community service aims to increase the knowledge of Kalimas Village residents about the importance of clean water management to improve public health and achieve SDGs?</p>	<p>The research results of this journal show that the implementation of Law No. 17 of 2019 concerning Water Resources in Bali province has not run optimally due to the</p>	<p>The difference between these two studies is that this research examines the implementation of Law Number 17 of 2019 concerning Water Resources and uses different data collection</p>	<p>The similarity between these two studies is that they discuss Law Number 17 of 2019 concerning Water Resources, but this research is more specific to Article 21, Paragraph 2.</p>

			lack of socialization provided by the government regarding the procedures for implementing groundwater licensing.	and management methods than those conducted by researchers.	
4.	Putu Eka Purnamaningsih, Kadek Wiwin Dwi Wismayanti / Implementation of Law No. 17 of 2019 concerning Water Resources in Bali Province / Media Bina Ilmiah Vol.16 No.9 / 2022	how is the implementation of Law Number 17 of 2019 in Bali Province whether it has been running optimally or not?	The results of this study show that the community understands the importance of clean water for health. The construction of reservoirs is evidence of the application of infrastructure development to support pure water	The difference lies in that this journal examines clean water management to improve public health to achieve SDG goals, and this research uses field research, so there are differences in data collection and management methods.	The similarities in these two studies are related to clean water management and sustainable development or sustainable development goals.

			<p>treatment. The Kalimas Village community still needs material and non-material assistance to increase the SGDs (Sustainable Development Goals) index according to government targets.</p>		
5.	<p>Nadia Astriani, Ida Nurlinda, Amiruddin. A. Dajaan Imami, Chay Asdak / Water Resources Management Based on Traditional Wisdom: An Environmental Law Perspective / Arena Hukum Volume 13, Number 2 / 2020</p>	<p>1. What are the practices of water resources management based on traditional wisdom carried out by indigenous peoples in Indonesia?</p>	<p>Water resources management is based on traditional wisdom and the philosophy of living in harmony, harmony, and balance with nature. This research also discusses the</p>	<p>The difference in this research is that this journal research discusses specific water resource management practices based on sustainable local wisdom.</p>	<p>The equation in these two studies is the type of research used, namely normative research, and other similarities lie in the practice of managing water resources.</p>



		2. Can water resources management based on traditional wisdom be used as an example of sustainable natural resources management?	practice of water resources management based on conventional wisdom and sustainable water resources management principles.		
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## H. Structure of Discussion

CHAPTER I: Introduction. This chapter consists of several subsections, namely the background of the problem of why the author took the research "Integrated Water Resources Management to Realize the Principles of Sustainable Development Goals According to Law Number 17 of 2019 and the Perspective of Fiqh Bi'ah". Then, the formulation of the problem, which contains how integrated water resource management according to Article 23 paragraph (2) of Law Number 17 of 2019 to realize the principle of sustainable development goals and how integrated water resource management according to Article 23 paragraph (2) of Law Number 17 of 2019 to realize the direction of sustainable development goals according to the

perspective of fiqh bi'ah. Then, the next sub-chapter contains the benefits of research in the form of theoretical and practical uses. Then, it will be presented related to previous research, which explains some previous research related to the discussion in this thesis and briefly explains the similarities and differences with this research. Next is the research method. The research method is a method or way of obtaining and processing data so that it can become a work. The last sub-chapter is a systematic discussion, briefly explaining the core content in all chapters.

CHAPTER II: Literature Review. This section consists of juridical thoughts or concepts. Information about research conducted may contain theoretical foundations and juridical concepts as a theoretical basis for problem assessment and analysis.

CHAPTER III: Results and Discussion. This chapter contains the research results and discussion of "Integrated Water Resources Management to Realize the Principles of Sustainable Development Goals According to Law Number 17 of 2019 and the Perspective of Fiqh Bi'ah". This chapter will describe the results of data analysis, both primary, secondary, and tertiary data, to answer the formulation of the problem set.

CHAPTER IV: Closing. At the end of this chapter contains conclusions and suggestions. In this section, findings are obtained from a research summary, which is the answer to a predetermined problem

formulation. The contents of this conclusion must be able to answer the formulation of the problem that has been previously set. A suggestion is a proposal or a solution to a problem for a particular party so that the authorities in the problem under study will make a fair recognition and uphold the community's welfare. The content of the suggestion can be linked to the benefits that have been written.

## BAB II

### LITERATUR REVIEW

#### A. Integrated Water Resources Management

Integrated Water Resources Management has evolved since the early thinking of the 1950s and was agreed upon and discussed in depth at the Water Conference in Mar del Plata in 1977.<sup>32</sup> It is noted that this concept was first proposed by Gilbert White in the 1940s using the term Comprehensive Water Resources Management.<sup>33</sup> When the idea of integrated water resources management was revived in the 1990s by ICWE and UNCED under the name IWRM in the "Dublin-Rio" principle,<sup>34</sup> Countries began to apply it widely. The concept was then included in the discussions of the World Summit on Sustainable Development 2002 (hereafter referred to as WSSD 2002) as part of water issues and the United Nations Conference on Sustainable Development (hereafter referred to as UNCSD) in 2012, where it was proposed to be adopted as a global goal for Sustainable Development by 2015.<sup>35</sup>

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<sup>32</sup> Dietrich Borchardt, Janos J. Bogardi, dan Ralf B. Ibsch, *Integrated water resources management: Concept, research and implementation, Integrated Water Resources Management: Concept, Research and Implementation* (Switzerland: SprigerInternational Publishing, 2016), v.

<sup>33</sup> Cecilia Tortajada, "IWRM revisited: from concept to implementation," *International Journal of Water Resources Development* 30, no. 3 (2014): 362, <https://doi.org/10.1080/07900627.2014.937085>.

<sup>34</sup> Borchardt, Bogardi, dan Ibsch, "Integrated water resources management: Concept, research and implementation," 4.

<sup>35</sup> Torkil Jonch Clausen dan Jens Fugl, "Firming up the conceptual basis of integrated water resources management," *International Journal of Water Resources Development* 17, no. 4 (2001): V, <https://doi.org/10.1080/07900620120094055>.

Integrated Water Resources Management (according to Global Discourse) is a Water Resources Management Process that integrates water resources with other related resources between sectors between regions sustainably without sacrificing the environment and is organized with a participatory approach.<sup>36</sup> According to the Global Water Partnership (GWP), there are three components for achieving water resources management: the enabling environment, the institutional role, and the management instruments.<sup>37</sup> Integrated water resources management by Law Number 17 of 2019 is carried out in a comprehensive manner (construction, utilization, control), integrated (between sectors and between regions), and environmentally sound (ecosystem balance and environmental carrying capacity) to realize sustainable (intergenerational) benefits of water resources for the greatest prosperity of the people.

Integrated Water Resources Management (IWRM) is a process of coordination in the development and management of water and land resources and other resources in an area to obtain balanced economic benefits and social welfare without leaving the sustainability of the ecosystem. According to this definition, integrated water resources management focuses on integrated management between upstream and downstream interests, water quantity and

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<sup>36</sup> K. M. Arsyad, "modul Pengelolaan Sumber Daya Air Terpadu Pelatihan Perencanaan Teknik Sungai," 2017, 4, [https://simantu.pu.go.id/epel/edok/b005e\\_03.\\_Modul\\_3\\_Pengelolaan\\_Sumber\\_Daya\\_Air\\_Terpadu.pdf](https://simantu.pu.go.id/epel/edok/b005e_03._Modul_3_Pengelolaan_Sumber_Daya_Air_Terpadu.pdf)

<sup>37</sup> Robert J. Kodoatie dan M. Basoeki, *Kajian Undang-Undang Sumber Daya Air* (Yogyakarta: Andi, 2005), 26.

quality, groundwater and surface water, and land and water resources. IWRM is expected to be a way to overcome the problems of water scarcity, flooding, water pollution, and equitable water distribution. The journey of this IWRM concept has been very long. In Indonesia, it is also known as the slogan, One River-One Plan-One Management. But until now, deforestation has continued, causing floods and sedimentation<sup>38</sup> of reservoirs and estuaries, withdrawal of more non-renewable groundwater continues without regard to possible land subsidence and saltwater intrusion<sup>39</sup>, uncontrolled sand excavation, resulting in degradation<sup>40</sup> of the riverbed that endangers several other infrastructures, dumping of garbage and factory waste into the river still occurs, causing flooding and pollution of river water. This shows that coordination between sectors that need to be integrated has not been able to run well.<sup>41</sup>

Integrated water resources management is a process. Thus, integrated water resources management is a tool rather than an end.<sup>42</sup> Management To ensure water resources are created, managed, and used equitably, sustainably, and effectively, integrated water resources management provides a framework

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<sup>38</sup> Sedimentation is the deposition of materials transported by water, wind, ice, or glaciers in a basin.

<sup>39</sup> Seawater intrusion is where the boundary between the groundwater table and the sea level rises inland.

<sup>40</sup> The degradation or lowering of a riverbed is caused by the overall erosion of the flow on a riverbed in a direction that extends the river at a certain width.

<sup>41</sup> Sugeng Sutikno, "Pengelolaan Sumberdaya Air Terpadu (Integrated Water Resources Management, IWRM)," *Jurnal Mesa Fakultas Teknik Universitas Subang* 1, no. 1 (2017): 10, <http://ejournal.unsub.ac.id/index.php/FTK/article/view/122>.

<sup>42</sup> Jonch Clausen dan Fugl, "Firming up the conceptual basis of integrated water resources management," 503.

for.<sup>43</sup> Because of this, integrated water resources management requires a general framework of national policies, laws, and regulations, information for water resources management stakeholders, different institutional roles and functions of different administrative levels, and lastly, management instruments, including efficient operational tools, are all needed to create an enabling environment for integrated water resources management. Regulation, supervision, and enforcement enable decision-makers to consider informed choices among alternative scenarios.<sup>44</sup>

Water resources management in Article 23 paragraph 1 of Law Number 17 of 2019 concerning Water Resources<sup>45</sup> Water management is carried out in a comprehensive, integrated, and environmentally sound manner to realize sustainable water benefits for the most significant use of the people. What is meant by complete is that it covers all management areas, including conservation, utilization, and control of water destructive power, as well as a system of management areas, which covers all planning, implementation monitoring, and evaluation processes. The definition of integrated in the article is management that covers between sectors and between administrative areas involving all stakeholders. Environmentally sound management must pay attention to the balance of ecosystems and the environment's carrying

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<sup>43</sup> UN Environment, *Progress on integrated water resources management, Global Baseline for SDG6 Indicators 6.5.1 Degree of IWRM Implementation, Global Baseline for SDG 6 Indicator 6.5.1: Degree of IWRM Implementation*, 2018, 7.

<sup>44</sup> Borchardt, Bogardi, dan Ibsch, "Integrated water resources management: Concept, research and implementation," 380.

<sup>45</sup> Lembaran Negara Republik Indonesia Tahun 2019 No. 190.

capacity. Meanwhile, the definition of sustainable management is the management of water resources by taking into account the needs of current and future generations.

The vision of integrated water resources management is described as achieving prosperity for the entire community by utilizing water resources. This vision of water resources management has been elaborated in the mission of water resources management, which includes conservation of natural resources in a sustainable manner, equitable utilization of water resources to meet the needs of various levels of society both in terms of quality and quantity, control of damage to water resources, empowering and increasing the role of the community, private sector, and government in water resources management, and increasing transparency and availability of data and information in water resources management. This mission has been explained in the provisions of the laws and regulations related to water resources.

One of the objectives of water resources management, according to Sunaryo, is to support sustainable regional and national development through sustainable achievement in water resources management<sup>46</sup>. Water Resources Management is carried out based on several principles according to article 2 of Law No. 17 of 2019<sup>47</sup> as follows:

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<sup>46</sup> Trie M. Sunaryo, Tjoek Walujo, dan Aris Harnanto, *Pengelolaan Sumber Daya Air: Konsep dan Penerapannya* (Malang: Bayumedia publishing, 2005), 52.

<sup>47</sup> Lembaran Negara Republik Indonesia Tahun 2019 No. 190.



1. The principle of public benefit

This means that water resources management is carried out with the aim of providing maximum benefits for the public interest in an effective and efficient manner;

2. The principle of affordability

In water resources management, water must be equally available and affordable for everyone, both geographically and economically;

3. The principle of justice

This means that water resources management is carried out fairly to all levels of society throughout the country so that citizens have equal opportunities to participate and experience the benefits in real terms;

4. Principle of balance

There is a balance of social functions, environmental functions, and economic functions;

5. The principle of independence

This means that water resources management is carried out by considering the capacity of existing resources at that location;

6. The principle of local wisdom

In the management of water resources, ethical values that apply in community life must be the primary concern;

7. The principle of environmental insight

In the management of water resources, the balance of ecosystems and the capacity of the environment that supports them should be considered;

8. Principle of sustainability

The utilization of water resources is carried out by maintaining the continuity of the function of water resources in a sustainable manner;

9. The principle of sustainability

That the management of water resources is not only for the benefit of the present but also for the benefit of future generations;

10. The principle of integration and harmony; and

This means that water resources management can be well integrated to achieve balance between various needs, taking into account the dynamic nature of water;

11. Principles of transparency and accountability

This means that water resources management is carried out openly and accountable.

Regarding regulations on integrated water resources management as implementing sustainable development in international cooperation, many are characterized as soft law<sup>48</sup> or legal principles that are not strictly binding. However, the association still has an impact or effectiveness on the member or negotiating countries. Environmental health has become an integral part of human rights as the two are intertwined. Before many countries recognized the right to a clean environment, there was a debate on the human right to a clean environment.<sup>49</sup> This is due to three factors: first, there is no international agreement on environmental rights; second, international legal practice does not provide an enforceable basis for environmental rights; third, general principles of international environmental law fail to protect essential ecological rights, including environmental procedural rights.<sup>50</sup>

With the increasing complexity of environmental issues, the fundamental human right to a decent life can only be realized with adequate environmental conditions for human survival, such as the availability of clean water, air, and healthy soil.<sup>51</sup> General provisions on human rights show their relevance in environmental protection, including the right to life, an adequate standard of living, the right to health, the right to food, and so on. However,

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<sup>48</sup> The term soft law is used to denote agreements, principles, declarations or other instruments that are not legally binding. Whereas the term hard law generally refers to legal obligations that are binding on the parties involved and that can be legally enforced before a court of law.

