

September 2024

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### Recommended Citation

Jusuf, Ester Indahyani; Allagan, Tiurma Mangihut Pitta; and Eryando, Tris (2024) "Analysis of the Implications of the Water Convention and Protocols for Water and Health," *Indonesian Journal of International Law*: Vol. 22: No. 1, Article 3.

DOI: 10.17304/ijil.vol22.1.1867

Available at: <https://scholarhub.ui.ac.id/ijil/vol22/iss1/3>

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## ANALYSIS OF THE IMPLICATIONS OF THE WATER CONVENTION AND PROTOCOLS FOR WATER AND HEALTH

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### Abstract

*Many international conventions contain positive values for humanity, which are in line with the human rights values guaranteed by our country's constitution. The Indonesian state constitutionally guarantees the right of every Indonesian citizen to live a healthy and prosperous life, including providing water for every Indonesian citizen. However, it turns out that the Indonesian State has so far chosen not to ratify or access the Water Convention and the Water and Health Protocol, the contents of which are the good intentions of the countries participating in the convention to maintain the availability and quality of world water. This article provides a descriptive overview and comparison between the standards of the Water Convention and the Protocol on Water and Health of WHO (the Water Convention), alongside relevant Indonesian laws, namely Presidential Regulation of the Republic Indonesia Number 37 of 2023. Despite the participation of 52 states to the Water Convention 1992, Indonesia has yet to do so. The government of Indonesia has made numerous efforts that are in line with the objectives and contents of the Water Convention. However, it is undeniable that Indonesia will encounter problems and challenges if it pursues the process of accession. The problems might emerge from the perspectives of legal, public health, as well as social and economic. Considering the potential logical consequences, this article suggests Indonesia is currently adhering to the stipulation outlined in the Water Convention despite the absence of willingness to accede to it. The research employs a doctrinal approach, concurrently examining the norms and regulations inherent in the Water Convention and the newly Indonesian regulation on water management and the standards of water. Research question: Is the attitude of the Indonesian State not to ratify or access the Water Convention and the Water and Health Protocol contrary to the constitution and the principles given to Indonesian Human Rights, namely the right to life? This question was born by considering sociological rules or legal policies that one of the requirements for humans to be able to live is health. One way for human swimmers to be healthy is the availability of water in good quantity and quality throughout their lives. This research uses a public policy analysis approach, especially the theory of George C. Edwards III, with observations of state financial administration in the process of implementing human rights. The novelty of this article predicts the impact of the ratification of the Water Convention and the Water and Health Protocol for the Indonesian people; The contestation includes human rights in the field of clean water by including human rights in other fields as well as Indonesia's political economic interests.*

**Keywords:** *Indonesian clean water policy, the water convention, the protocol on water and health.*

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Submitted: 19 May 2024 | Revised: 15 August 2024 | Accepted: 30 October 2024

## I. INTRODUCTION

The Convention on the Protection and Use of Transboundary Watercourses and International Lakes or the “Water Convention” is a unique international law instrument.<sup>1</sup> The contents of which reflect the shared desire of states parties to secure access to clean and sustainable water while fostering public awareness regarding water literacy.<sup>2</sup> The Water Convention is a form of cooperation or agreement between States to ensure the utilization of transboundary water resources sustainably, which is an effort to safeguard the health and welfare of humankind, spanning both the present and future generations.<sup>3</sup> The desires contained in the Water Convention align with the perspectives advocated by Kofi Annan, which is “Access to safe water is a fundamental human need and, therefore, a basic human right. Contaminated water jeopardizes both the physical and social health of all people. It is an affront to human dignity”.<sup>4</sup>

In its development, the Water Convention garnered support from numerous parties, with 53 countries formally ratifying it, as well as 109 countries and 98 international non-governmental organizations actively endorsing it.<sup>5</sup> Among the ratifying parties, 46 predominantly comprised developed countries in Europe, with approximately 6,000 experts contributing from diverse fields.<sup>6</sup> According to United Nations data from 2020, 80% of the parties involved in the convention demonstrated advancement in the mean value of the SDG indicator 6.5.2., surpassing the global average of 58%.<sup>7</sup> Additionally, 24 countries reported full compliance of all their transboundary basins with operational cooperation arrangements as well as the SDG indicator 6.5.2.<sup>8</sup> The majority of 144 rivers and lakes flowing into the basin, as reported by the parties in 2020, have been subject to Contracting States’ binding agreements. Approximately 16 river basins, basins and sub-basins remain not covered by

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<sup>1</sup> Convention on the Protection and Use of Transboundary Watercourses and International Lakes, opened for signature 17 March 1992, 1936 UNTS 269 (entered into force 6 October 1996).

<sup>2</sup> *Ibid.*

<sup>3</sup> *Ibid.*

<sup>4</sup> “Access to Safe Water Fundamental Human Need, Basic Human Right, Says Secretary-General in Message on World Water Day,” United Nations, accessed 29 June 2023, <https://press.un.org/en/2001/sgsm7738.doc.htm>

<sup>5</sup> “5. b Amendments to Articles 25 and 26 of the Convention on the Protection and Use of Transboundary Watercourses and International Lakes,” United Nations, accessed 29 June 2023, [https://treaties.un.org/Pages/ViewDetails.aspx?src=TREATY&mtdsg\\_no=XXVII-5-b&chapter=27&clang=\\_en](https://treaties.un.org/Pages/ViewDetails.aspx?src=TREATY&mtdsg_no=XXVII-5-b&chapter=27&clang=_en)

<sup>6</sup> UNECE, *The Water Convention: 30 Years of Impact and Achievements on the Ground* (New York: United Nations Publications, 2022), 5.

<sup>7</sup> UNECE, *The Water Convention*, 7.

<sup>8</sup> *Ibid.*

the agreements.<sup>9</sup>

It appears that the objectives and aspirations of the contracting states establishing the Water Convention do not contradict the Indonesian constitution and regulations. This aligns with the provisions of Law Number 36 of 2009 concerning Health, which affirms that health as a human right and a constituent element of welfare.<sup>10</sup> As stated in Articles 4 and 5, everyone has the right to health and access to health resources.<sup>11</sup>

The commitment of Indonesian Government to manage sustainable water is evident across regulations and policies, including the cooperation concerning transboundary rivers with other countries. An instance of this is the cooperation of Indonesia with bordering countries, such as Timor Leste, to jointly manage rivers.<sup>12</sup> In addition, Indonesia reinforces its commitment to safeguard the environment, including the water-related issues, by ratifying Basel Convention on the Control of Transboundary Movements of Hazardous Wastes.<sup>13</sup> This commitment is further substantiated by the Decree of the Minister of Trade No. 349/Kp/92 (*Surat Keputusan Menteri Perdagangan Nomor 349/Kp/92*) regarding the Ban on Imports of Plastic Waste<sup>14</sup> and Presidential Decree No. 61 Year 1993 (*Keputusan Presiden Nomor 61 tahun 1993*) regarding the Ratification of the Basel Convention on the Control of Transboundary Movements of Hazardous Wastes and Their Disposal.<sup>15</sup> The regulations comprise the prohibition of hazardous waste export-import activities and disposal according to Zed Abidien and Hardjasoemantri.<sup>16</sup>

<sup>9</sup> Convention on the Protection and Use of Transboundary Watercourses and International Lakes.

<sup>10</sup> Indonesia. *Undang-Undang tentang Kesehatan*. UU No. 36 Tahun 2009. (*Law on Health*. Law No. 36 Year 2009).

<sup>11</sup> Law on Health.

<sup>12</sup> Indonesia. *Keputusan Presiden tentang Pengesahan Basel Convention on the Control of Transboundary Movements of Hazardous Wastes and Their Disposal*. Keppres No. 61 Tahun 1993. (*Presidential Decree on the Ratification of the Basel Convention on the Control of Transboundary Movements of Hazardous Wastes and Their Disposal*. Presidential Decree No. 61 Year 1993.)

<sup>13</sup> Presidential Decree on the Ratification of the Basel Convention on the Control of Transboundary Movements of Hazardous Wastes and Their Disposal.

<sup>14</sup> Indonesia. *Surat Keputusan Menteri Perdagangan tentang Larangan Impor Sampah Plastik Masuk ke Indonesia*. SK Menperdag No. 349/Kp/XI/1992. (*Minister of Trade Decree on Prohibition of Importing of Plastic Waste into Indonesia*. Minister of Trade Decree No. 349/Kp/XI/1992).

<sup>15</sup> Presidential Decree on the Ratification of the Basel Convention on the Control of Transboundary Movements of Hazardous Wastes and Their Disposal.

<sup>16</sup> Zed Abidien. "Timor Leste Kerja Sama Penataan Sungai Dengan Indonesia [Timor Leste Collaborates with Indonesia on River Arrangement]," *Nasional Tempo*, accessed 22 March 2023, <https://nasional.tempo.co/read/695100/timor-leste-kerja-sama-penataan-sungai-dengan->

According to National Law Development Agency of Indonesia or *Badan Pembinaan Hukum Nasional*, Indonesia has not considered to be a contracting state of the Water Convention. However, there is an indication of benefits for Indonesian law to adhere to the provisions of the Water Convention, which is to identify potential areas of national law for improvement. Hence, the authors will firstly explain the provisions of the Water Convention, then point out the potential challenges that would arise if the Government of Indonesia acceded to the Water Convention.

The urgency of this article is because there are differences of opinion between government agencies, non-governmental organizations or other parties regarding whether or not to ratify international conventions. Those who support ratification or accession to the convention are of the view that ratification or accession is a form of proof that the Indonesian State respects human rights. On the other hand, parties who do not agree require a consideration process regarding the impact on Indonesia's national interests.<sup>17</sup>

This paper analyzes whether or not it is necessary for Indonesia to ratify or accede to The Water Convention and the Protocol on Water and Health; as an effort to clarify differences of opinion regarding the idea that the Indonesian Government is a regime that does not respect human rights if it does not ratify the Water Convention and the Protocol on Water and Health, because the convention contains good implementation tools for managing water globally, according to health and sustainable standards that include the survival of future generations of humanity.<sup>18</sup>

The gap in research is that differences in views between supporters of ratification or accession and the government's attitude need to be analyzed to prevent the neglect of the human rights of the Indonesian people, disruption of national interests and division of the nation due to incongruence in views or non-involvement of the Indonesian people in the process of considering and making policies regarding the act of ratification.

According to research by Arif Havas Oegroseno, national interests that must be taken into consideration when choosing whether to ratify an international convention or not include political, legal and security interests; and adjusting various aspects and values so that they do not conflict with *Pancasila*.<sup>19</sup>

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indonesia.

<sup>17</sup> Rzk. "Jangan Asal Ratifikasi Hukum Internasional" Hukumonline, accessed 1 October 2024, <https://www.hukumonline.com/berita/a/jangan-asal-ratifikasi-hukum-internasional-hol20365/?page=2>.

<sup>18</sup> "The Water Convention and the Protocol on Water and Health," UNECE, accessed 1 October 2024, <https://unece.org/environment-policy/water>.

<sup>19</sup> Welly Angela Riry, "Ratifikasi Perjanjian Internasional Sebagai Salah Satu Bentuk Politik

According to Dewanto, there are different views from the perspective of state administration and international law regarding the implementation of international agreements. For example, *NMB v. PT. Nizwar* related to the 1927 Geneva Convention, where there was a debate about the applicability of the convention for the State of Indonesia, which was not a party to the agreement.<sup>20</sup> The entry into force of an international agreement within the jurisdiction of the State of Indonesia does not happen immediately, but must be stated in a legal form in accordance with the provisions of Law no. 24 of 2000 concerning International Agreements.