<sup>49</sup> Malcolm Shaw, *International Law* (New York: Oxford university university press, 2009), 642.

<sup>50</sup> James R. May dan J. Patrick Kelly, *The environment and international society Issues, concepts and context dalam Routledge Handbook of International Environmental Law* (London: Routledge, 2012), 10.

<sup>51</sup> May dan Kelly, 10.

specific references to human rights about a clean environment seem limited and need to be clarified at first.<sup>52</sup>

This can be seen in the Preamble of the Stockholm Declaration which states that the environment is *essential to .... the enjoyment of basic human rights - even the right to life itself*, while Principle 1 of the Stockholm Declaration states that *Man has the fundamental right to freedom, equality and adequate conditions of life, in an environment of a quality that permits a life of dignity and well-being*, the Stockholm Declaration does not explicitly indicate the link between human rights and the environment. The same applies to the 1992 Rio Declaration on Environment and Development (hereafter the Rio Declaration) which emphasizes the sovereign rights of states over the rights of individuals. An arrangement that explicitly links human rights to the environment is found in the *1998 Aarhus Convention on Access to Information, Public Participation in Decision-making, and Access to Justice in Environmental Matters* (hereinafter Aarhus Convention 1998)<sup>53</sup> namely, *adequate protection of the environment is essential for human well-being and the enjoyment of human rights, including the right to life itself*.

Recognition of the importance of water as a source of life has been described in various legal regulations, both at the international and national levels. For example, the Universal Declaration of Human Rights (UDHR) of

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<sup>52</sup> Shaw, *International Law*, 642.

<sup>53</sup> Shaw, 623.

1948 affirms in Article 25, paragraph (1)<sup>54</sup> that every individual has the right to live at a standard that ensures health and well-being for himself and his family, including access to food, clothing, housing, health services, and necessary social services.<sup>55</sup>

The UDHR, with all its provisions, can be regarded as the Constitution of Human Rights, which sets out the basic principles on the strength, enforceability, guarantee, and even protection of human rights worldwide. As an implementation measure, the conventions on human rights to social and economic rights adopted in 1966 can be likened to its operational law. Particularly in the context of the water right, this right is included in the ESCR, and around 2000, the committee on ESCR described the right to health as stated in articles 11 and 12 of the ICESCR as follows: *An inclusive right that extends not only to timely and appropriate health care but also to those factors that determine good health, these includes access to safe drinking-water and adequate sanitation, a sufficient supply of safe food, nutrition and housing, healthy occupational and environmental conditions, and access to health-related education and information.*<sup>56</sup>

The Committee on ESCR has explicitly issued a statement on water rights that reflects three essential elements the state must fulfill: a)

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<sup>54</sup> “Deklarasi Universal Hak-Hak Asasi Manusia; Diterima dan diumumkan oleh Majelis Umum PBB pada tanggal 10 Desember 1948 melalui resolusi 217 A (III)”.

<sup>55</sup> United Nations, *Human Rights: A Compilation of International Instruments, Vol I (First Part) Universal Instrument* (New York: United Nations, 2002), 11.

<sup>56</sup> World Health Organization, *The Right to Water* (Perancis: WHO, 2003), 8.

availability, b) quality, and c) affordability. This includes the following aspects: 1) easy physical access, 2) financial ability to obtain water, 3) non-discrimination, and 4) access to information. The need for water for humans is so critical that the Rio de Janeiro Conference 1992 initiated the commemoration of "World Water Day" on March 22 every year.<sup>57</sup>

Officially, legal regulations on the right to clean and healthy water are not explicitly mentioned in Indonesia. However, implicitly, this right is enshrined in Article 28, letter H of the 1945 Constitution of the Republic of Indonesia<sup>58</sup>, which states that "everyone has the right to live in physical and mental prosperity, to have a place to live, to have a good and healthy environment, and to receive health services." This article provides the legal basis for the state to fulfill its responsibility to individual rights. Regarding the right to clean and healthy water, Oxfam International, a group of independent non-governmental organizations, in its report estimates that by 2025, around 321 million Indonesians will experience difficulties in accessing clean water. This number is expected to increase in line with population growth.

Suppose the right to clean water and health is considered a human right with a broad scope, belonging to the category of positive rights that require concrete actions for its fulfillment. In that case, the State should be responsible for ensuring this fulfillment. The State must take steps in

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<sup>57</sup> Wattimena, "Pemenuhan Hak atas Air Bersih dan Sehat, Serta Hak Menggugat Masyarakat," 2.

<sup>58</sup> Lembaran Negara Republik Indonesia Undang-Undang Dasar Negara Republik Indonesia 1945 No. 75.

accordance with the law and moral principles to fulfill these human rights as a manifestation of Indonesia's commitment to the satisfaction of human rights.<sup>59</sup>

The state must fulfill rights for the community in the form of Positive Rights and requires the state to be responsible for fulfilling the human rights of its people as a form of responsibility, which includes respect, appreciation, protection, and fulfillment. Until now, the state has not shown any form of commitment. The community still consumes the water to fulfill their daily lives. This has the potential to affect the quality of health of the people who drink the water. The right to clean and healthy water has comprehensive dimensions, two of which contain health dimensions but also environmental dimensions. The issue of clean and healthy water is fundamental to the existence of human life. It, therefore, requires precise and firm legal provisions so that it has binding power for each party to be obliged and must take further action to realize. The right to clean and healthy water, as previously explained, is categorized as a positive right.

According to Franz Magnis Suseno, his view on positive human rights is based on the concept of state duties and obligations. Positive human rights are the opposite of adverse human rights, where positive human rights demand specific achievements from the state. The essence of this view is that the state has a responsibility to provide services to society, and as a result, the

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<sup>59</sup> Wattimena, "Pemenuhan Hak atas Air Bersih dan Sehat, Serta Hak Menggugat Masyarakat," 5.

organization has the right to receive these services. Examples of positive human rights include the right to justice in the legal system, the right to security protection, the right to legal aid, the right to healthcare, and the right to citizenship.<sup>60</sup>

The right to clean and healthy water, which falls under the category of positive human rights, requires the State to formulate legal regulations as a form of protection, respect, and fulfillment of the rights of its citizens. This legal arrangement has been recognized internationally through various conventions that regulate the issue of the right to clean and healthy water, either directly or indirectly:<sup>61</sup>

- a. In the 1948 Universal Declaration of Human Rights, Article 25 states that every individual has the right to a standard of living that ensures health and well-being for himself and his family, including access to food, clothing, housing, health care, and necessary social services;
- b. The International Convention on economic, social, and Cultural Rights, in Articles 11 and 12, indicates that this comprehensive and widespread right not only covers timely health care but also includes elements that contribute to good health. This provides access to safe drinking water and adequate sanitation facilities;

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<sup>60</sup> Wattimena, 7.

<sup>61</sup> Wattimena, 7.



- c. The 1965 UN Convention on the Elimination of All Forms of Racial Discrimination affirms that all human beings are born with equal dignity and rights, including the right to the protection of the law and without discrimination of any kind.<sup>62</sup> Article 5 of this convention states parties are obliged to prohibit and eliminate all forms of racial discrimination, as well as guarantee the rights of every individual, especially in terms of the right to be treated equally before courts and judicial institutions, the right to security, political rights, civil rights, economic, social, and cultural rights, including the right to health, medical care, social safety, social services, the right to education, and training;
- d. The 1978 Alma-Ata Declaration on the Role of the State in the Fulfillment of the Right to Health of Citizens involves various aspects such as the provision of essential health services, promotion of the availability of quality food and nutrition, provision of an adequate supply of clean water and proper sanitation, care for mothers and children including family planning programs, immunization for dangerous infectious diseases, prevention and control of endemic diseases in certain areas, effective treatment of common illnesses and

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<sup>62</sup> Wattimena, 7.

injuries, provision of essential medicines, and organization of health education programs;<sup>63</sup>

- e. The Charter of the 2000 People's Health Assembly in Bangladesh emphasizes the importance of health as part of human rights. He sees health as a reflection of a society's commitment to the principles of equality and justice. It calls on all parties to support the implementation of the right to health, urges governments and international organizations to implement policies that respect the right to health, promotes the inclusion of health and human rights in legislation, and opposes the exploitation of people's health needs for private gain;<sup>64</sup>
- f. In General Comment No. 15, the Committee on ESC Rights provided<sup>65</sup> their views on the Right to Water. It emphasized that three essential elements must be fulfilled in this right, namely availability, quality, and accessibility. This includes aspects such as easy physical access, financial ability to obtain water without discrimination, and availability of information.

The universal regulation of the right to water aims to underscore the fundamental nature of this right as part of human rights. Water has a very significant impact on human existence, and therefore, the right to clean and healthy water is considered a fundamental right. The availability,

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<sup>63</sup> Wattimena, 7.

<sup>64</sup> Wattimena, 7.

<sup>65</sup> Wattimena, 8.

accessibility, and quality of water are integral components of this human right. The discussion on the right to clean and healthy water has a vast scope and is closely related to health aspects. Health is an aspect that cannot be separated from water, as water is the essential element and determinant of human survival. Humans cannot survive without water, but it is crucial to remember that not all types of water can be consumed. Only clean and healthy water can be used by humans.<sup>66</sup>

Peter Malanczuk's explanation of state responsibility in the context of environmental law argues that the state has a commitment that is different from the civil burden of private organizers.<sup>67</sup> In reality, the state is not ready to accept obligations that have a legally binding character. In relation to Integrated Water Resources Management, each state has the right to regulate water resources in its territory without interference from other states. Still, there is a responsibility to ensure that any activities that take place in those water resources will not cause negative impacts on the territory of other states. Providing clean and healthy water as a form of state responsibility is part of the duties given to the state as the executor of the mandate, which, if analyzed

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<sup>66</sup> Wattimena, 8.

<sup>67</sup> Peter Malanczuk, *Akehurt's Modern Introduction to International Law*, Seventh re (USA: Taylor & Francis e-Library, 2002), 224.

in more detail, has a legal basis in Article 33, paragraph 3 of the 1945 Constitution of the Republic of Indonesia.<sup>68</sup>

## **B. Water Resources Utilization**

One aspect of water resources management in the water resources law is the utilization of water resources. According to Article 28, paragraph 1 of Law No. 17 of 2019<sup>69</sup>, water utilization is intended to utilize water resources sustainably, with the main priority being the fulfillment of water for the daily basic needs of the community in a fair manner. Efforts for the utilization of water resources are carried out through stewardship activities, provision, use, and development of water resources, which are carried out optimally to be successful and valuable.

Water resource utilization is the provision, use, development, and best utilization of water resources. This initiative aims to prioritize the essential needs of society to use water resources sustainably. The utilization of water resources is carried out by prioritizing social conditions to achieve justice, paying attention to the idea of users paying for services, managing water resources, and involving the community.<sup>70</sup>

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<sup>68</sup> Lembaran Negara Republik Indonesia Undang-Undang Dasar Negara Republik Indonesia 1945 No. 75.

<sup>69</sup> Lembaran Negara Republik Indonesia Tahun 2019 No. 190.

<sup>70</sup> Cut Azizah, "Pengelolaan Sumberdaya Air," *Fakultas Teknik Universitas Almuslim*, 2013, 3, <https://media.neliti.com/media/publications/145954-ID-pengelolaan-sumber-daya-air.pdf>.

By fostering cooperative behavior, the implementation of water resources utilization is carried out fairly and equitably between sectors, between regions, and between community groups. The social function becomes the main focus in the utilization of water resources to achieve justice by involving the community. To utilize water resources, what needs to be known is the potential and availability of water. The possibility of water on our earth, according to the US Geological Survey in 1967<sup>71</sup>, can be seen in the following table:

*Table 2 Potential Water on Earth*

Water in phases of the hydrological cycle	Km <sup>3</sup>	Percent
Inland water	37800	2,8
Freshwater lake	125	0,009
Saltwater lakes and inland seas	104	0,008
Rivers	1,25	0,0001
Soil moisture and vadose deep water	67	0,005
Groundwater to depth	8350	0,61
Ice and glaciers	29200	2,14
Atmospheric water	13	0,001
Water in the oceans	1320000	97,3
Total water on earth	± 1360000	100

Systematically, water resource utilization activities are shown in the following table:

*Table 3 Water Resources Utilization Scheme (according to Indonesian Law No. 17 of 2019)*

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<sup>71</sup> Zamanan Azkiy, "Implementasi Kebijakan Pendayagunaan Sumber Daya Air Terhadap Pemenuhan Kebutuhan Air Bersih Masyarakat Kabupaten Semarang (Tinjauan Atas Undang-Undang Ri No. 7 Tahun 2004 Tentang Sumber Daya Air)" (Universitas Brawijaya, 2008), 35, <http://repository.ub.ac.id/113657/>.

Water resources management pattern as a reference
↓
Natural resource utilization activities
<ol style="list-style-type: none"> <li>1. Water resources stewardship</li> <li>2. Provision of water resources</li> <li>3. Use of water resources</li> <li>4. Development of water resources</li> </ol>

Source: Kodoatie and M. Basoeki<sup>72</sup>

### 1. Water Resources Stewardship

Establishing water resource utilization zones and water allocation in water sources is the objective of water resource stewardship. To benefit present and future generations, utilizing the potential of water resources sustainably is another objective of sound water resources stewardship. Water resources stewardship on surface water is indicated to determine the spatial utilization zone on water resources, and water allocation on water resources is carried out by:<sup>73</sup>

- a. Allocate zones for protection and cultivation functions
- b. Using the basis of hydrological technical research and measurement results
- c. Taking into account the water resource space bounded by the borderline of the water source
- d. Taking into account the interests of various types of utilization

<sup>72</sup> Kodoatie dan Basoeki, *Kajian Undang-Undang Sumber Daya Air*, 73.

<sup>73</sup> Tambahan Lembaran Negara Republik Indonesia Tahun 2019 No. 6405.

- e. Involving the claims of different kinds of utilization
- f. Taking into account the function of the area

## 2. Provision of Water Resources

The provision of water resources, both surface water, and groundwater, is intended to provide or increase the availability of water resources to meet various needs in accordance with the quality and quantity as stated in the additional article 29 paragraph 2 letter b<sup>74</sup>. The provision of water to meet basic needs is the top priority in the provision of water resources above all conditions.

## 3. Use of Water Resources

The use of water resources focuses on the use of water as a medium or material for various purposes in accordance with its stewardship, such as using it for domestic, industrial, and drinking water needs. Affected water sources, ecology, and public infrastructure should be protected so that basic daily needs can be met with water from water sources.<sup>75</sup>

## 4. Water Resources Development

In order to meet the needs of water, water power, and water sources for households, irrigation/agriculture, industry, mining, energy,

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<sup>74</sup> Tambahan Lembaran Negara Republik Indonesia Tahun 2019 No. 6405.

<sup>75</sup> Tambahan Lembaran Negara Republik Indonesia Tahun 2019 No. 6405.

transportation/water transportation, defense, sports, and tourism as well as for various purposes, it is necessary to develop water resources, both surface water and groundwater.<sup>76</sup>

The principle of water resources development, according to Mulyanto, aims to utilize the water available in an area in a sustainable manner to meet as many types of needs as possible within a certain period while adhering to the principles of benefit, economy, and environmental insight. The development of a drinking water supply system that aims to create quality drinking water management and services at a reasonable price, create balanced interests between consumers and service providers, and increase the efficiency and coverage of drinking water services is one of the developments of water resources. This concerns the provision of raw water needs for household drinking water and the adequate range of water services.<sup>77</sup>

### **C. Concept Sustainable Development Goals**

The 70th General Assembly of the United Nations (UN) in September 2015 in New York, United States, became a new historical point in global development. A total of 193 Heads of State and government were present to agree on a new universal development agenda contained in a document entitled *Transforming Our World: the 2030 Agenda for Sustainable Development*, which includes 17 Goals and 169 Targets that apply from 2016

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<sup>76</sup> Tambahan Lembaran Negara Republik Indonesia Tahun 2019 No. 6405.

<sup>77</sup> H.R Mulyanto, *Pengembangan sumber daya air terpadu* (Yogyakarta: Graha Ilmu, 2007), 11.



to 2030. This document is known as the Sustainable Development Goals or SDGs. The SDGs are a continuation of the Millennium Development Goals (MDGs) agreed by UN member states in 2000 and expire at the end of 2015. The 2010 UN Summit on MDGs formulated a post-2015 world development agenda.

This was reinforced by the agreement of *The Future We Want document at the UN Conference on Sustainable Development 2012*. Both of these became the main drivers in the preparation of the post-2015 development agenda agreed at the UN General Assembly in September 2015, namely the 2030 agenda of Sustainable Development Goals. However, both have fundamental differences, both in terms of substance and the drafting process. The MDGs, agreed more than 15 years ago, contained only 8 Goals, 21 Targets and 60 Indicators. The goals only aim to reduce half of each of the development problems outlined in the goals and targets.<sup>78</sup> The SDGs are a refinement of the MDGs because the SDGs are broader and include universal goals for both developed and developing countries. The SDGs place a focus on human rights to prevent discrimination as well as eradicate poverty in all its forms. The SDGs aim to achieve all goals, while the MDGs only aim to reduce half of them. The SDGs also include means of implementation and plans.

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<sup>78</sup> M Husni Al Mubarak, "Implementasi Sustainable Development Goals (Sdgs) Dalam Bidang Kesehatan Pencegahan Stunting Di Desa Tanete Kecamatan Tompobulu Kabupaten Gowa" (Universitas Muhammadiyah Makassar, 2022), 17, [https://digilibadmin.unismuh.ac.id/upload/32883-Full\\_Text.pdf](https://digilibadmin.unismuh.ac.id/upload/32883-Full_Text.pdf).

The Sustainable Development Goals (SDGs) were declared on September 25, 2015, at the UN Headquarters in New York by 193 countries as a commitment to the Global Development Agenda<sup>79</sup>. The Sustainable Development Goals are a continuation and refinement of the Millennium Development Goals (MDGs) that have been implemented during the 2000-2015 period. The SDGs are a refinement of the previous Global Development Agenda because development commitments not only focus on human development but also on environmentally friendly economic development and environmental development. The goal of the meeting is to obtain universal common goals that are able to maintain the balance of the three dimensions of sustainable development: environmental, social, and economic. In maintaining the balance of the three dimensions of development, the SDGs have five main foundations: people, planet, prosperity, peace, and partnership, which aim to achieve three noble goals by 2030: ending poverty, achieving equality, and tackling climate change. Poverty is still an essential and significant issue, in addition to the other two achievements. To accomplish these three noble goals, 17 Global Goals were developed. The 17 (seventeen) Global Goals of the SDGs are:<sup>80</sup>

1. No Poverty. No poverty of any kind in any part of the world.

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<sup>79</sup> Armida Salsiah Alisjahbana dan Endah Murniningtyas, *Tujuan Pembangunan Berkelanjutan di Indonesia*, Cet. 2 (Bandung: Unpad Press, 2018), 7.

<sup>80</sup> Mubarak, "Implementasi Sustainable Development Goals (Sdgs) Dalam Bidang Kesehatan Pencegahan Stunting Di Desa Tanete Kecamatan Tompobulu Kabupaten Gowa," 18–22.

2. Zero Hunger. No more hunger, achieving food security, improved nutrition, and promoting sustainable agriculture.
3. Good Health and Well Being. We are ensuring healthy lives and promoting well-being for all people of all ages.
4. Quality Education. It is ensuring equitable distribution of quality education and increasing learning opportunities for all, providing inclusive and equitable education, and promoting lifelong learning opportunities for all.
5. Gender Equality (Gender Quality). We are achieving gender equality and empowering mothers and women.
6. Clean Water and Sanitation. Ensure sustainable availability of clean water and sanitation for all.
7. Affordable and Clean Energy. Ensure access to affordable, reliable, sustainable, and modern energy sources for all.
8. Decent Work and Economic Growth. Support sustainable and inclusive economic development, full and productive employment, and decent work for all.
9. Industry, Innovation, and Infrastructure. Build quality infrastructure, promote inclusive and sustainable industrial upgrading, and foster innovation.
10. Reduced Inequalities. Reduce inequalities both within countries and between countries.

11. Sustainable Cities and Communities. It is building inclusive, quality, safe, resilient, and sustainable cities and human settlements.
12. Responsible Consumption and Production. Ensure the sustainability of consumption and production patterns.
13. Climate Action. Act quickly to combat climate change and its impacts.
14. Life Below Water. Preserve and maintain the sustainability of the ocean and living marine resources for sustainable development.
15. Life On Land. Protect, restore, and enhance the sustainable use of land ecosystems, sustainably manage forests, reduce barren land and land swaps, combat desertification, halt and reverse land degradation, and halt biodiversity loss.
16. Peace, Justice, and Strong Institutions. Promote peace, including society for sustainable development, provide access to justice for all, including institutions and accountability for all, and build effective, accountable, and inclusive institutions at all levels.
17. Partnerships For The Goals. Strengthen the implementation and reinvigorate the global partnership for sustainable development.

In response to the 17 Global Goals, the President of the UN General Assembly emphasized that the ambitions of UN member states will only be achieved if the world is peaceful, safe, and respects human rights, not in a

world where investment in weapons and war is more significant, destroying most of the resources that have been committed to investing in sustainable development. The SDGs carry 5 fundamental principles that balance the economic, social, and environmental dimensions, namely People, Planet, Prosperity, Peace, and Partnership. These five basic principles are known as the 5Ps and cover 17 Goals and 169 Targets that are inseparable, interconnected, and integrated to achieve a better human life.<sup>81</sup> The term Sustainable Development first appeared in the context of the international community in 1972, when the relationship between quality of life and environmental quality was first studied at the 1972 UN Conference on the Human Environment in Stockholm. However, the term became more popular in 1987 when the Brundtland Commission provided a definition and explanation of the meaning of Sustainable Development.<sup>82</sup> The International Union for Conservation of Nature (IUCN) states that by ensuring a sustainable ecology, a sustainable economy, and social needs are met, the quality of life or standard of living can be maintained for generations to come. IUCN considers this to be the core of the concept of Sustainable Development.<sup>83</sup>

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<sup>81</sup> Mubarak, 22.

<sup>82</sup> Peter P Rogers, Kazi F Jalal, dan John A Boyd, *An Introduction to Sustainable Development* (USA: Earthscan, 2008), 42.

<sup>83</sup> Svitlana Kravchenko, Tareq M. R Chowdhury, dan Md Jahid Hossain Bhuiyan, *Principles of international environmental law dalam Handbook of International Environmental Law*, *Routledge Handbook of International Environmental Law* (London: Routledge, 2012), 44, <https://doi.org/10.4324/9780203093474>.

Roger and his colleagues argue that the central governing elements or pillars that underpin Sustainable Development are poverty, population, pollution, participation, policy failure, and disaster prevention and management.<sup>84</sup> The Brundtland Commission, in the context of Sustainable Development, emphasized two key elements: first, meeting the basic needs of the world's poor, and second, recognizing the limitations of technology and social aspects in addressing the capacity of the environment to meet current and future needs. Within this framework, the commission emphasized the importance of giving top priority to the need factor.<sup>85</sup> Based on the three views described above, the concept of sustainability describes and explains the relationship between economic development, environmental quality, and social justice.<sup>86</sup>

The issues mentioned above indicate the importance of water resources management in the Sustainable Development agenda. The sustainable development of water resources is vital in achieving the fulfillment of essential human needs around the world without damaging the environment as a resource. The existence of Sustainable Development Goals 6 (SDGs) in 2015 shows that water management plays a vital role in the Sustainable Development agenda. In fact, according to the World Economic Forum's

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<sup>84</sup> Rogers, Jalal, dan Boyd, *An Introduction to Sustainable Development*, 47.

<sup>85</sup> WCED, *Report of the World Commission on Environment and Development: Our Common Future* (United Nations, 1987).

<sup>86</sup> Rogers, Jalal, dan Boyd, *An Introduction to Sustainable Development*, 42.

Global Risk Reports in 2015 and 2016, the "water crisis" topped the list of ten global risks that threaten economic growth. Sands also argues that treaties and other laws directly or indirectly support the sustainable use of natural resources and emphasizes that states have legal obligations and responsibilities to preserve natural resources and support the concept of Sustainable Development.<sup>87</sup>

#### **D. Clean Water and Sanitation**

The demand for clean water continues to increase along with population growth. According to Cahyana, the word water itself stands for three important aspects, namely safe, content, and routine. Secure refers to the need for water used by the community to be safe for consumption. Safety is related to water quality, including physical quality (such as smell, taste, color, temperature, and turbidity), chemical quality (the content of substances in water), and biological quality (which is related to the presence of bacteria in water). At the same time, content refers to the volume of water needed per person per day or the capacity of water required to lead a hygienic and sanitary life, usually every day.<sup>88</sup>

The daily need for water per individual varies. In general, according to Cahyana, the average water requirement in Indonesia is around 120 liters per person per day. This figure includes the need for bathing, washing, and

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<sup>87</sup> Philippe Sands Q.C, *Principles of international environmental law* (Cambridge: Cambridge University Press, 2003), 206.

<sup>88</sup> Gede H. Cahyana, *PDAM bangkrut ? awas perang air* (Bandung: Sahara Golden Press, 2004), 72.

toileting (MCK), food and beverage consumption, and cleaning the house. However, typically, the higher a person's social and economic status, the higher their average water needs tend to be.<sup>89</sup> What is meant by routine is the availability of water that must remain available 24 hours a day. According to Sutrisno and Eni S, water sources can come from several sources, including seawater; atmospheric water, such as rain; surface water, such as rivers, lakes, and swamps; and groundwater, both deep groundwater and shallow groundwater.

From a quality perspective, in accordance with the views of Sutrisno and Eni S, clean water must meet the following requirements:

1. Physical Requirements: water must be free from unwanted colors, tastes, and odors. The water temperature should be within the range of about 25°C, and the water should be clear.
2. Chemical Requirements: water must not contain toxic substances or certain chemical compounds in quantities exceeding predetermined limits.
3. Bacteriological Requirements: water must be free of disease-causing bacteria.

Clean water quality has also been regulated in Government Regulation No. 82 of 2001<sup>90</sup> concerning water quality management and water pollution control. In addition, Minister of Health Decree No.

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<sup>89</sup> Cahyana, 75.

<sup>90</sup> Lembaran Negara Republik Indonesia Tahun 2001 Nomor 153.



907/MENKES/SK/VII/2002 also regulates requirements and supervision related to drinking water quality. Water quality management is carried out with the aim of ensuring that water meets quality standards in accordance with its intended use.

According to scientific research conducted by Extoxnet.Orst.edu, bacteria such as Coliform Bacteria, Giardia Lamblia, Cryptosporidium, and Helminths can be found in water, both clean and dirty. Even clean water contains many bacteria, parasites, viruses, and protozoa. Therefore, it is expected that dirty water will have a higher number and variety of bacteria, parasites, viruses, and protozoa. Some of the bacteria and parasites that can be found in dirty water include Clostridium botulinum, Campylobacter jejuni, Vibrio cholerae, Escherichia coli, Mycobacterium marinum, Shigella dysenteriae, Legionella pneumophila, Leptospira, Salmonella, Salmonella typhi, Vibrio vulnificus, Vibrio alginolyticus, Vibrio parahaemolyticus, and many others.<sup>91</sup>

Clean water has several main characteristics, which are colorless, odorless, and tasteless. In healthy water, no microbiological contaminants or chemical compounds are present. The cleanliness of this water is assessed based on its physical, chemical, and biological properties. If there is a discrepancy in any of these aspects, the water cannot be classified as clean water suitable for consumption or use for other purposes. Clean water and

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<sup>91</sup> Dwi Andi Susanto, "Air Jernih Dan Kotor Sama-Sama Mengandung Bakteri," merdeka.com, 2012, <https://www.merdeka.com/teknologi/air-jernih-dan-kotor-sama-sama-mengandung-bakteri.html>.

sanitation go hand in hand. Sanitation refers to the deliberate promotion of a pure lifestyle with the aim of preventing people from direct exposure to sewage and other harmful waste substances. This is done with the expectation that these efforts will contribute to maintaining and improving human health. Another view also describes sanitation as a condition related to public health, especially in the context of the provision of clean drinking water as well as adequate waste management.<sup>92</sup>

Sanitation plays a vital role in preventing disease by controlling physical environmental factors that can be a source of disease transmission. Bappenas, in its Environmental Development Pillar, links sanitation to environmental sanitation, which is basically a deliberate human action to promote a clean and healthy lifestyle with the aim of preventing human contamination by dirty and harmful materials. This is done in the hope of maintaining and improving human health. Adequate access to sanitation and clean water plays a crucial role in creating quality human resources. Lack of proper sanitation and clean water supply can lead to various health problems in the community, such as stunting, high infant and maternal mortality rates, disease transmission, and other health problems.<sup>93</sup>

According to the RPJMN 2020-2024, improving the quality of sanitation in Indonesia must follow standards in accordance with the

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<sup>92</sup> Wattimena, "Pemenuhan Hak atas Air Bersih dan Sehat, Serta Hak Menggugat Masyarakat," 2.