According to Suparto, International Agreement law has developed rapidly and involves non-state subjects. International agreements serve as the main instrument for implementing international relations between countries, namely as a means to overcome problems that arise as well as to ensure prosperity and peace for humans, which in this context is crucial, namely regarding drinking water which concerns the lives of many people. Therefore, we must be able to answer the question whether the attitude of the Indonesian State not to ratify or accede to the Water Convention and the Protocol on Water and Health is contrary to the constitution and the principle of respect for Indonesian Human Rights, namely the right to life?

This article employs a doctrinal research method, which involves legal principles within the Water Convention, analyzing the provisions, including the potential difficulties.<sup>21</sup> The article will adopt a normative descriptive approach. Doctrinal research is normative juridical legal research, a series of activities that will examine the internal aspects of positive law, where the analysis is based on applicable laws and regulations and is relevant to the legal issues that are the focus of the research.<sup>22</sup> This research includes matters that are legally considered for the birth of a legal product, especially those related to APBD, APBN, RKP and RKPD.<sup>23</sup> In terms of the administration of Drinking Water and Water in general, a series of normative juridical actions

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Hukum Nasional,” *Journal Syntax Transformation* 2, no. 2 (2022): 244.

<sup>20</sup> Wisnu Aryo Dewanto, “Palermo Convention in Our Legal System: Part of Our National Law or Merely A Source of Law,” *Indonesian Journal of International Law* 12, no. 4 (2015): 540.

<sup>21</sup> Muhamad Muhdar. *Penelitian Doctrinal dan Non-Doctrinal, Pendekatan Aplikatif dalam Penelitian Hukum [Doctrinal and Non-Doctrinal Research, Applicative Approach in Legal Research]* (Samarinda: Mulawarman University Press, 2019).

<sup>22</sup> Willa Wahyuni, “Tiga Jenis Metodologi untuk Penelitian Skripsi Jurusan Hukum,” *Hukumonline*, accessed 1 October 2024, <https://www.hukumonline.com/berita/a/tiga-jenis-metodologi-untuk-penelitian-skripsi-jurusan-hukum-lt6458efc23524f/>.

<sup>23</sup> Indonesia. *Peraturan Pemerintah Republik Indonesia Nomor 12 Tahun 2019 tentang Pengelolaan Keuangan Daerah (Law on Regional Financial Regulation)*; Indonesia, *Undang Undang Republik Indonesia Nomor 23 Tahun 2014 Tentang Pemerintahan Daerah (Law on Regional Government)*.

will correlate with the issuance of Regent/Mayor Regulations regarding APBD and RKPD.

The primary legal data utilizes in this article includes the Water Convention and its Protocol, along with Indonesia's newly issued Law, namely the Presidential Regulation of the Republic Indonesia Number 37 of 2023 regarding National Policy on Water Resources (*Peraturan Presiden Republik Indonesia Nomor 37 Tahun 2023 tentang Kebijakan Nasional Sumber Daya Air*). The discussion will be supported by the secondary legal data, which includes the books on environment and water in Indonesia. Based on this discussion, a conclusion is made concerning the necessity of Indonesia's accession to the water convention.

This article comprises two main sections: the first section will discuss the Water Convention in general and the obligations of states parties to the convention, namely the obligation to prevent, control and reduce sources of pollutant, the obligation to protect transboundary water, and the obligation to establish more stringent requirements. The second section will discuss the Indonesian policy on water, outlining the international and national water standards, as well as Indonesian public health pathology related to the Water Convention.

The Water Convention encompasses the general regulations outlining the obligations of States Parties to the Convention. These include the obligation such as the prevention, control, and reduction of sources of emissions from pollutant with non-waste technology, safeguarding transboundary waters from pollution originating from wastewater discharge sources authorized by the competent national authority and the use of the best technology to deal with transboundary water problems, as well as creating stricter requirements. These regulations establish rules that lead to prohibitions in individual cases regarding the quality of receiving water or the ecosystem requiring it. Moreover, the convention regulates both international and national clean water standards. By examining the broader framework of the convention, the authors analyze the legal, public health, as well as social and economic issues and challenges that may arise from Indonesia's potential accession. Based on the analysis, a conclusion is drawn concerning the wisest action for the State to take regarding the decision to accede the Water Convention.



## II. THE WATER CONVENTION AND STATES' OBLIGATIONS CONCERNING WATER

The Water Convention is a unique and legally binding instrument aimed to safeguard the health of humankind through enhanced water management and the mitigation of water-related diseases. Its protocol provides a practical framework for translating the human right to water and sanitation into practice and for implementing SDG 6. Adopted in Helsinki, Finland, on 17 March 1992, the Water Convention has been in force since 6 October 1996, initially applying on a limited basis to member countries of the United Nations Economic Commission for Europe (ECE) and regional economic integration organizations established by these countries.<sup>24</sup> Subsequently, on 28 November 2003, the provisions of articles 25 and 26 of the convention were amended, allowing all UN member states to accede to the convention starting from 6 February 2013.<sup>25</sup>

The convention is equipped with a protocol, which contains more detailed rules regarding the rights and obligations of countries or organizations regarding the accession.<sup>26</sup> The authors examine the convention from several perspectives, namely the obligations that arise as a result of the accession process; the potential sanctions from violation of the convention, and the benefits that will result from the process of accession to the Water Convention. Each State Party to the Water Convention is obliged to prevent, control and reduce transboundary impacts.<sup>27</sup> The concepts of prevention, control and reduction of cross-border impacts cannot be separated from the obligation to develop, adopt, implement and establish legal, administrative, economic, financial and technical measures.<sup>28</sup>

The Water Convention's Preamble outlines provisions applicable to all states parties.<sup>29</sup> Each State Party is obliged to prevent, control and reduce transboundary impacts by developing, adopting, implementing and establishing legal, administrative, economic, financial and technical measures.<sup>30</sup> These

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<sup>24</sup> Convention on the Protection and Use of Transboundary Watercourses and International Lakes.

<sup>25</sup> "The Water Convention and the Protocol on Water and Health," UNECE, accessed 29 June 2023, <https://unece.org/environment-policy/water>.

<sup>26</sup> Protocol on Water and Health, adopted 17 June 1999 (entered into force 4 August 2005).

<sup>27</sup> Convention on the Protection and Use of Transboundary Watercourses and International Lakes.

<sup>28</sup> Convention on the Protection and Use of Transboundary Watercourses and International Lakes.

<sup>29</sup> Convention on the Protection and Use of Transboundary Watercourses and International Lakes, Preamble.

<sup>30</sup> Convention on the Protection and Use of Transboundary Watercourses and International



measures will only be effective and reliable if there is increased cooperation both in the internal work of States Parties, bilaterally, multilaterally and as a whole.<sup>31</sup>

The Water Convention presents a promising mechanism to improve the condition of the global freshwater.<sup>32</sup> In theory, addressing water issues in a comprehensive and global manner should facilitate improvements to the environment and water resources over time.<sup>33</sup> Considering the spirit, work program, and logical structure of the Water Convention, it can be anticipated that international cooperation between parties, including the WHO, will provide broader opportunities globally to enhance water resources and water quality if the Indonesian Government is willing to accede to the Water Convention.<sup>34</sup>

The Water Convention sets forth a set of standards and guidelines that are more comprehensive and ideal for establishing a global water system that benefits all parties and ensures sustainable availability.<sup>35</sup> These standards surpass the national standards in terms of water quality and quantity, as well as their sustainable and holistic approach to address the needs of all mankind.<sup>36</sup>

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Lakes.

<sup>31</sup> Bearing in mind the Stockholm Conference on the Human Environment, the Final Act of the Conference on Security and Cooperation in Europe (CSCE), Concluding Documents of the Madrid Meeting 1980 and Vienna Meeting 1986 of Representatives of the Participating States of the Conference on Security and Co-operation in Europe, Regional Strategy for Environmental Protection and Rational Use of Natural Resources in ECE Member Countries Covering the Period up to the Year 2000 and Beyond; ECE Declaration of Policy on Prevention and Control of Water Pollution, including Transboundary Pollution; ECE Declaration of Policy on the Rational Use of Water; Principles regarding Cooperation in the Field of Transboundary Waters; the ECE Charter on Ground-Water Management; and the Code of Conduct on Accidental Pollution of Transboundary Inland Waters as well as the decisions I (42) and I (44) adopted by the Economic Commission for Europe at its forty-second and forty fourth sessions, and the outcome of the CSCE Meeting on the Protection of the Environment (Sofia, Bulgaria, 16 October – 3 November 1989).

<sup>32</sup> Convention on the Protection and Use of Transboundary Watercourses and International Lakes.

<sup>33</sup> Michael Brennan, *et al.*, “Conceptualising Global Water Challenges: A Transdisciplinary Approach Understanding Different Discourses in Sustainable Development,” *Journal of Environmental Management* 298 (2021); Afriza Umami, *et al.*, “A Review on Water Management Issues: Potential and Challenges in Indonesia,” *Sustainable Water Resources Management* 8, no. 63 (2022).

<sup>34</sup> Brennan, *et al.*, “Conceptualising Global Water.”

<sup>35</sup> Alistair Rieu-Clarke, Ruby Moynihan, and Bjorn-Oliver Magsig, *Transboundary Water Governance and Climate Change Adaptation: International Law, Policy Guidelines and Best Practice Application* (Paris: United Nations Educational, Scientific and Cultural Organization, 2015).

<sup>36</sup> World Health Organization, *Protocol on Water and Health: Effective Approaches to Drink-*

Furthermore, this standard is legally binding, obliging all states parties to collaborate towards the goal of a healthy and high-quality human life.<sup>37</sup> This implies that the Water Convention can contribute to encouraging states parties to effectively manage water resources within and across their borders. The more countries that adhere to or accede to the Water Convention, the theory suggests that global water resources will become more accessible, of better quality, and more sustainable.

Nevertheless, it is crucial to criticize whether the Water Convention is suitable for Indonesia to accede, considering the legal implications that come with binding commitments. Indonesia must consider the local context, encompassing the accession process, rule-making and policy-making, preparation of human resources and funding resources, as well predicting diverse reactions from stakeholders on the issues of water in Indonesia.<sup>38</sup> If Indonesia decides to join the Water Convention through the process of accession, Indonesia would be immediately bound by many obligations to develop, adopt, implement and establish legal, administrative, economic, financial and technical measures relevant to the protocol of the convention, including the following selected obligations.<sup>39</sup>

#### A. THE OBLIGATION TO PREVENT, CONTROL AND REDUCE SOURCES OF POLLUTANT

Articles 5 and 6 in the Water Convention regulate the following principles, approaches and obligations: the precautionary principle in mitigating water-related diseases. Efforts to mitigate must be published with a specified target and achievement date within 2 years. The targets outlined in the convention are the supply and enhancement of water for drinking (as specified by geographical area, size of population, or demographic proportion), sanitation and general needs; a reduction in the scale of outbreaks and incidents of water-related diseases; the expansion of the area, size or proportion of the population to be catered by a sanitation or collective sanitation system; certain level of performance to be achieved by each collective system and other water supply and sanitation facilities; the implementation of good practices for water supply

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*ing-Water Quality Surveillance* (Copenhagen: WHO Regional Office for Europe, 2015); World Health Organization, *WHO Expert Consultation on Health Risks in Aquifer Recharge Using Reclaimed Water* (Copenhagen: WHO Regional Office for Europe, 2001).