<sup>93</sup> Sari, "Asesmen lapangan capaian sdgs bidang air bersih dan sanitasi layak pada zona ii kota bandar lampung," 31.

Sustainable Development Goals (SDGs). Currently, the focus is not only on achieving access to proper sanitation but also on achieving safe sanitation targets. With this increased standard, Local Governments have a responsibility to pursue the targets that have been set. By 2024, Indonesia's national target for achieving access to improved sanitation or access to domestic wastewater is 90%, including 15% access to safely managed sanitation.<sup>94</sup>

#### **E. Fiqh Bi'ah**

*Fiqh Bi'ah* is Fiqh that contains regulations or norms governing human actions and actions related to environmental conservation. Defining *fiqh Al-Bi'ah* is a branch of discipline in the field of environment that is built within the framework of Muslim philosophy and based on *fiqh*. The birth of *fiqh bi'ah* is a revolutionary step. It has a deconstructive character, considering that *fiqh* has been understood by the general Muslim community to be synonymous with worship and *muamalah*. The term *al-bi'ah* comes from the root word *ba'a*, *yabi'u*, *bi'atan*, which has meanings related to return, territory, residence, and environment. According to Mujiyono's admission, the concept of environment contained in the word *al-bi'ah* is not found directly in the *Qur'an*, as is the case with the three previous words, namely *al'alam*, *al-*

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<sup>94</sup> Sari, 32.

sama', and al-ardh. Instead, this concept is obtained through analysis of its derivations. Because the word al-bi'ah itself does not exist in the Qur'an, but appears in its derivative form.

The Qur'an mentions the derivation of the word al-bi'ah 18 times in 15 verses scattered in various poems, namely; QS. al-Baqarah: 61, QS. al-Baqarah: 90 which means again or repeatedly, in QS. Ali Imran: 162, QS. al-Anfa'l: 16 which means to provoke or invite, in QS. Al-Ma'idah: 29, which means returning home.<sup>95</sup> In accordance with the surrounding context, the derivation of the word al-bi'ah in the verses above does not refer to the meaning of environment but rather relates to repeated actions, actions performed again, attempts to provoke, invite, and the act of returning.

While the derivation of the word al-bi'ah which presents the meaning of the environment as a living space, among others; QS. Ali Imran: 121, QS. al-A`raf: 74, QS. Yunus: 93, QS. Yusuf: 56, QS. al-Nah'l: 41, QS. al-Ankabu't: 58.<sup>96</sup> Mujiono notes two possible meanings that can result from the derivation of the word al-bi'ah in the Qur'an. First, it can have connotations related to the environment. Second, it can have purposes related to other things outside the environment. He also notes that the use of the derivation of the word al-bi'ah to represent the environment as a living space, as seen in some of the above verses, is in line with the ecological view of society that

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<sup>95</sup> Mujiono Abdillah, *Agama Ramah Lingkungan: Perspektif al-Qur'an* (Jakarta: Paramadina, 2001), 47–48.

<sup>96</sup> Abdillah, 48–49.

understands the environment as something that exists outside the organism. Although the term environment is conveyed through the word al-bi'ah in the Qur'an only in the form of derivation, the significance of the Qur'an in appreciating environmental issues is still maintained.

Masruri argues that Fiqh bi'ah is Islamic provisions derived from detailed arguments about human behavior towards their environment in order to realize benefits and keep damage away. Therefore, a fiqh bi'ah becomes a necessity that cannot be negotiated anymore. Syarifuddin argues that fiqh bi'ah also means guidelines and regulations for safety. In other words, fiqh bi'ah is an attempt to solve environmental problems through a religious text approach. Fiqh bi'ah, etymologically, consists of two words arranged in an idafah which belongs to the category of bayaniyyah (the second word/mudaf ilaih as an explanation of the first word/mudaf). Thus, the word bi'ah is an explanation of fiqh and, at the same time, the purpose of the study of fiqh. In terms, fiqh bi'ah can be interpreted as a set of rules about human ecological behavior set by competent scholars based on detailed arguments for the purpose of achieving the benefits of ecologically nuanced life.<sup>97</sup>

The Islamic view of water is that it is a common property that has equal rights for all. In the Islamic perspective, the management of drinking water must comply with several provisions. First, given that water has the status of a shared property, all members of the community have equal rights to

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<sup>97</sup> Arwan Rahman, "Fiqh Lingkungan Muhammadiyah Terhadap Pembangunan Reklamasi Pantai Losari Kota Makassar," *Ilmu Pemerintahan* (Universitas Muhammadiyah Makassar, 2021), 12.

utilize it. However, it is permissible for a person to have private ownership of the water on his property as long as it does not interfere with the public means. In principle, any individual or small community in society is allowed to fulfill their water needs independently as long as such actions do not harm the public interest and do not cause conflict with other communities. Water resources are part of natural resources that fall under the category of public facilities that are a basic need of society and common property (al-milkiyyah al-ammah). Its management must be carried out by the state professionally and without acts of corruption.

All proceeds from such management must be returned to the community, as conveyed in the teachings of the Prophet Muhammad.<sup>98</sup>

المُسْلِمُونَ شُرَكَاءُ فِي سَلَاثٍ فِي الْمَاءِ وَالْكَلَاءِ وَالنَّارِ

"Muslims are united in three things: water, pasture and fire (**HR Abu Dawud and Ahmad**)"

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<sup>98</sup> Wiwit Kurnia, "Pengelolaan Air Oleh Pihak Swasta Menurut Undang- Undang Nomor 17 Tahun 2019 Tentang Sumber Daya Air Dalam Perspektif Hukum Islam," 56–57.

## **CHAPTER III**

### **DISCUSSION OF RESEARCH**

#### **A. Integrated Water Resources Utilization According to Article 23 paragraph (2) of Law Number 17 Year 2019 to Realize the Principles of Sustainable Development Goals**

Indonesia has a population of about 275 million, making it the fourth most populous country in the world. Although Indonesia covers an area of 1,811,570 km<sup>2</sup> <sup>251</sup>, about 58% of its population, which is about 251 million people, lives on the island of Java, which has the highest population density in

the world.<sup>99</sup> However, problems related to water resources management arise. Although Indonesia appears to have water availability that exceeds demand as well as high rainfall, this does not necessarily mean that the country can adequately meet the basic water needs of its population. The Fifth ASEAN State of the Environment Report states that half of Indonesia's population still needs access to safe drinking water and proper sanitation facilities.<sup>100</sup>

This is due to several factors. First, the capacity of individual reservoirs in Indonesia has not kept pace with the increasing population growth. In addition, the situation is exacerbated by the vulnerability of Indonesia's water resources system, which is further eroded by environmental degradation and climate change issues.<sup>101</sup>

Secondly, the low level of service or poor performance of water utilities, further exacerbated by the lack of license supervision, has resulted in overexploitation of groundwater resources in most urban areas. As a result, there has been a rapid decline in groundwater levels and land subsidence. The significant impact of this situation is felt particularly in North Jakarta, Bandung, and Semarang.<sup>102</sup>

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<sup>99</sup> Asian Development Bank, *Indonesia Country Water Assessment* (Mandaluyong City: Asia Development Bank, 2016), 11.

<sup>100</sup> ASEAN Secretariat, *Fifth ASEAN State of the Environment Report* (Jakarta: Public ASEAN, 2017), 128.

<sup>101</sup> Bank, *Indonesia Country Water Assessment*, 17.

<sup>102</sup> Bank, 19.



Third, water resource pollution is caused by a need for more public awareness of protecting the environment. This pollution results in people being forced to use unclean water, which has the potential to cause disease outbreaks. All the problems described above show the importance of cooperation in water resources management at the ASEAN level, which Indonesia desperately needs. Moreover, water is a resource that flows and is interconnected between regions, so it is essential to protect the environment together.<sup>103</sup>

As the highest law, the constitution contains basic guidelines for all aspects of life and governance, including in the legal, economic, political, social, and other fields. In this context, the 1945 Constitution of the Republic of Indonesia is the supreme law that serves as a reference in the implementation of state policies in various fields. Therefore, rules that are under the 1945 Constitution in the hierarchy of laws and regulations are not allowed to contain content that is contrary to the 1945 Constitution.

One of the aspects described in the 1945 Constitution is the land, water, and natural resources contained therein, in accordance with the contents of Article 33, paragraph 3 of the 1945<sup>104</sup> Constitution, which must be utilized as optimally as possible for the welfare of the people. Based on this provision, regulations governing land, water, and natural resources under the

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<sup>103</sup> Bank, 20.

<sup>104</sup> Lembaran Negara Republik Indonesia Undang-Undang Dasar Negara Republik Indonesia 1945 No. 75.

1945 Constitution must clearly aim to achieve the most excellent welfare of the people.

Water resources management in Indonesia is under the authority of the Ministry of Public Works and Public Housing (after this, abbreviated as the Ministry of PUPR). The Ministry of PUPR carries out functions based on Article 5: formulation, stipulation, and implementation of policies in the field of water resources management, implementation of roads, implementation of drinking water supply systems, domestic wastewater management, environmental drainage management, and waste management, structuring buildings, developing residential areas, developing strategic infrastructure facilities, organizing housing, implementing public works and housing infrastructure financing, and fostering construction services.<sup>105</sup>

The Ministry of PUPR consists of six directorates and three agencies. Of the six directorates, the one directly related to water resources management<sup>106</sup> is the Directorate General of Human Settlements, which is responsible for water supply and sanitation,<sup>107</sup> as well as the Directorate General of Water Resources, which is responsible for sustainable integrated water resources management and water conservation and utilization efforts.<sup>108</sup>

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<sup>105</sup> Lembaran Negara Republik Indonesia Tahun 2020 Nomor 40.

<sup>106</sup> Kementrian Pekerjaan Umum dan Perumahan Rakyat, "Direktorat Jenderal Sumber Daya Air," diakses 4 September 2023, <https://pu.go.id/struktur-organisasi/direktorat-jenderal-sumber-daya-air>.

<sup>107</sup> Bank, *Indonesia Country Water Assessment*, 19.

<sup>108</sup> Kementrian Pekerjaan Umum dan Perumahan Rakyat, "Direktorat Jenderal Sumber Daya Air."

History records the existence of three laws and regulations related to water resources management, namely Law No. 11 of 1978 on Irrigation, Law No. 7 of 2004 on Water Resources, and Law No. 17 of 2019 on Water Resources. Initially, Law No. 7 Year 2004 was created to implement the concept of integrated water resources management in accordance with the mandate of the 2002 WSSD Policy. However, Law No. 7/2004 was criticized for not fulfilling the constitutional order that the state has full rights over water management. Finally, the law was annulled by the Constitutional Court in Decision No. 85/PUU-XII/2013 after a judicial review was conducted.<sup>109</sup>

After the annulment of Law No. 7 of 2004, to avoid a legal vacuum, Law No. 11 of 1978 came back into force. However, this law had many areas for improvement and could not comprehensively regulate water resources management in accordance with the development and legal needs of society. Therefore, the legislature formulated a new law governing water resources management. The result of this endeavor is Law No. 17 of 2019. Law No. 17/2019 strengthens the state's control over water and recognizes the people's right to water, especially as an essential daily need. The people's right to water is emphasized as a top priority, as explained in Article 8 of Law No. 17/2019.<sup>110</sup>

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<sup>109</sup> Mahkamal Konstitusi, “Seluruh UU SDA Dibatalkan MK,” 2015, [https://www.mkri.id/public/content/persidangan/putusan/putusan\\_sidang\\_2131\\_85\\_PUU\\_2013-UU\\_SumberDayaAir-Dikabulkan-telahucap-18Feb2015-FINAL- wmActionWiz.pdf](https://www.mkri.id/public/content/persidangan/putusan/putusan_sidang_2131_85_PUU_2013-UU_SumberDayaAir-Dikabulkan-telahucap-18Feb2015-FINAL- wmActionWiz.pdf).

<sup>110</sup> Lembaran Negara Republik Indonesia Tahun 2019 No. 190.

The relationship between sustainable water management, economic aspects, and sanitation fulfillment in this vision shows that they have a mutual impact. This is in line with UNDP's perspective that the provision of safe drinking water and adequate sanitation services can be the basis for reducing poverty levels. These impacts have both direct and indirect effects in increasing employment opportunities, creating jobs for local communities in developing countries, stopping the cycle of diseases that can reduce the productivity of people who have limited access to health services, and diverting savings previously used for treatment to other purposes.<sup>111</sup>

Thus, integrated water resources management with sustainable principles is needed so that the goals of the SDGs to achieve three main things, namely ending extreme poverty, combating inequality and injustice, and improving climate change and 169 targets. One of the goals in the Sustainable Development Goals (SDGs) related to water is SDG 6, which aims to ensure the availability and sustainable management of water and sanitation for all people by 2030. SDGs 6 is described as follows below:<sup>112</sup>

*6. 1By 2030, achieve universal and equitable access to safe and affordable drinking water for all*

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<sup>111</sup> United Nations Development Programme, *Human Development Report 2006*, (New York: United Nations Development Programme (UNDP), 2006), 281, <https://doi.org/10.18356/334c604b-en>.

<sup>112</sup> United Nations, "Resolution A/RES/70/1, Transforming our world: The 2030 Agenda For Sustainable Development," 2015, 18, [https://www.un.org/en/development/desa/population/migration/generalassembly/docs/globalcompact/A\\_RES\\_70\\_1\\_E.pdf](https://www.un.org/en/development/desa/population/migration/generalassembly/docs/globalcompact/A_RES_70_1_E.pdf).

- 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 2020, protect and restore water-related ecosystems, including mountains, forests, wetlands, rivers, aquifers and lakes*
- 6.A *By 2030, expand international cooperation and capacity-building support to developing countries in water- and sanitation-related activities and programmes, including water harvesting, desalination, water efficiency, wastewater treatment, recycling and reuse technologies*
- 6.B *Support and strengthen the participation of local communities in improving water and sanitation management* Goal

From the previous description, SDG 6.5, which emphasizes the application of the concept of Integrated Water Resources Management, is actually also related to the entire SDG 6. This includes fulfilling access to safe and equitable drinking water and sanitation, wastewater management, efficient water use, environmental conservation to maintain the hydrological cycle, and encouraging active community participation in water resources management.<sup>113</sup>

SDG 6.5 has two indicators to measure progress towards target 6.5. The first indicator is 6.5.1, which measures the level of implementation of Integrated Water Resources Management on a scale of 0 to 100. The second indicator is 6.5.2, which measures the proportion of transboundary basin areas that have operational arrangements for cooperation in water management. UN-Water measures SDG indicator 6.5.1 using a 33-question questionnaire that is self-assessed by countries. The questionnaire is organized around four critical dimensions of Integrated Water Resources Management, namely:<sup>114</sup>

1. Enabling environment includes factors that support the implementation of Integrated Water Resources Management, such as commonly used policy, legal, and strategic planning tools;

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<sup>113</sup> UNEP United Nations Environment Programme, *Progress on integrated water resources management - Tracking SDG 6 series: global indicator 6.5.1 updates and acceleration needs.*, *Global Baseline for SDG 6 Indicator 6.5.1: Degree of IWRM Implementation* (United Nations Environment Programme, 2021), 7.

<sup>114</sup> UNEP United Nations Environment Programme, 10.

2. institutions and participation, which includes the scope and role of political, social, economic, and administrative institutions and other stakeholder groups that contribute to supporting implementation;
3. management instruments, which refer to the tools and activities that enable decision-makers and users to make rational and informed decisions among alternative courses of action and
4. financing, which includes the provision and use of budgets and funds from various sources for water resources development and management.

Meanwhile, the National Action Plan for SDGs abbreviated as RAN TPB, and the Regional Action Plan for Sustainable Development Goals in Indonesia, abbreviated as RAD TPB, is based on the Annex of the Presidential Regulation of the Republic of Indonesia Number 111 of 2022, concerning the Implementation of Achieving Sustainable Development Goals.<sup>115</sup>

*Table 4 Global Goals and SDG 2024 Goals*

<b>Purpose Global</b>	<b>Global Goals</b>	<b>SDG Goals 2024</b>	<b>Implementing Institution/Institution</b>
Ensure availability and sustainable management of clean	1. By 2030, achieve universal and equitable access to safe and affordable	1.1 The percentage of households occupying homes with access to safe drinking water is 15%. The	1. Ministry of Planning 2. National Development/National Development Planning Agency;

<sup>115</sup> “Lampiran Peraturan Presiden Republik Indonesia Nomor 111 Tahun 2022 Tentang Pelaksanaan Pencapaian Tujuan Pembangunan Berkelanjutan”.

water and sanitation for all	drinking water for all	<p>base year 2020: 90.21% for access to safe drinking water</p> <p>1.2 20.69% for piped drinking water access, and 11.9% for safe drinking water access</p>	<p>3. Ministry of Public Works and Housing;</p> <p>4. Ministry of Home Affairs;</p> <p>5. Ministry of Health;</p> <p>6. Provincial Government; District/City Local Government.</p>
	<p>2. By 2030, achieve access to adequate and equitable sanitation and hygiene for all and end the practice of open defecation, paying particular attention to the needs of women, as well as vulnerable groups of people.</p>	<p>2.1 The percentage of households occupying dwellings with access to decent and safe sanitation (domestic wastewater) is 90% for proper, including 15% for safe. The base year 2020: 79.53% for appropriate, including 7.64% for safe</p> <p>2.2 Percentage of households still practicing open defecation (OD) in the open at 0% by 2020 base year: 6.19%</p> <p>2.3 The number of house connections</p>	<p>1. Ministry of National Development Planning/National Development Planning Agency;</p> <p>2. Ministry of Public Works and Housing;</p> <p>3. Ministry of Home Affairs;</p> <p>4. Ministry of Health;</p> <p>5. Ministry of Villages, Development of Disadvantaged Regions, and Transmigration;</p> <p>6. Provincial Government;</p> <p>7. Regency/City Regional Government.</p>



		<p>served by SPALD-T at the settlement/city /regional scale (SR) is 3.9 million connections. Base year 2019: ±2.2 million connections rumah</p> <p>2.4 The number of households served by desludging treatment installations/IP LT (RT) is 8.6 million households in the period 2020-2024. Base year 2019: ±900 thousand households</p>	
	<p>3. By 2030, improve water quality by reducing pollution, eliminating waste, minimizing the release of hazardous materials and chemicals, halving the</p>	<p>3.1 Water Quality Index (WQI) of 55.5 base year 2019: 52,65</p>	<ol style="list-style-type: none"> <li>1. Ministry of national development planning/national development planning agency;</li> <li>2. Ministry of environment and forestry;</li> <li>3. Ministry of public works and public housing;</li> <li>4. Ministry of energy and</li> </ol>

	proportion of untreated wastewater, and significantly increasing recycling and safe reuse of recyclables globally.		<p>mineral resources;</p> <ol style="list-style-type: none"> <li>5. Ministry of marine and fisheries;</li> <li>6. Provincial government;</li> <li>7. Local government</li> </ol>
	4. By 2030, significantly increase water use efficiency in all sectors and ensure sustainable freshwater use and supply to reduce the number of people suffering from water scarcity substantially.	4.1 Increased availability of domestic and industrial raw water (m <sup>3</sup> /second) by 131.36 m <sup>3</sup> /second	<ol style="list-style-type: none"> <li>1. Ministry of national development planning/national development planning agency;</li> <li>2. Ministry of environment</li> <li>3. Ministry of public works and public housing;</li> <li>4. The provincial government;</li> <li>5. District/municipal governments</li> </ol>
	5. By 2030, implement integrated water resources management at all levels, including through appropriate	5.1 Number of integrated PSDA policy documents on all central authority river basins prepared and/or updated 64 documents	<ol style="list-style-type: none"> <li>1. Ministry of national development planning/national development planning agency;</li> <li>2. Ministry of the environment;</li> <li>3. Ministry of public works</li> </ol>

	transboundary cooperation		and public housing; 4. Home government; 5. Provincial government
	6. By 2020, protect and restore ecosystems related to water resources, including mountains, forests, wetlands, rivers, groundwater, and lakes.	6.1 Water Quality Index (WQI) of 55.5 in 2019: 52,65	1. Ministry of national development planning/national development planning agency; 2. Ministry of environment; 3. Ministry of public works and public housing; 4. Ministry of energy and mineral resources. 5. Ministry of marine and fisheries; 6. Home government; 7. Provincial government

Presidential Regulation No. 111 of 2022 on the Implementation of Achieving the Sustainable Development Goals mandates that 3 (three) planning documents will be prepared to achieve the SDGs, namely: SDGs Roadmap, SDGs National Action Plan (NAP), and Provincial SDGs Action Plan (RAD). To prepare the TPB/SDGs Action Plan, guidelines have been designed as a guide for all stakeholders, both at the national and regional

levels, so as to produce a measurable and transparent TPB/SDGs Action Plan within a certain period. The guidelines for the preparation of Action Plans contain the linkages between the SDGs and national development policies and the mechanism for their practice. The Action Plan Guidelines are also equipped with a matrix having targets, programs, activities, supporting resources, and implementing agencies.

Integrated water resources management is a set of measures involving planning, implementation, monitoring, and evaluation in carrying out tasks related to water resources conservation, water resources utilization, and water destructive power control. Provision of adequate drinking water and sanitation facilities in accordance with the conditions stipulated in Law No. 17/2019 on Water Resources.<sup>116</sup>

The utilization of water resources as described in Law of the Republic of Indonesia Number 17 of 2019 must be carried out holistically and fairly, both between sectors, between regions, and between various community groups, by encouraging cooperation. In the context of using water resources to meet household clean water needs, there are opportunities for the community to play a role.

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<sup>116</sup> Lembaran Negara Republik Indonesia Tahun 2019 No. 190.

The utilization of water resources should be based on the provisions of Article 33 of the 1945<sup>117</sup> Constitution. Based on Article 33 paragraph (2) and paragraph (3), it can be interpreted that the paradigm of water resources management in governing laws such as the Water Resources Law and its derivative regulations must prioritize state responsibility (state control), which focuses on meeting social interests (the needs of the community in general) and involves community participation in planning, protecting and financing water management. However, at present, the regulation still needs to regulate the use of water for the benefit of industry and other sectors. Therefore, the phrase "controlled by the state" in Article 33, paragraph (2) of the 1945<sup>118</sup> Constitution needs to be optimized. However, the government must still prioritize the interests of the people in the management of water resources while also considering the convenience of investors. Water resources, which are essentially public property, should not be solely controlled by private parties without regard to the state's important role in using them to the greatest extent possible for the welfare of the people, in accordance with the constitution.

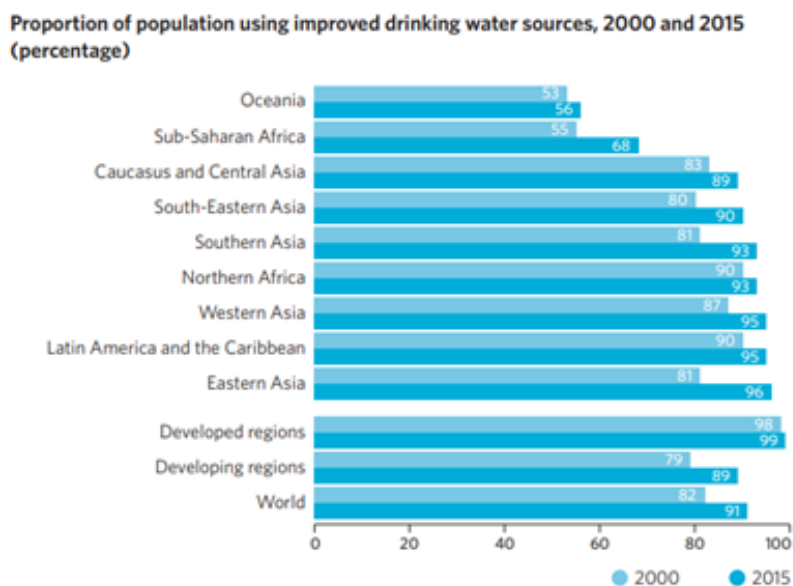
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<sup>117</sup> Lembaran Negara Republik Indonesia Undang-Undang Dasar Negara Republik Indonesia 1945 No. 75.

<sup>118</sup> Lembaran Negara Republik Indonesia Undang-Undang Dasar Negara Republik Indonesia 1945 No. 75.

Based on data from the SDGs report by the United Nations in 2016 shows.<sup>119</sup>

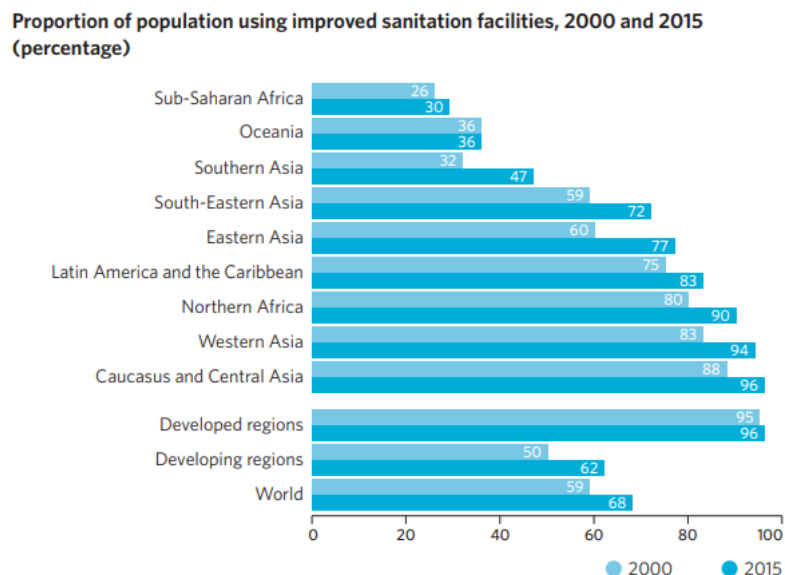
*Figure 1 Drinking water resource utilization population in 2000 and 2015*



In 2015, about 6.6 billion people, or about 91 percent of the world's total population, used improved drinking water sources compared to 82 percent in 2000. An estimated 663 million people still relied on unmanaged or surface water sources in 2015. While safe water coverage has reached 90 percent or more in all regions except sub-Saharan Africa and Oceania, there are still significant inequalities both within and between countries. In addition, not all existing water sources are managed safely. For example, in 2012, it was estimated that at least 1.8 billion people were exposed to drinking water contaminated with feces.

<sup>119</sup> United Nations, *The Sustainable Development Goals Report 2016* (New York: United Nations, 2016), 22–23.

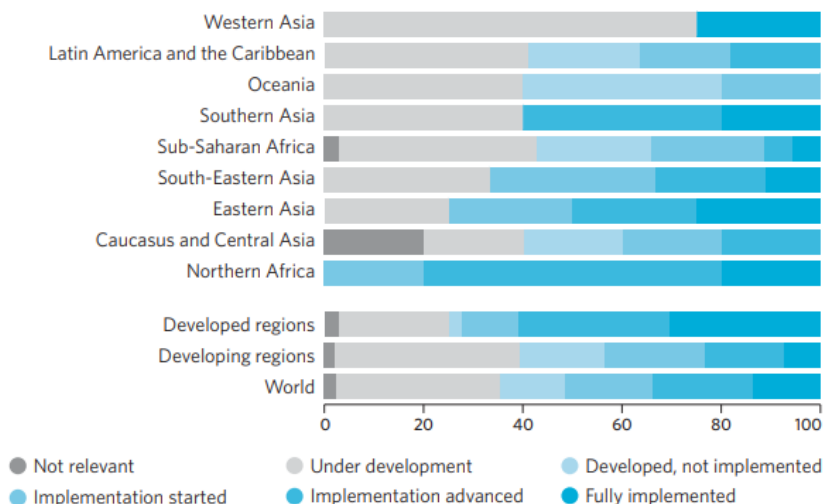
*Figure 2 population using sanitation facilities in 2000 and 2015*



Between 2000 and 2015, the share of the global population using improved sanitation facilities increased from 59 percent to 68 percent. This means that by 2015, around 4.9 billion people worldwide were using improved sanitation facilities. However, there are still about 2.4 billion people who still need access to such sanitation facilities. Of these, about 946 million people do not have any sanitation facilities at all and still practice open defecation. Inadequate fecal waste and wastewater management continue to present serious risks to public health and the environment.