<sup>37</sup> Convention on the Protection and Use of Transboundary Watercourses and International Lakes, Art. 25-26.

<sup>38</sup> Koesnadi Hardjosoemantri, *Hukum Tata Lingkungan [Environmental Law]* (Yogyakarta: Gadjah Mada University Press, 2017).

<sup>39</sup> Convention on the Protection and Use of Transboundary Watercourses and International Lakes, Art. 2-16.

and sanitation management, including the protection of water as a source of drinking water; waste system management; as well as the existence of a legal and institutional framework regarding drinking water quality management.

The issues of water in the context of the Indonesian archipelago were initially regulated by the *Algemeen Waterreglement* of 1936, which later became the basis for water regulations by the Indonesian Government.<sup>40</sup> The Outline of the State Policy or *Garis-Garis Besar Haluan Negara* (GBHN) 1973-1978 and the Five-Year Development Plan or *Rencana Pembangunan Lima Tahun (Repelita) II* (1974-1979) regulated the environmental management, including water management.<sup>41</sup> Furthermore, the regulatory framework of water management in Indonesia was established through Law Number 11 of 1974 concerning Irrigation.<sup>42</sup> This law was deemed not in accordance with current developments and was later replaced by Law Number 7 of 2004 concerning Water Resources.<sup>43</sup> The Law was then challenged to the Constitutional Court due to its conflicted nature towards the Constitution of 1945.<sup>44</sup> The Law was canceled so that regulations regarding water returned to Law Number 11 of 1974, which was then revoked and replaced with Law Number 17 of 2019 concerning Water Resources.<sup>45</sup>

The protection of water resources is complemented by the Law on the Environment (Law Number 4 of 1982 concerning Basic Provisions for the Management of the Living Environment; Law Number 23 of 1997 concerning Environmental Management; Law Number 32 of 2009 concerning Environmental Protection and Management).<sup>46</sup> Recently, Indonesia issued new regulations concerning the protection of water resources, namely

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<sup>40</sup> Indonesia, *Algemeen Waterreglement* of 1936 (*General Water Law of 1936*).

<sup>41</sup> Indonesia. *Ketetapan Majelis Permusyawaratan Rakyat Republik Indonesia tentang Garis-Garis Besar Haluan Negara*. TAP MPR No. IV/MPR/1973. (*People's Consultative Assembly Decision on the Outline of the State Policy*. TAP MPR No. IV/MPR/1973).

<sup>42</sup> Indonesia. *Undang-Undang tentang Perairan*. UU No. 11 Tahun 1974. (*Law on Irrigation*. Law No. 11 Year 1974).

<sup>43</sup> Indonesia. *Undang-Undang tentang Sumber Daya Air*. UU No. 7 Tahun 2004. (*Law on Water Resources*. Law No. 7 Year 2004).

<sup>44</sup> Indonesia. *Undang-Undang Dasar Negara Republik Indonesia*, Tahun 1945. (*Constitution of the Republic of Indonesia*, Year 1945).

<sup>45</sup> Law on Irrigation.

<sup>46</sup> Indonesia. *Undang-Undang tentang Ketentuan-Ketentuan Pokok Pengelolaan Lingkungan Hidup*. UU No 4 Tahun 1982. (*Law on the Basic Provisions for the Management of the Living Environment*. Law No. 4 Year 1982); Indonesia. *Undang-Undang tentang Pengelolaan Lingkungan Hidup*. UU No. 23 Tahun 1997. (*Law on Environmental Management*. Law No. 23 Year 1997); Indonesia. *Undang-Undang tentang Perlindungan dan Pengelolaan Lingkungan Hidup*. UU No. 32 Tahun 2009. (*Law on Environmental Protection and Management*. Law No. 32 Year 2009).

the Presidential Regulation of the Republic Indonesia Number 37 of 2023 regarding National Policy on Water Resources (*Peraturan Presiden Republik Indonesia Nomor 37 Tahun 2023 tentang Kebijakan Nasional Sumber Daya Air*) and the Regulation of the Minister of Health of the Republic of Indonesia Number 2 of 2023 regarding Implementing Regulation of Government Regulation Number 66 of 2014 regarding Environmental Health (*Peraturan Menteri Kesehatan Republik Indonesia Nomor 2 Tahun 2023 tentang Peraturan Pelaksanaan Peraturan Pemerintah Nomor 66 Tahun 2014 tentang Kesehatan Lingkungan*). These legal regulations regarding the Environment and Water Resources currently in force are expected to ensure the quality and quantity of clean water, including transboundary water and its pollution.<sup>47</sup> For instance, the Regulation of the Minister of Environment and Forestry Number P.5/MENLHK/SETJEN/ KUM.1/2/2018 which outlines the qualifications and responsibilities of experts in waste management, including the certification exam of waste problems (IPAL), assessment of the level of waste water pollution, maintenance on wastewater treatment plants (IPAL), and identification of hazards in wastewater treatment.<sup>48</sup>

Furthermore, the Minister of Environment and Forestry has made Ministerial Regulation Number P.55/Menlhk-Setjen/2015, regarding activities related to the study of Hazardous and Toxic Materials (B3), these substances, energy, and/or other components which, due to their nature, concentration and/or quantity, possess the potential to directly or indirectly pollute and/or harm the environment, as well as endanger the health and survival of human and other living creatures.<sup>49</sup> The regulation includes the Toxic Characteristic Leaching Procedure (TCLP) and the Lethal Dose-50 Toxicology, alongside the utilization of test samples of water and waste water for liquid waste as per the Indonesian National Standard Number (*Standar Nasional Indonesia*) Number: SNI 6989.59:2008; and the utilization of test samples of solid B3 waste as

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<sup>47</sup> Law on the Basic Provisions for the Management of the Living Environment; Law on Environmental Management; Law on Environmental Protection and Management.

<sup>48</sup> Indonesia. *Peraturan Menteri Lingkungan Hidup dan Kehutanan tentang Standar dan Sertifikasi Kompetensi Penanggung Jawab Operasional Pengolahan Air Limbah dan Penanggung Jawab Pengendalian Pencemaran Air*. Permen LHK No. P.5/MENLHK/SETJEN/ KUM.1/2/2018. (*Minister of Environment and Forestry Regulation on the Competency Standards and Certification for Persons Responsible for Waste Water Treatment Operations and Persons Responsible for Water Pollution Control*. Minister of Environment and Forestry Regulation Number P.5/MENLHK/SETJEN/ KUM.1/2/2018).

<sup>49</sup> Indonesia. *Peraturan Menteri Lingkungan Hidup dan Kehutanan tentang Tata Cara Uji Karakteristik Limbah Bahan Berbahaya dan Beracun*. Permen LHK No. P.55/Menlhk-Setjen/2015. (*Minister of Environment and Forestry Regulation on Procedures for Testing the Characteristics of Hazardous and Toxic Materials*. Minister of Environment and Forestry Regulation No. P.55/Menlhk-Setjen/2015).

per Resource Conservation and Recovery Act (RCRA) Waste Sampling Draft Technical Guidance – Planning, Implementation, and Assessment (EPA 530-D-02-002, August 2002) Office of Solid Waste, United States - Environmental Protection Agency (US-EPA).<sup>50</sup> In addition, the Government of Indonesia has also formed an Expert Team to manage B3 waste, comprising experts in the fields of toxicology, human health, industrial process, chemistry, biology; and other experts determined by the Minister.<sup>51</sup> Moreover, the regulations concerning the management of B3 waste and wastewater are detailed in Chapter V regarding Technical Requirements for Waste Processing and Waste Monitoring in the Annex of the Regulation of the Minister of Health of the Republic of Indonesia Number 2 of 2023.<sup>52</sup> This indicates that the legal requirements for fulfilling obligations have been fulfilled by Indonesian positive law.<sup>53</sup>

## B. THE OBLIGATION TO PROTECT TRANSBOUNDARY WATER

The specified articles in the Water Convention, namely Articles 1 point (11), Article 4 points (1) and (5), as well as Articles 11-14 collectively regulate the obligations of States Parties to promote the cooperation in international action on transboundary water to prevent, control and reduce the water-related diseases or extreme weather events.<sup>54</sup> These obligations include efforts to improve water supply and hygiene, exchange of information, issues and risks concerning transboundary water (this may include information regarding the contamination flowing through transboundary water), early warning system and cooperation in handling the problems mentioned which involve comparability between laboratories.<sup>55</sup> The cooperation mentioned

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<sup>50</sup> Indonesia. *Peraturan Menteri Lingkungan Hidup dan Kehutanan Republik Indonesia tentang Karakteristik Limbah B3*. Permen LHK No. 55 Tahun 2015. (*Minister of Environment and Forestry Regulation on the Characteristics of Hazardous and Toxic Waste (B3 Waste)*. Ministerial Regulation No. 55 Year 2015), Art. 7-9, Annex 4; Indonesia. *Peraturan Pemerintah tentang Penyelenggaraan Perlindungan dan Pengelolaan Lingkungan Hidup*. PP Nomor 22 Tahun 2021 (*Government Regulations on the Implementation of Environmental Protection and Management*. Government Regulations No. 22 Year 2021).

<sup>51</sup> Minister of Environment and Forestry Regulation on the Characteristics of Hazardous and Toxic Waste (B3 Waste), Art. 1(10), Art. 5.

<sup>52</sup> Indonesia. *Peraturan Menteri Kesehatan tentang Peraturan Pelaksanaan Peraturan Pemerintah Nomor 66 Tahun 2014 tentang Kesehatan Lingkungan*. Permenkes No. 2 Tahun 2023. (*Minister of Health Regulation on Regulations on Implementing Government Regulation No. 66 Year 2014*. Minister of Health Regulation No. 2 Year 2023).

<sup>53</sup> Minister of Health Regulation on Regulations on Implementing Government Regulation No. 66 Year 2014.

<sup>54</sup> Convention on the Protection and Use of Transboundary Watercourses and International Lakes, art. 1, 4, and 11-14.

<sup>55</sup> Convention on the Protection and Use of Transboundary Watercourses and International

refers to project formulation, infrastructure, and facilitating access to financial resources.<sup>56</sup>

The obligation to protect transboundary waters entails safeguarding them from pollution caused by wastewater discharge sources authorized by national authorities, and employing the best technology to deal with the issues of transboundary water.<sup>57</sup> The Indonesian Government has issued regulations regarding the protection of cross-border waters from pollution, including waste determination, reduction, storage, collection, transportation, utilization, processing, stockpiling, dumping, and cross-border movement of B3 waste.<sup>58</sup> The Government of Indonesia has established a protective device against all criminal acts or violations of the law related to Indonesian waters which are carried out by the police under the Water Police Directorate, hereinafter abbreviated to Ditpolair, which is tasked with carrying out patrols, First Actions at the Crime Scene (*Tindakan Pertama Tempat Kejadian Perkara/TPTKP*) in waters, SAR in the region, and Binmas (a means of controlling, activating and empowering the community in the realization of security, order and tranquility of the community) of beaches or waters as well as fostering the function of the water police within the Regional Police in accordance with the Regulation of the Chief of the Indonesian National Police Number 22 or 2010 Articles 26, 202, and 203, which in essence is to ensure the law enforcement in water areas, and coastal community development in the regional police jurisdiction.<sup>59</sup>

The Water Convention stipulates that what must be determined by using the best technology. These include the wastewater discharge limits stated in the permits available for the disposal of hazardous substances, the measures to reduce the input of nutrients from industrial and municipal sources and to reduce the input of nutrients and harmful substances from diffuse sources, especially those of agricultural origin, the biological or equivalent processes applied to municipal wastewater, environmental impact assessment and other

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Lakes.

<sup>56</sup> Convention on the Protection and Use of Transboundary Watercourses and International Lakes.

<sup>57</sup> Minister of Environment and Forestry Regulation on the Characteristics of Hazardous and Toxic Waste (B3 Waste).

<sup>58</sup> Minister of Environment and Forestry Regulation on the Characteristics of Hazardous and Toxic Waste (B3 Waste), Art. 14, Art. 18; Government Regulations on the Implementation of Environmental Protection and Management.

<sup>59</sup> Indonesia. *Peraturan Kepala Kepolisian Republik Indonesia tentang Susunan Organisasi dan Tata Kerja Satuan Organisasi Pada Tingkat Kepolisian Daerah*, No. 22 Tahun 2010. (*Regulation of the Chief of the Indonesian National Police on the Organization Structure and Work Procedures of Organizational Units at the Regional Police Level*. Regulation of the Chief No. 22 Year 2010).



means of assessment, the management of sustainable water resources, including the application of a promoted ecosystem approach, as well as the contingency development planning and special measures to prevent groundwater pollution and minimize the risk of accidental pollution.<sup>60</sup>

The Indonesian Government has declared the development with the utilization of technology 4.0.<sup>61</sup> In the Indonesian context, the selection of technological advancement is known as “Turn Key (*Putar Kunci*)”, namely purchasing a complete technology project starting from assessment, design, engineering, implementation (operation) and delivery in a ready-to use condition.<sup>62</sup> Consequently, if there is an urgency for the need of industrial development while the technology has not been mastered and cannot be provided by Indonesia, and there is a threat to the sustainability of domestic industry and/or the national economy or the potential loss of opportunity to gain significant benefits from Industrial Technology, then Indonesia will be purchasing with ‘Turn Key’ in accordance with Presidential Regulation 118 of 2020.<sup>63</sup> Looking at the strong desire of the Indonesian Government to utilize the most advanced technology, and that the essence of clean water as a basic necessity for all Indonesians –including animals, plants, industry and other economic sectors– Indonesia should principally agree and support the process of fulfilling the obligations of the convention.

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<sup>60</sup> Convention on the Protection and Use of Transboundary Watercourses and International Lakes, Art. 3.

<sup>61</sup> Humas Sekretariat Kabinet Republik Indonesia, “Kemajuan Industri 4.0 Akan Dorong Indonesia Menuju Sepuluh Besar Kekuatan Ekonomi Global [The Progress of Industry 4.0 Will Push Indonesia Towards the Top Ten Global Economic Powers],” The Cabinet Secretariat of the Republic of Indonesia, accessed 29 June 2023, <https://setkab.go.id/kemajuan-industri-4-0-akan-dorong-indonesia-menuju-sepuluh-besar-kekuatan-ekonomi-global/>; Eddy Cahyono, “Revolusi Industri 4.0 dan Transformasi Organisasi Pemerintah [Industrial Revolution 4.0 and Government Organization Transformation],” Cabinet Secretariat of the Republic of Indonesia, accessed 29 June 2023, <https://setkab.go.id/revolusi-industri-4-0-dan-transformasi-organisasi-pemerintah/>.

<sup>62</sup> Humas Sekretariat Kabinet Republik Indonesia, “Inilah Perpres 118/2020 tentang Pengadaan Teknologi Industri Melalui Proyek Putar Kunci [This is Presidential Decree 118/2020 on Procurement of Industrial Technology through Turnkey Projects],” Cabinet Secretariat of the Republic of Indonesia, accessed 29 June 2023, <https://setkab.go.id/inilah-perpres-118-2020-tentang-pengadaan-teknologi-industri-melalui-proyek-putar-kunci/>; Indonesia. *Peraturan Presiden tentang Pengadaan Teknologi Industri melalui Proyek Putar Kunci*, Perpres No. 118 Tahun 2020 (*Presidential Regulation on Industrial Technology Procurement through Turnkey Projects*. Presidential Regulation No. 119 Year 2020).

<sup>63</sup> Presidential Regulation on Industrial Technology Procurement through Turnkey Projects.



### C. THE OBLIGATION TO ESTABLISH MORE STRINGENT REQUIREMENTS

Article 5 point (b), (c), (k), and (j), as well as Article 10 of the Water Convention regulate the obligations of States Parties to formulate policies related to the protection of people susceptible to water-related diseases.<sup>64</sup> The Water Convention stipulates that any persons who pollute water will compensate for any costs of pollution management, including individuals or companies.<sup>65</sup> Therefore, States Parties hold a significant role in ensuring the existence of local and national legal instruments to handle the matter. The obligation of each state in to ensure that activities within its controlled jurisdiction, both for current and future generations, are managed in accordance with acceptable social, economic, and environmental values in line with WHO Guidelines, including the obligations of public legal entities and the private sector to contribute to environmental protection and conservation of water resources.<sup>66</sup> Existing regulations and policies within the jurisdiction of States Parties must be strengthened to effectively govern and guarantee the water management of their water resources will not cause environmental damage to both current and future generations.

In the context of Indonesian law, substantial matters regarding water resources or transboundary water are regulated with provisions equivalent to or more detailed and contextual than the Water Convention and its Protocol. For example, Law Number 17 of 2019 regulates national policies regarding water resources, the management patterns of water, and the Customary Rights of Indigenous Communities over water resources in Articles 9 point (3) and 10, as well as the task and authority of the Central Government and/or Regional Governments to regulate and manage water resources in Article 9 point (1).<sup>67</sup> Considering solely from a juridical perspective, it indicates that Indonesia's formal position in the domestic context meets the requirements, or is even better than the demands of the convention. However, these regulations are not in accordance with the provision of other legal instruments that ensure their implementation.<sup>68</sup> An example is the topic of supervision and legal sanctions if there are violations in Indonesian waters.<sup>69</sup>

<sup>64</sup> Convention on the Protection and Use of Transboundary Watercourses and International Lakes, Art. 5(b), (c), (k), (j) and Art. 10.

<sup>65</sup> *Ibid.*, Art. 15.

<sup>66</sup> Convention on the Protection and Use of Transboundary Watercourses and International Lakes, Art. 2.

<sup>67</sup> Law on Water Resources.

<sup>68</sup> This statement is based on the authors' legal analysis based on regulations concerning water resources.

<sup>69</sup> *Ibid.*

Indonesian waters are very vast.<sup>70</sup> With Indonesia's Polair's equipment and budget, it would be logically too difficult to carry out supervision or enforcement due to its ill-equipped nature.<sup>71</sup> In terms of the potential river pollution, the Indonesian Government has regulated the conservation, development and control of the destructive power of river water from headwater to the mouth of the rivers which should produce healthy and clean cross-border water.<sup>72</sup> However, the reality is that water pollution in the country is allegedly extremely severe that only 2 percent meets the water quality standards.<sup>73</sup> This situation is exacerbated by the calculations of the Pollution Load Carrying Capacity (*Daya Tampung Beban Pencemaran/DTBP*) in several rivers in Indonesia which shows the pollution load entering everyday has far exceeded the river's carrying capacity.<sup>74</sup> Those situations clearly indicate serious challenges in

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<sup>70</sup> "Kapal Survei Geomarin III Sebagai Sebuah Jawaban [Geomarin III Survey Vessel As An Answer]," Minister of Energy and Mineral Resources of the Republic of Indonesia, accessed 29 June 2023, <https://www.esdm.go.id/id/media-center/arsip-berita/kapal-survei-geomarin-iii-sebagai-sebuah-jawaban>.

<sup>71</sup> Indonesia's Polair is only equipped with 10 boats of class A (48 meters), 11 of class B (28 meters), 5 of class C (15 meter motor boats) which spread across Riau (2 ships), East Kalimantan (2 ships) and Jakarta (1 ship) apart from 86 locally produced ships that do not comply with the SOP (the minimum ideal number is 33 ships of class A, 40 of class B, and hundreds of class C). Adminyl, "Korps Kepolisian Perairan Dan Udara [Indonesian Water and Air Police Corps]." *TribrataNews*, accessed 3 June 2023, <https://tribrataneews.kepri.polri.go.id/2022/03/17/korps-kepolisian-perairan-dan-udara-2/>.

<sup>72</sup> Indonesia. *Peraturan Presiden tentang Kebijakan Nasional Pengelolaan Sumber Daya Air*. Perpres No. 33 Tahun 2011 (*Government Regulations on National Policy for Water Resources Management*. Government Regulations No. 33 Year 2011).

<sup>73</sup> "Air Sungai di Indonesia Tercemar Berat (River Water in Indonesia is Heavily Polluted)," National Geographic Indonesia, accessed 29 June 2023, <https://nationalgeographic.grid.id/read/13305060/air-sungai-di-indonesia-tercemar-berat>.

<sup>74</sup> Indonesia. *Peraturan Menteri Lingkungan Hidup tentang Daya Tampung Beban Pencemaran Air Danau dan/atau Waduk*. Permen LHK No. 28 Tahun 2009 (*Minister of Environment and Forestry Regulation on Lake and/or Reservoir Water Pollution Load Capacity*. Minister of Environment and Forestry Regulation No. 28 Year 2009); Herda Sabriyah Dara Kospa and Rahmadi, "Pengaruh Perilaku Masyarakat Terhadap Kualitas Air di Sungai Sekanak Kota Palembang [The Influence of Community Behavior on Water Quality in the Sekanak River, Palembang]," *Jurnal Ilmu Lingkungan* 17, no. 2 (2019); Liana Penny, et al., "Kajian Perilaku Masyarakat Membuang Sampah di Bantaran Sungai Martapura terhadap Lingkungan Perairan [A Study on the Behavior of Communities Disposing Garbage on the Bars of the Martapura River on the Water Environment]," *EnviroScientiae* 8 (2012); Dian Utoro Aji, "Penampakan Tumpukan Sampah Menggunung di Sungai Jaranan Kudus [Sighting of Piles of Garbage Piling Up in The Kudus Jaranan River]," *Detiknews*, accessed 21 May 2023, <https://news.detik.com/berita-jawa-tengah/d-5812041/penampakan-tumpukan-sampah-menggunung-di-sungai-jaranan-kudus>; "Limbah Domestik, Musuh Utama Sungai Indonesia [Domestic Waste, the Main Enemy of Indonesian Rivers]," National Geographic Indonesia, accessed 13 June 2023, <https://nationalgeographic.grid.id/read/13305951/limbah-domestik-musuh-utama-sungai-indonesia>; Dwi Indrawati, "Upaya Pengendalian Pencemaran Sungai yang Diakibatkan oleh Sampah

implementing legal regulations, especially facing the behavior of some of the Indonesian population regarding domestic or household waste, which turns out to be the biggest cause of water pollution.<sup>75</sup>

Many parties have an interest in accessing clean water, and there are even conflicts over clean water.<sup>76</sup> However, most parties do not feel they have an

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[Efforts to Control River Pollution Caused by Garbage],” *TJL* 5, No. 6 (2011); Yuga Hasani, “Banjir Baleendah, Sampah Menumpuk di Bawah Jembatan Sungai Cisangkuy [Baleendah Flood, Garbage Piles Up Under Cisangkuy River Bridge],” *detikJabar*, accessed 15 June 2023, <https://www.detik.com/jabar/berita/d-5984729/banjir-baleendah-sampah-menumpuk-di-bawah-jembatan-sungai-cisangkuy>.