*Figure 3 Proportion of countries in various stages of implementation of a national Integrated Water Resources Management Plan or equivalent, 2012*

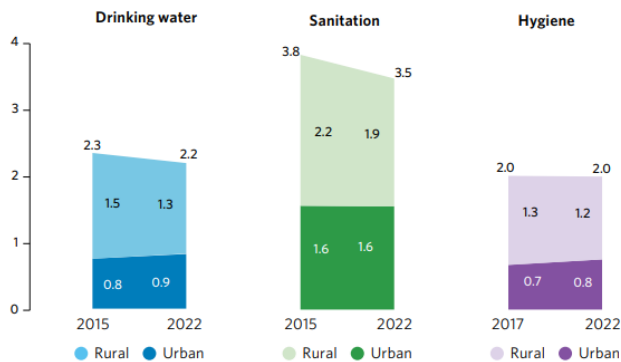
**Proportion of countries in various stages of implementing national Integrated Water Resources Management plans or equivalent, 2012 (percentage)**



In 2023, the SDGs report data shows the following:<sup>120</sup>

*Figure 4 Global urban and rural population without safe managed drinking water, safely managed sanitation, and basic hygiene services, 17/2015-2022*

**Global urban and rural population without safely managed drinking water, safely managed sanitation, and basic hygiene services, 2015/17-2022 (billions)**



Between 2015 and 2022, the share of the world's population with access to safely managed drinking water services increased from 69 percent to 73 percent; safely managed sanitation services increased from 49 percent to 57 percent; and essential hygiene services increased from 67 percent to 75 percent. These

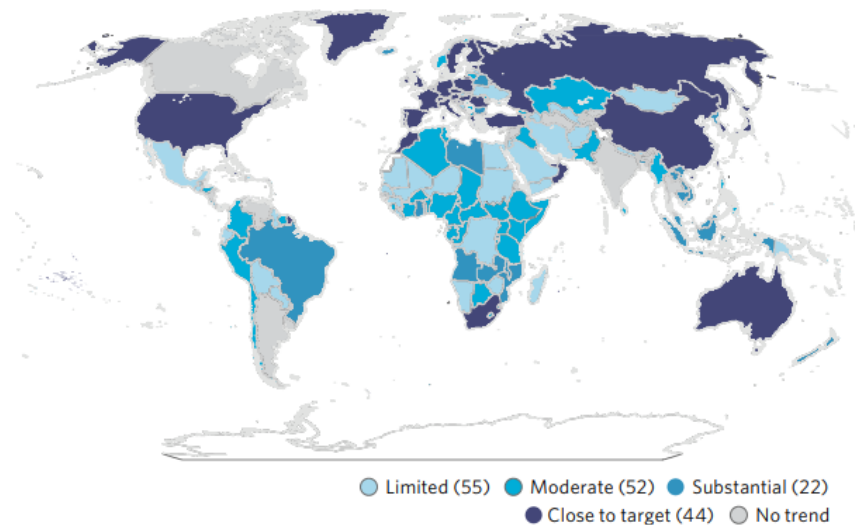
<sup>120</sup> United Nations, *The Sustainable Development Goals Report Special edition 2023* (New York: United Nations, 2023), 24–25.



increases mean that an additional 687 million, 911 million, and 637 million people now have access to these essential services, respectively. The number of people practicing open defecation also decreased from 715 million to 419 million during this period. However, by 2022, there will still be 2.2 billion people without access to safely managed drinking water, including 703 million without essential water services; 3.5 billion people without safely managed sanitation, including 1.5 billion without essential sanitation services; and 2 billion people without basic handwashing facilities with soap and water at home, including 653 million without any handwashing facilities at all. The least developed region is Sub-Saharan Africa. During this period, while rural access increased, urban access remained essentially unchanged or even declined. To achieve universal coverage by 2030, three to six times the current rate of progress is needed.

*Figure 5 Progress in implementing integrated water resources management, 2017-2020*

**Integrated water-resources-management implementation progress, 2017-2020**



The lack of coordination between water-related sectors and the lack of adequate arrangements for transboundary water cooperation potentially threaten the achievement of targets in areas such as climate change, food security, energy, health, life on land and underwater, and peace. While there was progress in integrated water resources management at the global level between 2017 and 2020, with the overall score increasing from 49 to 54 on a scale of 100, this still falls short of achieving the set target of 6.5, which is the implementation of integrated water resources management at all levels by 2030.

A total of 44 countries are close to achieving the target, and 22 countries have made significant and rapid progress towards achieving it. However, in the remaining 107 countries, urgent efforts are needed to reach this target. Of the 153 countries that share transboundary rivers, lakes, and aquifers, only 32 countries have covered 90 percent or more of their

transboundary waters under operational arrangements. This suggests that a significant effort is needed to ensure that all rivers, lakes, and aquifers shared by countries are covered under working arrangements by 2030. Therefore, acceleration in all aspects of water management along with transboundary cooperation is needed to enhance resilience to crises, including climate change, health, and poverty.

In 2019, approximately 89.27 percent of households in Indonesia could access drinking water source services that meet the standard (according to BPS Susenas in 2019). However, there needs to be baseline data measuring drinking water quality in the category of safe and sustainable access. To calculate access to safe drinking water, estimates were made based on national access calculations, and the results showed that only about 6.7 percent met safe access standards (Based on biological quality from the 2015 Water Quality Survey/SKA in Yogyakarta Special Region and physical quality of drinking water based on BPS Susenas 2018). Access to sanitation services that meet standards, including safe sanitation, has increased from 62.95 percent in 2015 to 77.44 percent in 2019.<sup>121</sup> However, this increase still needed to reach the set target of 90 percent. Meanwhile, 24,857 villages still practice Open Defecation Free (ODF).

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<sup>121</sup> Kementerian PPN/Bappenas, *Laporan Pelaksanaan Pencapaian TPB/SDGs Indonesia Tahun 2019* (Jakarta: Badan Perencanaan Pembangunan Nasional, 2019), 1, <http://sdgs.bappenas.go.id/tujuan-6/>.

Based on the data in 2019, the indicators that have progressed are only in the sanitation section, although households that have access to adequate sanitation have not reached the target, but changes in the factors that affect access to adequate sanitation show an increase in percentage:

*Figure 6 SDGs Indicators for Sanitation*

TUJUAN 6. AIR BERSIH DAN SANITASI LAYAK							
Kode Indikator	Nama Indikator	Sumber data	Satuan	Baseline	Target (2019)	Capaian (2019)	Status
6.2.1.(a)	Proporsi populasi yang memiliki fasilitas cuci tangan dengan sabun dan air.	Susenas Kor, BPS (diolah Bappenas)	%	-	PM	48,4 (2018)	●
6.2.1.(c)	Jumlah desa/kelurahan yang melaksanakan Sanitasi Total Berbasis Masyarakat (STBM).	Kementerian Kesehatan	desa/kelurahan	26,417	45.000	57.935 (TW IV 2019)	●
6.2.1.(d)	Jumlah desa/kelurahan yang <i>Open Defecation Free (ODF)</i> / Stop Buang Air Besar Sembarangan (SBS).	Kementerian Kesehatan	desa/kelurahan	2.361	PM	24.857 (2019)	●

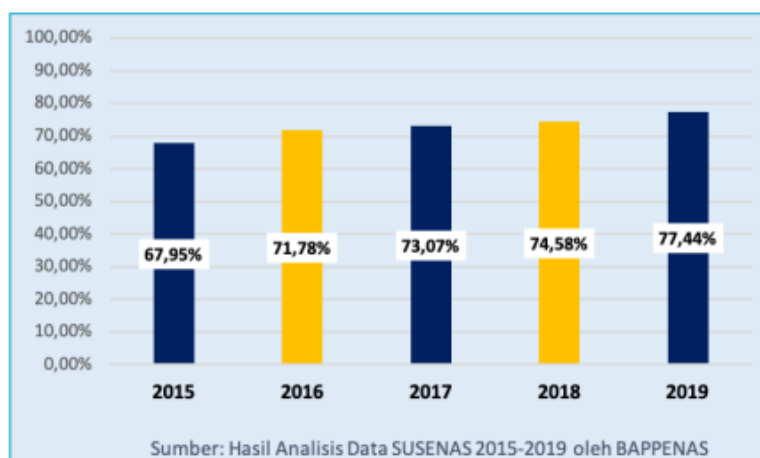
Source: Ministry of National Development Planning/Bappenas

Meanwhile, the percentage of households that can access sanitation that meets standards, including safe sanitation, continues to increase every year. In 2019, around 77.44 percent of households had access to sanitation that met the standard, recording an increase of 9.49 percent compared to 2015.<sup>122</sup>

<sup>122</sup> Kementerian PPN/Bappenas, 4.

Figure 7 Households with Adequate Sanitation Facilities 2015-2019

TUJUAN 6. AIR BERSIH DAN SANITASI LAYAK							
Kode Indikator	Nama Indikator	Sumber data	Satuan	Baseline	Target (2019)	Capaian (2019)	Status
6.2.1.(b)	Persentase rumah tangga yang memiliki akses terhadap layanan sanitasi layak.	Susenas Kor, BPS	%	67,95 (revisi baseline RAN sesuai metode terupdate)	90	77,44 (2019)	▼



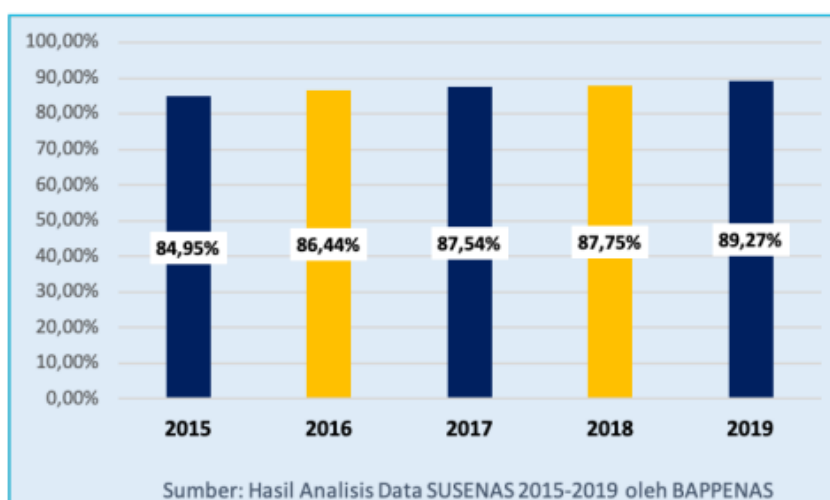
Source: Ministry of National Development Planning/Bappenas

The percentage of households that have access to drinking water sources that meet standards has reached a reasonably high level nationally. In 2015, this access level reached 84.95 percent and continued to increase consistently until it reached 89.27 percent in 2019. Although this percentage achievement is already relatively high, the growth during the 2015-2018 period was only about 0.9 percent. Drinking water sources that do not meet the standards are influenced mainly by the use of unprotected wells, reaching 4.69 percent. On the other hand, it should be noted that the most common

source of drinking water used by households is refilled water, which falls into the category of unsustainable drinking water sources.<sup>123</sup>

*Figure 8 Households with Adequate Drinking Water Source 2015-2019*

TUJUAN 6. AIR BERSIH DAN SANITASI LAYAK							
Kode Indikator	Nama Indikator	Sumber data	Satuan	Baseline	Target (2019)	Capaian (2019)	Status
6.1.1.(a)	Persentase rumah tangga yang memiliki akses terhadap layanan sumber air minum layak.	BPS	%	84,95 (revisi baseline RAN) (2015)	100 (RPJMN 2015-2019)	89,27 (2019)	▼



Source: Ministry of National Development Planning/Bappenas

The percentage of households that have access to drinking water sources that meet standards has reached a reasonably high level nationally. In 2015, this access level reached 84.95 percent and continued to increase consistently until it reached 89.27 percent in 2019. Although this percentage achievement is already relatively high, the growth during the 2015-2018

<sup>123</sup> Kementerian PPN/Bappenas, 4.

period was only about 0.9 percent. Drinking water sources that do not meet the standards are influenced mainly by the use of unprotected wells, reaching 4.69 percent.<sup>124</sup> On the other hand, it should be noted that the most common source of drinking water used by households is refilled water, which falls into the category of unsustainable drinking water sources. The safe drinking water access category must meet several requirements, including coming from an adequate water source, being located in or near the house, being accessible whenever needed, and having water quality that meets health standards. In 2018, only about 6.7 percent of households met all four criteria. Until 2018, access to drinking water through piped systems only reached 20.14 percent of all households in Indonesia<sup>125</sup>, which aims to support the achievement of access to safe drinking water.

The implementation of integrated water resources management that the government has carried out includes the preparation of 108 Integrated Watershed Management Plan Documents (RPDAST) until 2018, including the determination of 10 (ten) watersheds that have cross-border Memorandum of Understanding (MoU)<sup>126</sup> using one of the water resources management activities, namely water resources utilization.

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<sup>124</sup> Kementerian PPN/Bappenas, 3.

<sup>125</sup> Kementerian PPN/Bappenas, 3.

<sup>126</sup> Kementerian PPN/Bappenas, 2.