<sup>75</sup> In 2021, the total value of clean water distributed by the Clean Water Company is IDR Rp 18.276.246.000.000; and the expenses for workers is IDR 5.387.420.000.000. The difference of IDR 12.888.826.000 includes operational funds, profits and funds that must be spent on maintenance and sustainability of clean water (Central Bureau of Statistics/Badan Pusat Statistik 2022). Realized State Revenue (Billions of Rupiah) from the Natural Resources revenue sector is IDR 218493,10 (Central Bureau of Statistics/Badan Pusat Statistik 2023). As an illustration of the costs, the budget for BBWS Sumatera VIII in synergy with the South Sumatera Provincial Government and Palembang City Government to revitalize the 11 kilometer Sekanak Lambidaro River is IDR 400 billion. Indonesia has cross-border rivers/watersheds with 231 other countries in NTT – Timor Leste; 19 in East Kalimantan – Serawak and 54 Papua – Papua New Guinea, which must be prioritized for revitalization, not including the National Strategic River Area which includes 3,137 rivers; the Trans-Provincial River Region has 1,969 rivers; Cross Regency/City River Areas totaling 4,059 rivers and River Areas within One Regency/City totaling 507 rivers (The Minister of Public Works and Housing 2023). National Geographic Indonesia, “Domestic Waste, the Main Enemy.”

<sup>76</sup> Baiq Farida, “Konflik Perebutan Air Kian Rawan di NTB, Bendungan Susut 30 Persen [Conflicts Over Water Increasingly Vulnerable in NTB, Dams Shrunk by 30 Percent],” *Lombok Post*, accessed 29 June 2023, <https://lombokpost.jawapos.com/ntb/1502775775/konflik-perebutan-air-kian-rawan-di-ntb-bendungan-susut-30-persen>; I Wayan “Gendo” Suardana, “Krisis Air di Bali dan Konflik yang Menyertai [Water Crisis in Bali and The Accompanying Conflict],” *WALHI Bali*, accessed 29 June 2023, <https://walhibali.org/krisis-air-di-bali-dan-konflik-yang-menyertai/>; Liberty Jemadu, “Air Minum di Bumi Kian Langka, Picu Konflik Sengit di 10 Tahun Terakhir [Increasingly Scarce Earth Drinking Water Supply Triggers Fierce Conflicts in the Last 10 Years],” *Suara.com*, accessed 29 June 2023, <https://www.suara.com/teknologi/2020/01/01/051500/air-minum-di-bumi-kian-langka-picu-konflik-sengit-di-10-tahun-terakhir?page=all>; Priyatno Harsasto, “Air Mengalir Tidak Sampai Jauh: Konflik Sumber Daya Air di Boyolali Jawa Tengah [Water Does Not Flow Far: Water Resources Conflict in Boyolali, Central Jawa],” *Jurnal Ilmu Sosial* 5, no. 2 (2016); Maizaher, “Konflik Kekurangan Sumber Air Bersih di RT 2 RW 4 Seberang Pebayan Kelurahan Batang Arau Kecamatan Padang Selatan Kota Padang [Conflict Over Lack of Clean Water Sources in RT 2 RW 3 Seberang Pebayan, Batang Arau Village, South Padang District, Padang],” *Jurnal Ilmiah Mahasiswa STKIP PGRI Sumbar* (2016); “Pakar UGM Ungkap Penyebab Konflik Air di Yogyakarta, Ada Ketidaksiapan Pemerintah [UGM Expert Reveals Cause of Water Conflict in Yogyakarta, Government Unpreparedness],” *JPNN Jogja*, accessed 29 June 2023, <https://jogja.jpnn.com/jogja-terkini/3195/pakar-ugm-ungkap-penyebab-konflik-air-di-yogyakarta-ada-ketidaksiapan-pemerintah?page=2>; Hery Listyawati, “Konflik Pemanfaatan Sumber Daya Air untuk Irigasi di Kecamatan Minggir Kabupaten Sleman [Conflict in the Use of Water Resources for Irrigation in Minggir District,

obligation to maintain clean water and its sustainability.<sup>77</sup> The value of clean water taken is not equivalent to the value of maintaining and sustaining clean water.<sup>78</sup>

A crucial aspect to be focused on is the position and natural conditions of Indonesia as a Riparian Country.<sup>79</sup> Riparian States are States Parties that share borders with the same transboundary waters.<sup>80</sup> If Indonesia decides to become a State Party to the Water Convention, Indonesia will be positioned as a Riparian State.<sup>81</sup> Indonesia is an archipelagic country with maritime territory that borders 10 countries, including Papua New Guinea, Singapore, India, Timor Leste, Vietnam, Thailand, Malaysia, the Philippines, Australia and Palau.<sup>82</sup> Indonesia possesses maritime boundaries comprising Territorial Sea boundaries, EEZ maritime boundaries (a zone of 200 nautical miles from the coastline of a country, which is the boundary for ownership of natural wealth

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Sleman],” *Jurnal Mimbar Hukum* 23, no. 3 (2011).

<sup>77</sup> Fathia Yasmine, “Indonesia Terancam Krisis Air Bersih di 2045, Pemanfaatan Embung dan Resapan Jadi Solusi [Indonesia Threatened with a Clean Water Crisis in 2045, The Use of Reservoirs and Infiltration is the Solution],” *National Geographic Indonesia*, accessed 29 June 2023, <https://nationalgeographic.grid.id/read/133625127/indonesia-terancam-krisis-air-bersih-di-2045-pemanfaatan-embung-dan-sumur-resapan-jadi-solusi?page=all>; “51% Sumber Pencemar Sungai Indonesia dari Limbah dan Sampah [51% of Indonesian River Pollutant Sources are Waste and Garbage],” *Greeners*, accessed 29 June 2023, <https://www.greeners.co/berita/51-sumber-pencemar-sungai-indonesia-dari-limbah-dan-sampah/>; “Lima Tahun Citarum Harum: Sungai Penting yang Masih Jadi “Kakus Raksasa” Karena Limbah Tinja [Five Years of Citarum Harum: An Important River That Still Turns into a “Giant Toilet” Due to Fecal Waste],” *BBC Indonesia*, accessed 29 June 2023, <https://www.bbc.com/indonesia/articles/cye4prp6015o>.

<sup>78</sup> “Bagaimana Pemerintah Kesulitan Bersihkan Sungai [How the Government Struggles to Clean Rivers],” *DW*, accessed 29 June 2023, <https://www.dw.com/id/sampah-mengalir-sampai-laut-bagaimana-pemerintah-kesulitan-bersihkan-sungai/a-47196994>; “Pengelolaan Air Minum Harus Jadi Prioritas Perencanaan dan Penganggaran Daerah [Drinking Water Management Must Be a Priority for Regional Planning and Budgeting],” *Ditjen Bina Pembangunan Daerah*, accessed 29 June 2023, [https://bangda.kemendagri.go.id/berita/baca\\_kontent/1044/pengelolaan\\_air\\_minum\\_harus\\_jadi\\_prioritas\\_perencanaan\\_dan\\_penganggaran\\_daerah](https://bangda.kemendagri.go.id/berita/baca_kontent/1044/pengelolaan_air_minum_harus_jadi_prioritas_perencanaan_dan_penganggaran_daerah).

<sup>79</sup> Indonesia, *Keputusan Menteri Koordinator Bidang Kemaritiman tentang Tim Pelaksana Rencana Aksi Nasional Penanganan Sampah Laut*. Keputusan Menteri No. 69 Tahun 2019 (*Coordinating Minister for Maritime Affairs Decree regarding the Implementation Team for the National Action Plan for Handling Marine Debris*. Coordinating Minister for Maritime Affairs Decree No. 69 Year 2019).

<sup>80</sup> Convention on the Protection and Use of Transboundary Watercourses and International Lakes, Art. 1 (4).

<sup>81</sup> “Konsep Penetapan Batas Maritim Indonesia-Pulau [Concept of Determining Indonesia-Island Maritime Boundaries],” *Kementerian Pertahanan RI Direktorat Jenderal Strategi Pertahanan Direktorat Wilayah Pertahanan*, accessed 12 March 2023, [https://www.kemhan.go.id/itjen/wp-content/uploads/migrasi/peraturan/konsepsi\\_ri\\_palau.pdf](https://www.kemhan.go.id/itjen/wp-content/uploads/migrasi/peraturan/konsepsi_ri_palau.pdf).

<sup>82</sup> *Ibid.*

within) and the continental shelf boundary.<sup>83</sup>

Riparian States are obliged to enter into bilateral or multilateral agreement, or other arrangements to eliminate all contradictions with the basic principles of the Water Convention.<sup>84</sup> Riparian State Parties are expected to agree upon the parameters, concentrations of pollution and pollutants, the exchange of information related to the convention, determination of water catchment areas or parts thereof, as well as issues that require collaborative efforts.<sup>85</sup> In addition, the Riparian States must create a joint data management body, programs on pollution, water quality and quantity, floods and ice flows, as well as a description of waste emission limits and their evaluation.<sup>86</sup> The states should develop joint actions and programs to reduce the pollution loads at urban, industrial and agricultural source points; to establish warning and alarm procedures; to become a forum of information exchange; to design a scientific research program; and to participate in the environmental impact assessment of transboundary waters based on international regulations.<sup>87</sup>

All the obligations above will be binding on Indonesia once the accession process occurs.<sup>88</sup> At that point, solutions will be required to resolve issues and challenges regarding Indonesia's readiness to issue new laws and policies, as well as their implementation in terms of the availability of human resources, equipment, and funding.<sup>89</sup>

### III.INDONESIAN POLICY CONCERNING WATER

#### A. INTERNATIONAL AND NATIONAL WATER STANDARDS

Based on Article 6 paragraph 1, paragraph 2 point (a), and paragraph 4 point (d) of the Water Convention, States Parties are obliged to formulate internal policies which regulate targets in accordance with providing access to

<sup>83</sup> *Ibid.*

<sup>84</sup> Convention on the Protection and Use of Transboundary Watercourses and International Lakes, Art. 9 (1).

<sup>85</sup> Convention on the Protection and Use of Transboundary Watercourses and International Lakes, Art. 9 (2) and Art. 11.

<sup>86</sup> *Ibid.*

<sup>87</sup> Adminyl, "Korps Kepolisian Perairan dan Udara."

<sup>88</sup> Convention on the Protection and Use of Transboundary Watercourses and International Lakes, Art. 25 (1).

<sup>89</sup> Wisnu Aryo Dewanto, "Akibat Hukum Peratifikasian Perjanjian Internasional di Indonesia: Studi Kasus Konvensi Palermo 2000 [Legal Consequences of Ratifying International Treaties in Indonesia: Case Study of the 2000 Palermo Convention]," *Veritas et Justitia* 1, no. 1 (2015); M. Alvi Syahrin, "Critical Studies of Indonesia's Interest in Ratification Process of the 1951 Convention and 1967 Protocol," *Jurnal Ilmiah Kajian Keimigrasian* 1, no. 1 (2018).

drinking water and sanitation for every person.<sup>90</sup> The water must contain non-harmful qualities towards human, health, and aquatic ecosystems. Regarding drinking water, it is required to generate the targets of quality achievement in line with WHO Guidelines.<sup>91</sup>

The Water Convention regulates that emission limits for discharges from point sources to surface waters are based on the best available technology, which is specifically applicable to the individual industrial sector or industries from which hazardous substances originate.<sup>92</sup> Each State Party is obliged to take appropriate measures to prevent, control and reduce the entry of hazardous substances from point sources into its waters.<sup>93</sup> This appropriate action may take the form of a total or partial ban on the production or use of these substances by parties causing emissions or pollution.<sup>94</sup>

Based on the Water Convention, regulations regarding the industrial sector, industries producing emissions or pollution and hazardous materials must be registered and taken into account in the efforts to fulfill the objectives of the convention.<sup>95</sup> This indicates that all Parties are required to establish a clear work program with measurable stages.<sup>96</sup> Each State Party shall adopt, where appropriate, water quality objectives and criteria relating to transboundary impacts.<sup>97</sup> The quality of international water and State Parties' may differ, and this issue undoubtedly poses significant challenges for Indonesia.<sup>98</sup>

The Water Convention strictly requires States Parties to report all industrial sectors that may produce emissions or pollution and hazardous materials that

<sup>90</sup> Convention on the Protection and Use of Transboundary Watercourses and International Lakes, Art. 6.

<sup>91</sup> World Health Organization, *Protocol on Water and Health*; Bridget R. Scanlon, et al., "Global Water Resources and The Role of Groundwater In A Resilient Water Future," *Nature Reviews Earth & Environment* 5, no. 5 (2023); Patrick Levallois and Cristina M. Villanueva, "Drinking Water Quality and Human Health: An Editorial," *International Journal of Environmental Research and Public Health* 16, no. 4 (2019).

<sup>92</sup> Convention on the Protection and Use of Transboundary Watercourses and International Lakes, Art. 3 and Art. 11 (2).

<sup>93</sup> Convention on the Protection and Use of Transboundary Watercourses and International Lakes, Art. 3.

<sup>94</sup> Convention on the Protection and Use of Transboundary Watercourses and International Lakes, Art. 3.

<sup>95</sup> Convention on the Protection and Use of Transboundary Watercourses and International Lakes, Art. 3.

<sup>96</sup> Convention on the Protection and Use of Transboundary Watercourses and International Lakes, Art. 4.

<sup>97</sup> Convention on the Protection and Use of Transboundary Watercourses and International Lakes, Art. 12.

<sup>98</sup> World Health Organization, *Water and Sanitation in the WHO European Region: 2014 Highlights* (Regional Office for Europe: World Health Organization, 2015).



may affect the quality of transboundary water.<sup>99</sup> The focus of the discussion has then shifted away from the locations around transboundary water to all emission-producing industries within the State Party, in addition to ensuring that the state is able to regulate community behavior, which plays the biggest role in water source pollution.<sup>100</sup> Apart from emission-producing industries, the transportation sector also plays a significant part as an emitter.<sup>101</sup> This implies that the Water Convention also facilitates other States Parties to intervene in the issues concerning domestic transportation emissions.<sup>102</sup> In Indonesia, the impact of motor vehicle exhaust gases may extend to the policy areas of granting permits for public and mass transportation, controlling the number of private vehicles, limiting the age of vehicles, building the MRT, and creating Electronic Road Pricing, traffic regulation, signs and improving the vehicle emissions test system.<sup>103</sup>

The general guidelines according to the Water Convention include guides to maintain and improve water quality, reduce the average pollution load, specifically hazardous substances to a certain level and time period, consider specific water quality requirements, establish special requirements and protection for sensitive waters and their environments, apply ecological classification methods and chemical indices for medium and long term reviews, and provide additional protection based on individual emission limits. Those processes are accompanied by an obligation for States Parties to cooperate bilaterally or multilaterally to carry out research and development of effective techniques for preventing, controlling and reducing cross-border impacts.<sup>104</sup>

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<sup>99</sup> Convention on the Protection and Use of Transboundary Watercourses and International Lakes.

<sup>100</sup> UN Mahida, *Pencemaran Air Dan Pemanfaatan Limbah Industri [Water Pollution and Disposal of Waste Water on Land]* (Jakarta: Rajawali, 1992).

<sup>101</sup> Ismiyati, Devi Marlita, and Deslida Saidah. "Pencemaran Udara Akibat Emisi Gas Buang Kendaraan Bermotor [Air Pollution Due to Vehicle Exhaust Gas Emissions]." *Jurnal Manajemen Transportasi & Logistik (JM TransLog)* 1, No. 3 (2014): 247; Indonesia. *Peraturan Menteri Lingkungan Hidup dan Kehutanan tentang Baku Mutu Emisi Gas Buang Kendaraan Bermotor Tipe Baru Kategori M, Kategori N, dan Kategori O*. Permen LHK No. P.20/MENLHK/SETJEN/KUM.1/3/2017 (*Minister of Environment and Forestry Regulation on Quality Standards for Exhaust Gas Emissions for New Type Motor Vehicles Category M, Category N, and Category O*. Minister of Environment and Forestry Regulation No. P.20/MENLHK/SETJEN/KUM.1/3/2017).

<sup>102</sup> Convention on the Protection and Use of Transboundary Watercourses and International Lakes, Art. 11 (4).

<sup>103</sup> Ismiyati, Marlita, and Saidah, "Air Pollution Due to Vehicle," 247.

<sup>104</sup> Convention on the Protection and Use of Transboundary Watercourses and International Lakes, Art. 5.



The series of actions above will culminate in a physical and financial assessment of damage resulting from cross-border impacts.<sup>105</sup> These processes demand States Parties to provide the widest possible exchange of information, as early as possible, on the issues covered by the provisions of the Water Convention and to support international efforts to outline rules, criteria and procedures in the area of responsibilities and obligations.<sup>106</sup> Damages resulting from cross-border impacts may not be confined exclusively to the cross-border area.<sup>107</sup> Cross-border areas may be connected to the sea, which certainly becomes a means of spreading waste to all corners of flowing sea water.<sup>108</sup>

In the context of Indonesia, this is unquestionably a massive problem considering that the amount of plastic waste spread across Indonesia's oceans is considered to be the second largest in the world, amounting to 64 million tons of waste every year, of which 3.2 million tons are plastic waste.<sup>109</sup> In a maritime country like Indonesia, the impact of the plastic waste flow into the ocean will not only be encountered by States Parties with shared land borders, but also states bordering and are connected to Indonesia's seas.<sup>110</sup> The provisions of the Water Convention will not, in theory, affect the rights

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<sup>105</sup> Convention on the Protection and Use of Transboundary Watercourses and International Lakes, Art. 12.

<sup>106</sup> Convention on the Protection and Use of Transboundary Watercourses and International Lakes, Art. 16.

<sup>107</sup> Zintan Prihatini and Bestari Kumala Dewi, "Peneliti Temukan 25.000 Ton Sampah Medis Terapung di Lautan Akibat Pandemi Covid-19 [Researchers Find 25.000 Tons of Medical Waste Floating in the Ocean as a Result of the Covid-19 Pandemic]," *Kompas*, accessed 29 June 2023, <https://www.kompas.com/sains/read/2021/11/10/160300923/peneliti-temukan-25.000-ton-sampah-medis-terapung-di-lautan-akibat-pandemi?page=all>; Qiuwen Wang, Hu Zhang, and Jiabei Huang, "Japan's Nuclear Wastewater Discharge: Marine Pollution, Transboundary Relief and Potential Implications From A Risk Management Perspective," *Ocean and Coastal Management* 228 (2022); Meng Li and Xuedong Wang, "Legal Responses to Japan's Fukushima Nuclear Wastewater Discharge Into The Sea – From The Perspective of China's Right-Safeguarding Strategies," *Heliyon* 9, no. 5 (2023).

<sup>108</sup> "Transboundary Waters," UN Water, accessed 29 June 2023, <https://www.unwater.org/water-facts/transboundary-waters>.

<sup>109</sup> Erick Tanjung, "Miris! 2,6 Juta Ton Sampah Plastik Dibuang ke Aliran Sungai di Indonesia [Shocking! 2.6 Million Tons of Plastic Waste Dumped into River Streams in Indonesia]," *Suara.com*, accessed 28 February 2023, <https://www.suara.com/news/2021/09/14/233533/miris-26-juta-ton-sampah-plastik-dibuang-ke-aliran-sungai-di-indonesia>; "Mengerikan, Indonesia Sudah Darurat Sampah Plastik: Sehari Mencapai 64 Juta Ton, Nomor Dua Terbesar Di Dunia [Terrifying, Indonesia Is Already in a Plastic Waste Emergency: Producing 64 Million Tons per Day, the World's Second Largest]," *VOI*, accessed 28 February 2023, <https://voi.id/bernas/137477/mengerikan-indonesia-sudah-darurat-sampah-plastik-sehari-mencapai-64-juta-ton-nomor-dua-terbesar-di-dunia>.

<sup>110</sup> *VOI*, "Terrifying, Indonesia Is Already in a Plastic Waste Emergency."

or obligations of the Parties in accordance with their national legal systems and the applicable supranational regulations for the protection of information relating to industrial and commercial confidentiality, including intellectual property or national security.<sup>111</sup> However, the provisions of the convention do open up opportunities for other States Parties to intervene in Indonesia's domestic affairs issues.<sup>112</sup>

The national standards of the Indonesian Government determine the test parameters, including Mandatory Parameters which consist of parameters that are directly related to health and parameters that are not directly related to health.<sup>113</sup> Parameters that are directly related to health consist of microbiological and inorganic chemical parameters, while parameters that are not directly related to health comprise physical and chemical parameters. Furthermore, there are additional parameters of chemistry and radioactivity.<sup>114</sup> Additional chemical parameters are parameters in the form of inorganic and organic materials, pesticides, disinfectants, and their by-products. The parameter of radioactivity includes the Gross Alpha Activity and Gross Beta Activity parameters.<sup>115</sup>

The WHO issued a publication containing Guidelines for Drinking-Water Quality (GDWQ) which comprises WHO standard parameters, description of standards in State Party, as well as water and microbial health values.<sup>116</sup>

<sup>111</sup> Convention on the Protection and Use of Transboundary Watercourses and International Lakes, Art. 8.

<sup>112</sup> Convention on the Protection and Use of Transboundary Watercourses and International Lakes, Art. 9.

<sup>113</sup> Indonesia, *Keputusan Menteri Kesehatan tentang Syarat-Syarat dan Pengawasan Kualitas Air Minum*. Kepmenkes No. 907/MENKES/SK/VII/2002. (*Minister of Health Decree on Requirements and Supervision of Drinking Water Quality*. Minister of Health Decree No. 907/MENKES/SK/VII/2002); Indonesia, *Peraturan Menteri Kesehatan tentang Tata Laksana Pengawasan Kualitas Air Minum*. Permenkes No. 736/MENKES/PER/VI/2010. (*Minister of Health Regulation on Procedures for Supervising Drinking Water Quality*. Minister of Health Regulation No. 736/MENKES/PER/VI/2010); Indonesia, *Peraturan Menteri Pekerjaan Umum dan Perumahan Rakyat tentang Standar Pelayanan Minimal Bidang Pekerjaan Umum dan Penataan Ruang*. Permen PUPR No. 01/PRT/M/2014. (*Minister of Public Works and Public Housing Regulation on Minimum Service Standards in the Field of Public Works and Spatial Planning*. Minister of Public Works and Public Housing Regulation No. 01/PRT/M/2014).

<sup>114</sup> Minister of Health Decree on Requirements and Supervision of Drinking Water Quality; Minister of Health Regulation on Procedures for Supervising Drinking Water Quality.