In 2020, efforts to tackle and prevent the spread of COVID-19 relied heavily on supporting access to basic services such as sanitation and handwashing facilities. The number of households that have access to sanitation that meets the standards has increased from 79.53% in 2020 to 80.29% in 2021. The level of access to adequate sanitation in urban areas reached 83.58%, higher than in rural areas, which only got 75.95%. In terms of gender, women had a lower sanitation access rate of 78.59% compared to men who reached 80.57%. Among the bottom 40% income group, the level of achievement is still below the national average at around 71.45%.<sup>127</sup>

*Figure 9 Percentage of Households Using Proper Sanitation Services by Category, 2021 (in %)*



Source: Susenas, BPS, 2021

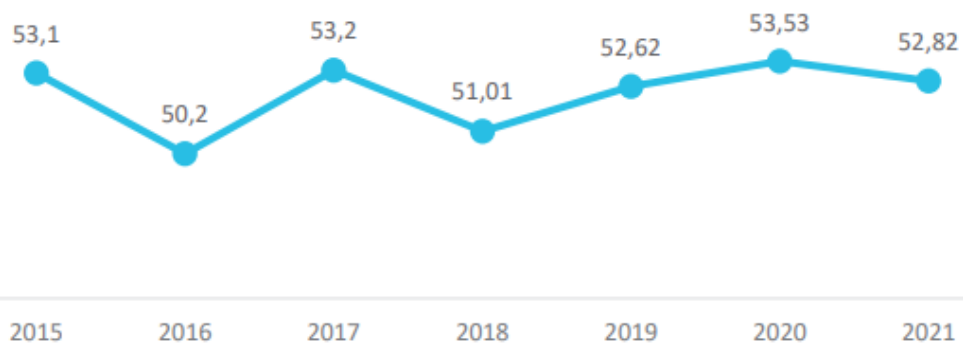
Raw water quality, which comes from surface water sources, is measured using the Water Quality Index (WQI). The IKA figure fluctuates from year to year, with an increase lasting from 2018 to 2020 but a decrease in 2021. In 2020, IKA reached its highest condition in the last seven years,

<sup>127</sup> Kementerian PPN/Bappenas, *Laporan Pelaksanaan Pencapaian TPB/SDGs Indonesia Tahun 2021* (Jakarta: Badan Perencanaan Pembangunan Nasional, 2021), 39–40.



arriving at 53.53. However, in 2021, IKA decreased to 52.82. Bangka Belitung Province showed the highest water quality with an IKA value of 58.37. Meanwhile, 11 other provinces have water quality below the national average, with DKI Jakarta (44.19) and West Java (43.09) being the provinces with the lowest IKA values.<sup>128</sup>

*Figure 10 Water Quality Index (WQI)*



Source: KLHK, 2022

Water quality improvement faces a number of challenges, including high levels of pollution in various water bodies, resulting in a decline in the quality of available water. In addition, there has also been a decline in both the quantity and quality of water storage due to the limited resources required for maintenance. Efforts and policies undertaken to address these issues include increasing the availability and security of water through the development and optimization of the use of water supply infrastructure,

<sup>128</sup> Kementerian PPN/Bappenas, 41.

improving the management and efficiency of the use of water resources, maximizing the utilization of existing resources with the utilization of water resources; Conserving and utilizing damaged water resources to maintain the sustainability of water resources.<sup>129</sup>

To support this situation, a comprehensive approach to water resources management is required. Therefore, water resources management must be based on comprehensive, integrated, and environmentally oriented management principles. The main objective is to achieve sustainable utilization of water resources for the welfare of society based on the principles of sustainability, balance, public benefit, integration and harmony, justice, independence, transparency, and accountability.

The existence of water resource utilization activities, of course, can reduce the number of clean water crises in Indonesia. However, even though Indonesia is still classified as a country with little sanitation and clean water, it does not mean that the utilization of water resources has failed to realize its benefits sustainably, with the main priority being the fulfillment of water for the daily basic needs of the Indonesian people. The problem of the clean water and sanitation crisis is related to law enforcement, the availability of legal products and regulations, coordination with other government agencies, and

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<sup>129</sup> Kementerian PPN/Bappenas, 41.

socialization to the community, which has become the responsibility of the state in realizing the human rights to clean water and sanitation in Indonesia.

According to the Sustainable Development Report, since the agreement of the Sustainable Development Goals (SDGs) in 2015, the SDGs Implementation Index in Indonesia has continued to change, both in terms of points and global ranking. Indonesia was first listed in The Sustainable Development Report/The SDG Index & Dashboards in 2016, when it ranked 98th with a score of 54.38 points. This was the first report to benchmark the 2015 SDGs at the country level. In the following year, 2017, Indonesia's SDGs ranking dropped to 100, although the points increased to 62.9 points. In the report, Indonesia still has many indicators or SDGs that have not been achieved, indicated by the number of indicators with "red" status in the achievement list. The only indicator achieved with a "green" status is SDGs 13 (Climate Action), while 7 other indicators show major challenges with a status of "red," 8 indicators with a status of "orange" signaling significant challenges, and 1 indicator with a status of "yellow" signaling low-level challenges.

In the future, the RPJMN 2014-2019 reflects President Joko Widodo's vision and mission called Nawacita. In this context, President Joko Widodo wishes to unify the national development agenda with the global development agenda. This effort is one of President Joko Widodo's pushes to implement the SDGs in Indonesia. In addition to integrating SDGs and Nawacita, President

Joko Widodo also encourages the development of alternatives such as human development and green economy in the implementation of SDGs.

The magnitude of the SDGs achievement target must be in line with the ability of all parties to implement the SDGs to the most basic level. This means that the public must have the same understanding as technocrats in order to understand the technical aspects of achieving the SDGs. If not, then the SDGs will only be a hollow idea, and the targets will be difficult to accomplish in a short period, only a few years away. While the SDGs are still development-oriented, the hopes of the world today depend on achieving these goals. In order for more people to contribute, these development goals need to be implemented concretely following a targeted and segmented communication strategy. This is an important part of the strategy to accelerate the achievement of the SDGs.

The next acceleration strategy for achieving the SDGs is adaptation. As part of this adaptation step, an interesting action is the initiative of the Ministry of Villages to release Village SDGs as an effort to accommodate and implement global development goals at the local level. According to the Ministry, achieving the Village SDGs can contribute as much as 74% to the overall achievement of the SDGs. To attain various development targets at the village level, village fund programs are integrated so that the achievement of sustainable development goals can be accelerated. Village funds, in this context, are allocated to fulfill 18 sustainable development goals at the village

level. This strategy is effective in linking global goals with concrete actions at the local level. The same approach also needs to be applied by civil society groups by taking a strategic role in supporting the achievement of these SDGs so that these targets can be achieved on time. Each group can start by evaluating and recording the contribution of their work to the achievement of the Sustainable Development Goals.

Six years may seem short, and optimism can be maintained if the necessary conditions are met. One of the key conditions for achieving this goal is building strong partnerships between various stakeholders. Cooperation, collaboration, and synergy are essential so that all parties can contribute based on their respective strengths. These elements are necessary for the strategies to accelerate the achievement of the SDGs that have been proposed to be able to drive the required changes. Stakeholders from various generations have an important role in accelerating the movement towards achieving SDG targets by actively sharing knowledge with individuals in the community. This aims to encourage a collective spirit that can trigger concrete actions. Thus, the journey towards achieving the SDGs should start with a focus on Goal 17, which is to build strong partnerships to achieve the SDGs as a whole.

## **B. Integrated Water Resources Utilization to Realize the Principles of Sustainable Development Goals from the Perspective of Fiqh Bi'ah**

Water has a very significant role in supporting human life. This statement is clearly expressed in the Qur'an, especially in Surah Al-Anbiya' verse 30<sup>130</sup> which reads:

*And do those who disbelieve not know that the heavens and the earth were once one, then We separated them. And from water We made everything that lives. So why do they not also believe?*

In Surah An-Nahl verse 65<sup>131</sup> which reads:

*And Allah sends down from the sky water (rain), and with it He revives the earth after its death. Surely in such there are signs (of God's greatness) for those who listen.*

In syrat Al-Furqan verse 49<sup>132</sup> which reads:

*That We may bring to life by it the land that is dead, and that We may give drink by it to the greater part of Our creatures, the cattle and the multitude of men.*

Water has various types and benefits in Islam:

### 1. Absolute water/*Air Mutlak*

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<sup>130</sup> Tim Penerjemah, *Al-Quran dan Terjemahan* (Bandung: Tim Al-Qur'an Cordoba, 2017).

<sup>131</sup> Tim Penerjemah, *Al-Quran dan Terjemahan* (Bandung: Tim Al-Qur'an Cordoba, 2017).

<sup>132</sup> Tim Penerjemah, *Al-Quran dan Terjemahan* (Bandung: Tim Al-Qur'an Cordoba, 2017).

Absolute water is water that has the essential properties of cleanliness and purity, which is not only clean in itself but also has the ability to clean others. This includes water that falls from the sky as rain, seawater, well water, dew water, ice snow, and water flowing from springs, all of which remain in a pure state and do not change in quality.<sup>133</sup>

## 2. *Air musta'mal*

Musta'mal water is a type of water that is pure and clean in its substance but cannot be used for purification. There are three types of water that fall under this category, namely:<sup>134</sup>

- a. Water that has changed in one of its properties because it has been mixed with another pure substance, apart from the changes described above, for example, Water mixed with coffee, tea, or other substances.
- b. Water that has been used to remove impurities or clean impurities, but the Water has stayed the same nature and has not increased in weight.
- c. Water obtained from wood trees, such as nira water, coconuts, and the like.

## 3. Unclean Water/*Air Najis*

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<sup>133</sup> Sayid Muhammad Ridhwi, *Meraih Kesucian Jasmani dan Rohani* (Jakarta: Lentera, 2002), 40.

<sup>134</sup> Maimunah Hasan, *Al-Qur'an dan pengobatan jiwa* (Yogyakarta: Bintang Cemerlang, 2001), 112.

Unclean water refers to water that is not clean and cannot be used for purification purposes. There are two conditions of unclean water, namely:<sup>135</sup>

- a. If the impurity causes a change in any of its taste, color, or smell, then according to scholarly consensus, the water cannot be used for purification purposes.
- b. However, if the water remains in a pure state and has not undergone any change in any of these three properties, then it is considered pure and can be used for purification, whether in small quantities, such as water from trees or in large amounts such as water from fruits.

#### 4. Water that is makruh to use

Water that is advised to avoid using is water that has been exposed to sunlight while in a container unless the container is made of gold or silver. This water should not be used to clean the body, but can still be used to wash clothes. However, there is an exception for water that is exposed to the sun at ground level, such as paddy field water or pond water, or water that is in a container that may rust. This is based on the words of the Prophet Muhammad:

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<sup>135</sup> Sayyid Sabiq, *Fikih Sunnah Terj. Kamaluddin A. Marzuki* (Bandung: PT. Al-Ma'arif, 1988), 29.



*"From Aisha, verily she has heated water in the light of the sun, so the Holy Prophetsa said to her: Do not do this, O Aisha verily the sun-dried water can cause sapak disease." (HR. Baihaqi)*

Therefore, in Islam, water is considered a very important substance and has enormous benefits in supporting the lives of all creatures on earth. The study of Fiqh Bi'ah relies on understanding how humans can maintain and preserve natural resources as part of the human role in managing the universe.<sup>136</sup> There are several aspects related to Fiqh Bi'ah, where humans as caliphs on earth are mandated to carry out their duties in protecting and preserving the environment. Some of them are; the protection of body and soul, harmonizing the purpose of life in the hereafter, the need for production and consumption must be balanced, ecosystem balance maintained, all creatures are noble (*muhtaram*), and humans carry out their caliphate duties in terms of processing and managing the universe.<sup>137</sup>

In the context of property rights, water is considered to be one type of resource that has no naturally occurring owner. Water management authority is generally granted to the government as the entity responsible for protecting and regulating the use of this water for the benefit of society. With this

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<sup>136</sup> R. Wahyu Agung Utama et al., "Tinjauan Maqashid Syariah dan Fiqh Al-Bi'ah Dalam Green economy," *Jurnal Ekonomi Islam* 10, no. November (2019): 249, <http://journal.uhamka.ac.id/index.php/jei%0ATINJAUAN>.

<sup>137</sup> Utama et al., 150.

understanding, water resources can be identified as follows:<sup>138</sup> Water is a public asset. The government or state has the responsibility of managing water resources that fall under the category of shared water resources, such as water flowing in public channels such as rivers and seas. Water in this category has the same rights to be utilized by all parties.

In Islam, there are principles of Islamic law applied to water resources, and this is related to the 1945 Constitution Article 33 Paragraphs 1 and 2<sup>139</sup>, which emphasize the use of natural resources for the public interest (Maslahatul mursalah) because, in essence, property belongs to Allah SWT. Allah SWT permits humans to utilize these assets. Thus, humans only act as executors of the permission given to them. Therefore, ownership, ownership methods, and the rules that apply to water resources are determined by the decree of Allah SWT through Islamic law.<sup>140</sup> According to the Islamic perspective, ownership can be classified into three categories, namely individual request (*al-milkiyah al-fardiyah*), public ownership (*al-milkiyah al-aamah*), and state ownership (*al-milkiyah ad-daulah*). This division is based on the provisions of sharia law that have determined the classification.<sup>141</sup>

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<sup>138</sup> Ahmad Azhar Basyir, *Asas-asas Hukum Muamalat (Hukum Perdata Islam)* (Yogyakarta: UII Pres, 2004), 52.

<sup>139</sup> Lembaran Negara Republik Indonesia Undang-Undang Dasar Negara Republik Indonesia 1945 No. 75.

<sup>140</sup> Hasbi Ash Shiddieqy, *Pengantar Fiqih Muamalah* (Jakarta: Bulan Bintang, 1974), 8.

<sup>141</sup> Shiddieqy, 171–75.

From a policy perspective in Islamic economics, water resources, as explained earlier, are considered public property. Public ownership is permission from Allah SWT given to a community to utilize the asset jointly. Assets that fall under the category of public ownership are those that have been declared by Allah SWT as things that must be used together and are prohibited from being controlled by an individual or a small group, as explained in the Prophet's hadith mentioned earlier. Thus, sharia in the Islamic economic framework has set firm boundaries regarding water resources that are considered public property. Allah SWT made water for humans as public property.