<sup>115</sup> Indonesia, *Peraturan Menteri Kesehatan Republik Indonesia tentang Persyaratan Kualitas Air Minum*. Permenkes No. 492 Tahun 2010. (*Minister of Health Regulation on Requirements for Drinking Water Quality*. Minister of Health Regulation No. 492 Year 2010).

<sup>116</sup> GDWQ identified 43 microbes, including bacteria, viruses, protozoa and pathogenic worms, as well as toxic *Cyanobacteria*. Some of which are reported by States Parties or regions include *E Coli*, *Coliforms* total, *Enterococci*, *Sulfite-reducing Clostridia* and plankton. In the Indonesian national standards, the parameters for healthy drinking water only regulate microbiologi-

International or WHO parameters possess 84 similarities with Indonesian national parameters.<sup>117</sup> Additionally, similar parameters with different maximum levels allowed are also found, namely the parameters Selenium, Boron, Uranium, 1,2-Dichloroethane, Atrazine/Atrazine and chloro-s-triazine metabolites, Dichlorprop, Fenoprop, Mecoprop, Dibromochloromethane (DBCM), pH and Gross alpha activity.<sup>118</sup>

Furthermore, the WHO published additional parameters to determine 865 numerical values for 287 inorganic, organic, aesthetic, and physical parameters that do not possess the WHO limits, whether GV, HBV or aesthetic.<sup>119</sup> The parameters most frequently reported by States Parties and other territories are conductivity, total Polynuclear Aromatic Hydrocarbons (PAH), Oxidizability, Phenols, Formaldehyde, Silver, Potassium and Propanil.<sup>120</sup>

There is a special division of roles for drinking water services for the community.<sup>121</sup> In this case, the Central Government's role is to coordinate the implementation nationally, but the implementers of the Mandatory Affairs are the Provincial, Regency and City Governments.<sup>122</sup> According to Government

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cal parameters, namely the maximum limits for *E Coli* and *Coliforms total*. Minister of Health Regulation on Requirements for Drinking Water Quality.

<sup>117</sup> World Health Organization, *Organotins in Drinking-Water*; Minister of Health Decree on Requirements and Supervision of Drinking Water Quality; Minister of Health Regulation on Procedures for Supervising Drinking Water Quality; World Health Organization, *A Global Overview of National Regulations and Standards For Drinking-Water Quality*.

<sup>118</sup> Minister of Health Regulation on Requirements for Drinking Water Quality. WHO Regional Protocol on Water and Health 2015 mentioned the 67 types of WHO parameters that are not included in Indonesia's national water standards, which comprise: *Chromium total, Copper, Glyphosate, Lead, Merkuri, Cyanazine, Chlorpyrifos, Benzo (a), Pyrene, Acrylamide, Bentazone, Diphlorodiphenyltrichloroethane (DDT) and Metabolites*; WHO, *A Global Overview*; WHO, *Organotins in Drinking Water*.

<sup>119</sup> Minister of Health Regulation on Requirements for Drinking Water Quality.

<sup>120</sup> *Ibid*.

<sup>121</sup> Indonesia. *Undang-Undang tentang Pemerintahan Daerah*. UU No. 23 Tahun 2014. (*Law on Regional Government*, Law No. 23 Year 2014); Indonesia. *Peraturan Pemerintah tentang Pedoman Penyusunan Dan Penerapan Standar Pelayanan Minimal*. PP No. 65 Tahun 2005. (*Government Regulation regarding Guidelines for Preparing and Implementing Minimum Service Standards*. Government Regulation No. 65 Year 2005); Indonesia. *Peraturan Menteri Dalam Negeri tentang Penerapan Standar Pelayanan Minimal*. Permendag No. 100 Tahun 2018. (*Minister of Home Affairs Regulation on Implementation of Minimum Service Standards*. Minister of Home Affairs Regulation No. 65 Year 2005); Indonesia. *Peraturan Pemerintah tentang Standar Pelayanan Minimal*. PP No. 2 Tahun 2018. (*Government Regulation on Minimum Service Standards*, Government. Regulation No. 2 Year 2018); Indonesia. *Peraturan Menteri Dalam Negeri tentang Standar Pelayanan Minimal*. PP No. 59 Tahun 2021 (*Minister of Home Affairs Regulation on Minimum Service Standards*. Minister of Home Affairs Regulation No. 59 Year 2021).

<sup>122</sup> Law on Regional Government; Government Regulation regarding Guidelines for Preparing

Regulation Number 65 of 2005 regarding Guidelines for Preparing and Implementing Minimum Service Standards, Article 1 paragraph 5, Mandatory Affairs refers to the government affairs relating to the basic rights and services of citizens, the implementation of which is required by the statutory regulations for the Region to protect constitutional rights, national interests, public welfare, as well as public peace and order, in the context of maintaining the integrity of the Republic of Indonesia as well as the fulfillment of national commitments related to international agreements and conventions.<sup>123</sup> This provision obliges Regional Governments to implement all matters of providing drinking water to the population of their area in line with the Minimum Drinking Water Service Standards. The standards regulate the quality of water that should comply with the Regulation of the Minister of Health of the Republic of Indonesia Number 492/Menkes/Per/IV/2010 regarding the Requirements of Drinking Water Quality; the quantity of water that should be in accordance with Appendix 1 to the Regulation of the Minister of Public Works and Public Housing Number 29/PRT/M/2018 regarding Technical Standards of the Minimum Service (SPM) for Public Works and Public Housing, which specify 60 liters intended per person per day (including water for consumption and sanitation); there is certainty of its sustainability.<sup>124</sup> These regulations regarding the guarantee of sustainability are declarative in nature, there are not yet any implementing regulations.

In practice, many District/City Regional Governments have not fulfilled obligations in providing drinking water according to the Minimum Service Standards for the community as a whole.<sup>125</sup> Regional Government works based on the Regional Government Work Plan (RKPD) and APBD, which are determined periodically. Furthermore, the opportunity to submit an application to the Central Government to obtain Special Allocation Funds or a development fund loan was apparently not utilized to fulfill the basic services of providing drinking water.

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and Implementing Minimum Service Standards.

<sup>123</sup> Government Regulation regarding Guidelines for Preparing and Implementing Minimum Service Standards.

<sup>124</sup> Minister of Health Regulation on Requirements for Drinking Water Quality; Indonesia. *Peraturan Menteri Pekerjaan Umum dan Perumahan Rakyat tentang Standar Teknis Pelayanan Minimal Pekerjaan Umum dan Perumahan Rakyat*. Permen PUPR No. 29/PRT/M/2018. Lampiran (*Minister of Public Works and Public Housing Regulation on Minimum Technical Standards for Public Works and Public Housing Services*. Minister of Public Works and Public Housing Regulation No. 29/PRT/M/2018. Annex); Minister of Home Affairs Regulation on Implementation of Minimum Service Standards.

<sup>125</sup> Kementerian Kesehatan Republik Indonesia (Ministry of Health of the Republic of Indonesia), *Profil Kesehatan Indonesia 2022 [Indonesia Health Profile 2022]* (Jakarta: Kementerian Kesehatan Republik Indonesia, 2023).

The SPM of Drinking Water is not yet regarded as a necessity or an element more crucial than economic development, roads, or regional tourism. This perspective is not only provided from the Regional Government, but it is common across all levels of government. This may be proven from the mechanism for preparing RKPD and APBD in stages through Musrenbang, which must represent the aspiration of all Villages and Sub Districts in the District/City area concerned. The question remains whether this Musrenbang also represents the views of the population, considering that most of them are not involved in the Musrenbang process.

President Joko Widodo's step to build a Drinking Water Management System (*Sistem Pengelolaan Air Minum/SPAM*) and Domestic Waste Water Management Services nationally with funds coming from the APBN is a crucial step and will demonstrate a significant impact in saving the Indonesians from anticipating a long drought as a result of climate change and long-term health damage due to lack of water according to the SPM for Drinking Water.<sup>126</sup>

However, its implementation will face many challenges, especially due to the absence of mechanisms and parameters for restoring water resource supplies, including ascertaining the amount of water withdrawn and the cost or remedial actions to be taken. The Presidential Instruction of the Republic of Indonesia Number 1 of 2024 is only the first step to save the people from the dangers of drought and disease in the short term.<sup>127</sup>

## B. INDONESIAN PUBLIC HEALTH PATHOLOGY RELATED TO THE WATER CONVENTION

The issues concerning transboundary water are influenced by numerous factors related to the behavior of the people of Indonesian.<sup>128</sup> In the Government Regulation Number 20 of 1990 concerning Control of Water Pollution, Article 1, point (2), it is defined that "Water pollution is the entry or entry of living creatures, substances, energy and/or other components into water by human activities so that the quality of the water decreases to a certain limit which

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<sup>126</sup> Scanlon, *et al.*, "Global water resources and the role of groundwater in a resilient water future," *Nature Reviews Earth and Environment* 4, (2023): 100.

<sup>127</sup> Indonesia, *Instruksi Presiden Republik Indonesia tentang Percepatan Penyediaan Air Minum dan Layanan Pengelolaan Air Limbah Domestik*. Instruksi Presiden (Inpres) Nomor 1 Tahun 2024. (*Presidential Instruction on Acceleration of Drinking Water Supply and Domestic Waste Water Management Services*, Presidential Instructions Number 1 Year 2024).

<sup>128</sup> Arya Firdhana Fakhri and Mochammad Sa'id, "Perilaku Membuang Sampah di Sungai dan Problem Lingkungan: Pandangan Model Aktivasi Norma [Throwing Waste in Rivers Behaviour and Environmental Problems: A View on Norm Activation Model]", *Prosiding Seminar Nasional dan Call Paper Mahasiswa Fakultas Pendidikan Psikologi Universitas Negeri Malang* (2021).

causes the water to become unusable. more useful according to its intended purpose”.<sup>129</sup> Article 26 of the Government Regulation of 1990 also regulates that water pollution is categorized as a Nuisance Ordinance and can only be implemented with the Governor’s permission.<sup>130</sup> However, in reality, the occurring process of water pollution is easily found everywhere, whether in the form of solid waste, organic waste, processed food, inorganic waste, oily liquid waste, heat waste and chemical waste materials.<sup>131</sup> The perpetrators are mainly the community and companies.<sup>132</sup>

According to the Ecological Observation and Wetlands Conservation (Ecoton), there are 8 million tons of plastic waste in Indonesia every year, and of that figure, 2.6 million tons are disposed into rivers.<sup>133</sup> Rivers in Indonesia are generally polluted with household waste, as well as factory waste and landslides of plants or buildings.<sup>134</sup> Aside from the habit of littering in rivers, the flow of artificial fertilizer into waters will result in the uncontrollable aquatic plants (eutrophication).<sup>135</sup> Supervision and enforcement are still limited, both due to the limited number of officers and the culture of corruption, which is thought to seriously hinder such enforcement.<sup>136</sup>

<sup>129</sup> Indonesia. *Peraturan Pemerintah tentang Pengendalian Pencemaran Air*. Peraturan Pemerintah (PP) No. 20 Tahun 1990. (*Government Regulation on Water Pollution Control*. Government Regulation No. 20 Year 1990).

<sup>130</sup> Indonesia. *Peraturan Pemerintah Republik Indonesia tentang Pengendalian Pencemaran Air*, PP No.20 tahun 1990. (*Government Regulation on Water Pollution Control*, Government Regulation No. 20 Year 1990); Minister of Environment and Forestry Regulation on the Competency Standards and Certification for Persons Responsible for Waste Water Treatment Operations and Persons Responsible for Water Pollution Control; Indonesia. *Peraturan Menteri Lingkungan Hidup Dan Kehutanan Republik Indonesia tentang Tata Cara Penerbitan Persetujuan Teknis Surat Kelayakan Operasional Bidang Pengendalian Pencemaran Lingkungan*. Permen LHK No. 5 Tahun 2021. (*Minister of Environment and Forestry Regulation on Procedures for Issuing Technical Approval for Operational Eligibility in the Field of Environmental Pollution Control*. Ministerial Regulation No. 5 Year 2021).

<sup>131</sup> Mifta Defitri, “3 Jenis Sampah B3 yang Sering Ditemukan di Sungai [3 Types of Hazardous Waste Oftenly Found by the Rivers]”, *Waste 4 Change*, accessed 10 May 2024, <https://waste4change.com/blog/3-jenis-sampah-b3-yang-sering-ditemukan-di-sungai/>.

<sup>132</sup> Dadan Rukandar, “Pencemaran Air: Pengertian, Penyebab, Dan Dampaknya [Water Pollution: Definition, Causes, and Impacts].” *Mimbar Hukum* 21, No. 1 (2017): 23–34; Kospa and Rahmadi, “The Influence of Community,”: 212; Penny, *et al.*, “Study on Community Behavior,”: 117-126.

<sup>133</sup> Erick Tanjung, “Miris! 2,6 Juta Ton Sampah Plastik Dibuang Ke Aliran Sungai Di Indonesia [Heartbreaking! 2.6 Million Tons of Plastic Waste Dumped into Indonesian Rivers]”, *Suara News*, accessed 6 June 2023, <https://www.suara.com/news/2021/09/14/233533/miris-26-juta-ton-sampah-plastik-dibuang-ke-aliran-sungai-di-indonesia>.

<sup>134</sup> Greeners, “51% Sources of River Pollution,”.

<sup>135</sup> Bijay-Singh and Eric Craswell. “Fertilizers and nitrate pollution of surface and groundwater: an increasingly pervasive global problem,” *SN Applied Sciences* 3, no. 518 (2021).

<sup>136</sup> Aji, “Sight of Mounting Garbage,”; Hassani, “Baleendah Flood,”; Khairul Ma’arif, “Dinas



Based on the data from the Central Bureau of Statistics, none of Indonesia's rivers are free from Fecal Coli and Total Coli.<sup>137</sup> All rivers are polluted, whether at light, moderate or heavy levels, of which 58 rivers (59%) are heavily polluted.<sup>138</sup>

Despite a clear legal violation from river pollution, the solution turns out to be extremely expensive.<sup>139</sup> The Subdirector for Environmental Dispute Resolution has budgeted Rp. 23,194,930,000 (twenty-three billion one hundred ninety-four million nine hundred thirty thousand Rupiah) to resolve Environmental Disputes through the courts and outside the Courts in 2020.<sup>140</sup> This amount of funds is limited to resolving 46 cases of disputes related to

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LHK Tangerang Bersihkan Tumpukan Sampah Yang Selimuti Kali Dadap [Tangerang Environmental Agency Cleans Piles of Garbage Covering Dadap Creek]”, DetikNews, accessed 30 March 2023, <https://news.detik.com/berita/d-5811155/dinas-lhk-tangerang-bersihkan-tumpukan-sampah-yang-selimuti-kali-dadap>; Indrawati, “Efforts to Control River Pollution,”: 185; Agus Triyono, “Faktor-Faktor Yang Berhubungan Dengan Perilaku Buang Air Besar Masyarakat Nelayan Di Kampung Garapan Desa Tanjung Pasir Kabupaten Tangerang Propinsi Banten [Factors Related to Defecation Behavior of Fishermen Communities in Garapan Village, Tanjung Pasir District, Tangerang Regency, Banten Province].” *Idea Nursing Journal* 7, No. 3 (2016): 9–17; “Indeks Persepsi Korupsi Indonesia 2022 [Indonesia's Corruption Perception Index 2022].”, Transparency Indonesia Internasional, accessed 3 March 2023, <https://ti.or.id/indeks-persepsi-korupsi-indonesia-2022-mengalami-penurunan-terburuk-sepanjang-sejarah-reformasi/>; Farih Maulana Sidik, “Data Ini Yang Jadi Rujukan Mahfud Soal Korupsi Kian Menjadi Jadi [This Data Is Mahfud's Reference Regarding Escalating Corruption],” DetikNews, accessed 3 May 2023, <https://news.detik.com/berita/d-6767425/data-ini-yang-jadi-rujukan-mahfud-soal-korupsi-kian-menjadi-jadi>; Wicipto Setiadi, “Korupsi di Indonesia (Penyebab, Bahaya, Hambatan, serta Upaya Pemberantasan, Serta-Regulasi) [Corruption in Indonesia (Causes, Dangers, Challenges, and Efforts of Eradication, as well as Regulations)].” *Jurnal Legislasi Indonesia* 15, No. 03, (2018): 249. doi: 10.54629/jli.v15i3.234.

<sup>137</sup> Gamma Shafina, “Mayoritas Sungai di Indonesia Tercemar Ringan pada 2022 [Majority of Indonesian Rivers are Lightly Polluted]”, Data Good Stats, accessed 10 May 2024, <https://data.goodstats.id/statistic/mayoritas-sungai-di-indonesia-tercemar-ringan-pada-2022-cx3U6#:~:text=Mayoritas%20Sungai%20di%20Indonesia%20Tercemar%20Ringan%20pada%202022,tercemar%20ringan%2C%20sedangkan%205%20sungai%20lain%20tercemar%20sedang>.

<sup>138</sup> Badan Pusat Statistik. *Statistik Lingkungan Hidup Indonesia 2021 [Environmental Statistics of Indonesia 2021]*. (Jakarta: Badan Pusat Statistik, 2021); Ali Akhmad Noor Hidayat, “KLHK Ungkap Penyebab 59 Persen Sungai Di Indonesia Tercemar Berat. [KLHK Reveals Causes of 59 Percent of Rivers in Indonesia Being Heavily Polluted],” *Bisnis Tempo*, accessed 29 June 2023, <https://bisnis.tempo.co/read/1488232/klhk-ungkap-penyebab-59-persen-sungai-di-indonesia-tercemar-berat>. See also Dwi Priyanto, “Peran Air Dalam Penyebaran Penyakit [Water Role on the Spread of Disease]” *Jurnal Litbang Pengendalian Penyakit Bersumber Binatang Banjarnegara* 7, no. 1 (2011): 27.

<sup>139</sup> In the context of a litigious State, everything should be normal costs and the State's position is usually won. The expensive cost is the execution of the case.

<sup>140</sup> Direktorat Jenderal Penegakan Hukum Kementerian Lingkungan Hidup dan Kehutanan. *Rencana Kerja 2020 [Work Plan 2020]*. (Jakarta: GAKKUM, 2019).



contaminated clean water.<sup>141</sup> The funds, however, do not cover the restoration of all rivers that are lightly, moderately or heavily polluted; the education costs and community empowerment to protect water and water resources; as well as the environmental care to ensure water availability for current and future generations.<sup>142</sup>

If we look at the hopes of the convention's objectives and the hopes of countries in the world regarding the existence of sufficient and sustainable clean water, of course this is something that Indonesia must support. However, the choice to support can be carried out in stages, starting with actions to strengthen national and local laws to maintain and guarantee the availability of sustainable clean water within Indonesia's jurisdiction. Indonesia can agree to all the principles of the rules contained in the convention and make it a reference norm or soft law without having to accede to it.

According to George S. Edward III, policy implementation is influenced by four variables, namely communication, resources, disposition and bureaucratic structure which are interconnected with each other.

Communication in this case is primarily about the objectives of forming public policy, where the objectives must be known by the implementer and transmitted to the target group. Communication is a crucial issue in assessing the possibility of ratification or accession to The Water Convention and the Protocol on Water and Health. The Indonesian state is based on the principle of legal fiction which is not balanced with the principle of commensurate publicity and is linked to the legal education system for the community. Even though Presidential Regulation of the Republic of Indonesia Number 87 of 2014 in article 22, 167-187 makes provisions for the dissemination of data regarding legal rules, the ability of the people and ASN to digest legal rules is something that still needs to be addressed.

Resources for overcoming water problems in Indonesia are still very limited and not balanced with the burden of responsibility. For example, based on data from the 2022 Indonesian Health Profile page 64, the number of environmental health workers responsible for ensuring water quality throughout Indonesia is only 15,739 people. Meanwhile, the number of clean water companies is 543; 211,552 customers in the social category; 974,234 customers in the social

<sup>141</sup> Indonesia, *Peraturan Pemerintah tentang Penyelenggaraan Pengadaan Tanah bagi Pembangunan untuk Kepentingan Umum*. Peraturan Pemerintah (PP) No. 19 Tahun 2021. (*Government Regulation on Land Acquisition Organization on Development for Public Interest*. Government Regulation No. 19 Year 2021).

<sup>142</sup> Indonesia, *Peraturan Presiden Republik Indonesia tentang Badan Perencanaan Pembangunan Nasional*. Peraturan Presiden. Perpres No. 81 Tahun 2021. (*Presidential Regulation on National Development Planning Agency*. Presidential Regulation No. 81 Year 2021).

category; 15,114,383 non-commerce customers; 41,661 other specials; with the total population of Indonesia whose health must be protected is 272 682.5 million people in 2022, which means that every environmental health officer is required to be able to handle water health for 17,325,274.8 million people.

Apart from that, the disposition or character and characteristics of implementers are thought to be still low due to the high level of corruption in Indonesia. The disposition of bureaucratic structure problems related to water is still unable to overcome water problems in Indonesia. Overlapping bureaucracy, the absence of state institutions that ensure the sustainability of water availability and mechanisms for forming RKPD and APBD that do not involve community participation in accordance with the mechanisms regulated in the Regulation of the Minister of Villages, Development of Disadvantaged Regions and Transmigration Number 16 of 2019.

#### **IV. CONCLUSION**

The Water Convention is a hope for the restoration and maintenance of water towards an ideal condition where healthy water is available for current and future generations. The choice of when a State is willing to accede relies heavily on the internal readiness of the State concerned, both in terms of its ability to deal with internal water and environmental polluters, as well as the costs of recovery and compensation for losses to the State Party or other regions due to the ongoing and persistent pollution within the country.

Accession is not the only way to provide healthy water for the people. With or without accession, the effort to provide healthy water may continue. The difference is that if the efforts to provide healthy water are carried out without acceding to the Water Convention, all matters will entirely be relegated to the jurisdiction of Indonesia. Despite its prolonged process, the implementation can be carried out freely without intervention or pressure from foreign parties.

On the other hand, if Indonesia is willing to accede to the Water Convention, the State will establish a more concrete system, demanding clear and rapid progress. This process will receive support from States Parties and other regions, especially those surrounding Indonesia. However, the support is also accompanied by a process of submission to be willing to intervene in handling the cross-border water and an agreement to be prosecuted if violations or disputes occur.

Novelty in this article is the concept of having to contextualize the possibility of implementing the convention in Indonesia's social, economic, natural and

political conditions. In accordance with George S. Edward III's theory, it can be concluded that the ratification or accession of the Water Convention and the Protocol on Water and Health has not been able to have a positive impact on the Indonesian State, where the variables of communication, resources, disposition and bureaucratic structure have not supported the implementation of ideas. and the legal impact of accession or ratification of the convention.

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