The hope is that every individual, indeed all other creatures, can freely enjoy and access water without any hindrance from any party. This is because access to water is part of an individual's obligation to maintain well-being. The need for water should be considered a very important and urgent need that must be fulfilled because the lack of water can result in dehydration and even death. The need for water as *masalahah al-'ammah* should mean that humans should not allow water resources to become a private commodity that is regulated by certain individuals or groups and sold to the highest bidder.<sup>142</sup> This is because water is a basic need that is a very basic human right. Every

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<sup>142</sup> Wiwit Kurnia, "Pengelolaan Air Oleh Pihak Swasta Menurut Undang- Undang Nomor 17 Tahun 2019 Tentang Sumber Daya Air Dalam Perspektif Hukum Islam," 72.

generation must ensure that the availability and quality of water is maintained so that it is not affected by commercialization and privatization.

Caring for ecosystems is part of the effort to realize human welfare, and this welfare is a responsibility that must be carried out by individuals who believe. Therefore, efforts to create a sustainable environment and conserve natural resources are efforts to develop human well-being.

Today, we are facing serious challenges related to the water crisis. According to the World Economic Forum's 2019 report, the water crisis is ranked fourth in the category of Global Threats with far-reaching impacts.<sup>143</sup> Various factors, such as excess water, water shortage, or water pollution, can cause water crises. Excess moisture can lead to disasters such as floods and landslides, which in the last 20 years have generated more than 166,000 deaths and an economic loss of approximately 700 billion USD, according to UNICEF, by 2022. Meanwhile, water shortage is also a serious problem. In 2019, an estimated 2.2 billion people worldwide did not have adequate access to clean water, and 4.2 billion people did not have proper sanitation, according to the World Bank in the same year.<sup>144</sup> Another issue related to water is pollution. Polluted water can be a source of disease and a hazard to human health. UNICEF reports that nearly four thousand people die every day from

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<sup>143</sup> Ahmad Syahirul Alim dan Fithriya Yuliasih Rohmawati Asep Nurhalim, "Prinsip Pencegahan Krisis Air dalam Islam," Fakultas Ekonomi dan Manajemen IPB University, 2023, <https://fem.ipb.ac.id/index.php/2023/06/30/prinsip-pencegahan-krisis-air-dalam-islam/>.

<sup>144</sup> Alim dan Nurhalim.

diseases caused by poor water quality and inadequate sanitation. More than a quarter of these deaths occur in children under five, according to UNICEF in 2022.

Demand for access to clean water is expected to continue to increase along with population growth, economic development, and improved quality of life. By 2025, an estimated 1.8 billion people will live in water-stressed regions or countries. By 2030, water demand is projected to increase by about 40 percent more than supply according to a 2019 World Bank report. Even further, by 2050, the demand for clean water supply is expected to increase by about 20 to 30 percent, meaning that a quarter of the world's population may be living in areas without adequate access to clean water according to UNICEF by 2022.<sup>145</sup> The UN has sought to address this water crisis and has integrated it into the sixth Sustainable Development Goals (SDGs), which aim to provide clean water for all. However, to achieve this goal by 2030, four times the current level of effort is required, according to a 2022 United Nations report.

In Islam, water is a natural resource that is owned and managed together. There are several ways in the study of Fiqh Bi'ah in order to help realize sustainable development or Sustainable Development Goals (SDGs), namely:

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<sup>145</sup> Alim dan Nurhalim.

## 1. Prohibition of Israf in use

Islam also teaches its followers not to be excessive or wasteful in using water, even when used for purification.<sup>146</sup> The Prophet once rebuked Sa'ad ibn Abi Waqas, who was making ablution. He said:

*"Why this exaggeration, O Sa'd?" Saad said: "Is there a prohibition of extravagance in ablution? The Prophet replied: "Of course, even if you are on the banks of a flowing river." (HR Ibn Majah).*

Anas bin Malik narrated that the Prophet Wudu used one Mud of water and, when taking a big bath, used one Sha' to five muds of water (HR Bukhari Muslim). According to Sheikh Wahbah Az-Zuhaily in *al-Fiqhu al-Islamy wa adillatuhu*, one Mud is equivalent to 0.688 Liters, and one Sha is equal to 2.75 Liters.<sup>147</sup> These Hadiths show that it is forbidden to overdo it for worship, let alone for other activities. A study shows that the average Muslim today uses about 5 liters of water for ablution. This needs to be noted so that we start to economize on the use of water, including for worship.

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<sup>146</sup> Alim dan Nurhalim.

<sup>147</sup> Alim dan Nurhalim.

## 2. Water Ecosystem Maintenance

Maintenance of aquatic ecosystems is a crucial principle, as the presence of water in a healthy ecosystem will result in water being stored in the soil. Studies have shown that trees can increase water penetration into the ground, and a sufficient number of trees in the vegetation cover can increase water availability when compared to areas with no trees or too many trees. This is due to the fact that trees form large pores that allow water to seep into the soil. Without these pores, water would run off as surface water or become puddles that later evaporate.

In addition, in Islam, people are also taught to protect water resources by caring for water ecosystems. Rasulullah SAW applied the concept of environmental conservation, which was also used by the Arab community at that time, namely the idea of Hima and Harim.

Hima, in the tradition of the Arabs before the coming of the Prophet, was a fertile pasture area located in a high place and discovered by the tribal chief. This Hima area was guarded by the tribe for the purpose of raising their livestock. Within the Hima area, it was not permitted to open agricultural land or erect buildings.<sup>148</sup>

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<sup>148</sup> Alim dan Nurhalim.

When Fiqh Bi'ah discusses the essential quality of water, it does not stop there. Therefore, an additional safeguard called harim is provided.<sup>149</sup> These harim are protected lands placed around water sources. If we think of water as a plant, then harim can be thought of as a fence that covers it. This means that while the plants cannot be destroyed, it does not mean that the walls or harim can be stolen.<sup>150</sup>

From the previous explanation, harim can be interpreted from an environmental perspective as an attempt by Fiqh Bi'ah to protect and preserve the water ecosystem. When Fiqh Bi'ah provides protected land (harim) for rivers, wells, waterways (qanat), and springs, this can be considered an action that supports environmental preservation.<sup>151</sup> Moreover, if we look at the functions and regulations pertaining to Harim, they clearly support this idea.

In general, Fiqh Bi'ah grants harim land for any water source, such as rivers, wells, waterways (qanat), and springs. However, there are differences among the four schools of Fiqh, with the exception of the Shafii Mazhab, in determining the existence of harim for trees. The Maliki and Shafii schools also extend the concept of harim to include houses and villages. The Hambali school, in addition to agreeing to Harim for homes like its predecessors, also stipulates the

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<sup>149</sup> Iza Hanifuddin, *Harim: Solusi Perlindungan Ekosistem Air Dalam Fiqh* (Batusangkar: STAIN Batusangkar Press, 2009), 70.

<sup>150</sup> Hanifuddin, 71.

<sup>151</sup> Hanifuddin, 72.



existence of Harim for agricultural land. A slightly different opinion was expressed by Ibn Qadir, who explained that all things related to the public interest.<sup>152</sup>

These harim aim to maintain and protect the water supply process in the places concerned. The harim of trees and harim of farmland, for example, seeks to protect the irrigation process that supplies water to the trees and farmland so that they remain fertile. House Harim and village harim, on the other hand, are meant to protect the water needs of both places so that with a house harim, for example, it is hoped that the water of the house well will not be sucked up by the well of another place that may be built next door.<sup>153</sup> Hence, to safeguard this protection, Ibn Qadir issued a prohibition against digging new wells on harim land to prevent competition for rights and damage. In fact, Imam Malik required the destruction of new wells that were deemed to be sucking water from the old wells, even if the new wells were built far away from the haram land.<sup>154</sup>

### 3. Prohibition of polluting water

Another thing that is prohibited in Islam is polluting water sources such as springs, wells, and lakes. The Prophet said:

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<sup>152</sup> Wahbah Al-Zuhaili, *Fiqh Al-Islamiy Wa Adillatuh*, Cet.3 (Damaskus: Darul Fikri, 1989), 565–70.

<sup>153</sup> Hanifuddin, *Harim: Solusi Perlindungan Ekosistem Air Dalam Fiqh*, 73.

<sup>154</sup> Hanifuddin, 74.

*Fear three things that bring curses: relieving yourself where water flows, in the middle of the road, and the shade (HR Abu Daud).*

The implementation of efforts to keep water in a Tahir wa metaphor condition in terms of environmental health is also emphasized by the teachings of the Prophet. He forbade performing hajad in streams, urinating in running water and disposing of feces near water sources. All these prohibitions are aimed at maintaining the essential quality of water so that it is not contaminated and polluted by various types of pollution because all creatures, especially humans, will use water together. Keep in mind the Prophet's prohibition against blowing on water and hot food before consuming it may be a special precaution from a health perspective so that clean water is kept safe from various diseases and viruses.

The attention given by the Prophet to the quality of water has sparked the interest of Fiqh scholars to conduct further research on water and then establish regulations for its use. This interest is reflected in their division of natural water. For example, Ibn Qudaman has divided natural water into two categories, namely running water and non-flowing water. These two types of water had previously been broken down by

Al-Farra' into river water, well water, and spring water.<sup>155</sup> This kind of attention to water sharing illustrates their understanding of hydrological aspects.

In the context of water use, Fiqh bi'ah specifically states that water can be used for various purposes, such as bathing, washing, drinking, and so on, provided that such use does not negatively affect the condition of the water. Ibn Qudamah allows this use of water by considering whether the water is flowing or not.<sup>156</sup>

In addition, Fiqh bi'ah also pays attention to the condition of water so that it remains of high quality by prohibiting someone from making excessive WC facilities that can damage the quality of neighboring water. If this happens, the responsibility is placed on the owner of the toilet. Fiqh bi'ah also prohibits a person from using his house as a tannery if there is concern that it could pollute the water, building a bathroom that could damage the quality of the neighbor's land, and disposing of garbage or waste at a public intersection that could interfere with shared interests. Even if a person has a water treatment facility, others are not allowed to plant trees or

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<sup>155</sup> Hanifuddin, 67.

<sup>156</sup> Hanifuddin, 68.

plants that could damage the water treatment wall. Such trees and plants may be uprooted or cut down even if they are on the grower's private land.<sup>157</sup> All of these prohibitions are aimed at maintaining water quality from a Fiqh bi'ah perspective.

## CHAPTER IV

### CLOSING

#### A. Conclusion

1. The utilization of water resources in Law of the Republic of Indonesia Number 17 of 2019 also aims to carry out the utilization of water resources in a sustainable manner. Achieving sustainable utilization of water resources is a challenge faced by policy implementers. Therefore, the water resource utilization policy needs to focus on its utilization and also pay attention to the sustainability of the water source itself.

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<sup>157</sup> Hanifuddin, 69.

2. The Quran also underlines that water is revealed for the welfare of living beings, and it is from water that all life in the universe is given. In the context of Fiqh Bi'ah, several ways can help achieve the Sustainable Development Goals (SDGs). These include the prohibition of water wastage, efforts to maintain water ecosystems, and the prohibition of water pollution. All of these are part of Islam's efforts to preserve the sustainability of water resources and promote well-being for all living beings.

## **B. Suggestion**

1. Water resources should be utilized to develop sustainable clean water and sanitation. This utilization is done through the following steps: Identification of Conservation Areas, Projection and Allocation of Funds, and Cooperation with Stakeholders. Water resource utilization also involves cooperation with various parties, including local communities and other related parties. This cooperation is important to carry out water utilization activities around water sources effectively and efficiently.
2. Every human being should raise awareness of the blessings given by Allah SWT in the form of water. Treating water with honor and in accordance with its functions, both in the context of worship, social interaction, and other aspects, is a manifestation of understanding the importance of water in human life. Thus, the study of water, including various issues related to it, as well as the awareness of our responsibilities as humans who are

authorized to manage these water resources, will continue to grow in the future.

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## APPENDIX

### A. List of Abbreviations

ASEAN	: <i>Association of Southeast Asian Nation</i>
COVID-19	: <i>Coronavirus-19</i>
DAS	: Daerah Aliran Sungai
DUHAM	: Deklarasi Universal Hak Asasi Manusia
GWP	: <i>Global Warming Potential</i>
HAM	: Hak Asasi Manusia
HAM EKOSOB	: Hak Asasi setiap orang di Bidang Ekonomi, Sosial, dan Budaya
HAM SIPOL	: Hak Asasi Manusia Sipil dan Politik
ICESCR	: <i>International Covenant on Economic, Social, and Cultural Rights</i>
ICWE	: <i>International Conference on Wind Engineering</i>
IUCN	: <i>International Union for Conservation of Nature and Natural Resources</i>
IWRM	: <i>Integrated Water Resources Management</i>
Kementrian PUPR	: Kementrian Pekerjaan Umum dan perumahan Rakyat RI
KLHK	: Kementrian Lingkungan Hidup dan kehutanan RI
MDGs	: <i>Millenium Development Goals</i>
MoU	: <i>Memorandum of Understanding</i>

ODF	: <i>Open Defecation Free</i>
PBB	: Perserikatan Bangsa-Bangsa
RPDAST	: Rencana Pengelolaan DAS Terpadu
SDA	: Sumber Daya Alam
SGDs	: <i>Sustainable Deveopment Goals</i>
SUSENAS BPS	: Survei Sosial Ekonomi Nasional Badan Pusat Statistik
UNCED	: <i>the United Nations Conference on Environment and Development</i>
UNCSD	: <i>United Nations Commission on Sustainable Development</i>
UNICEF	: <i>United Nations Children's Fund</i>
UNDP	: <i>United Nations Development Programme</i>
UN WATER	: <i>United Nations Water</i>
UU SDA	: Undang-Undang Sumber Daya Air
WSSD	: <i>World Summit on Sustainable Development</i>

## B. Proof of Consultation



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No	Tanggal	Materi Konsultasi	Paraf
1	5 Mei 2023	Revisi Judul dan Bab 1	
2	8 Mei 2023	Revisi Latar Belakang	
3	18 Juli 2023	Revisi Metode Penelitian dan Bab 2	
4	12 Juli 2023	Revisi Bab 1	
5	21 Juli 2023	Revisi Rumusan Masalah dan Bab 2	
6	24 Juli 2023	Revisi Kajian Pustaka	
7	27 Juli 2023	ACC Proposal Skripsi	
8	21 Agustus 2023	Revisi Bab 2	
9	4 September 2023	Revisi Bab 3 dan Bab 4	
10	5 September 2023	ACC Skripsi	

Malang, 8 Agustus 2023  
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