

Causes of Groundwater Resource Decline in the City of Bandung Perspective of Islamic Economic Law

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ABSTRACT

There has been environmental damage to water resources in Bandung City and its surroundings, due to human actions that do not care about the balance and harmony of the environment. This research aims to examine the causes of the decline in the quality of groundwater resources in the perspective of the concept of Islamic economic law, through selected article sources. This research uses a normative doctrinal approach or normative juridical legal research, namely legal research that examines the internal aspects of law or positive regulations. Data collection techniques are carried out through literature studies in the form of secondary data in the form of articles that have been published in journals as basic research material. The condition of the Groundwater Basin (CAT) in Bandung City has now entered a critical condition, one of the visible indications is the decline in groundwater levels by 60-80 percent each year. According to Islamic economic law, everything related to the management of water resources is believed to be a mandate from Allah SWT that must be managed and utilized properly. Islam provides freedom for humans to utilize water resources that are public (general) on the condition that the management must be fair and balanced, not damaging and polluting the environment and natural resources.

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1. Introduction

This research was conducted to examine the causes of groundwater depletion in the Bandung City area in the perspective of Islamic economic law. Economic law development should be in a framework that aims to prosper the community, in other words, development must have a positive connotation in the form of universal policies that are prepared based on the needs of the community itself. The concept/policy of sustainable water resource management in the perspective of Islamic economic law is a management instrument that is in harmony with Allah SWT, that the basic principle

of natural resource management in Islamic economics is essentially the ownership of the earth, the universe with everything in it belongs to Allah SWT [1].

There has been environmental damage to water resources in Bandung City and its surroundings, due to human actions that do not care about the balance and harmony of the environment. This is contrary to the nature of the purpose of the creation of natural resources, which is to maintain the balance of the ecosystem of human life. The creation of natural resources, especially water, soil, rocks and mountains, serves to strengthen the earth so that it does not waver and avoid flooding and erosion. Everything has been measured according to its level, so that, when one component of the contents of this universe is disturbed, the others will also be disturbed. The current facts show that there has been environmental damage to groundwater resources in Bandung City and its surroundings such as the difficulty of obtaining proper groundwater, land subsidence, groundwater drilling, flooding caused by mismanagement of water resources [2], even the condition of water in the Bandung City [3], and Majalaya areas of Bandung Regency, based on the results of the study shows the quality of water in the polluted category [4].

In the realm of literature reviews concerning Islamic perspectives on natural resource management, several insightful studies have shed light on the ethical, social, and economic dimensions inherent in this discourse. Through the analysis and comparison of various published works, this review aims to elucidate the underlying principles and recommendations offered within the Islamic framework.

The water resources management system in practice continues to be based on capitalist economic principles, leading to unlimited groundwater exploitation. data along the Cileunyi area of Bandung City to Rancaekek, Bandung Regency, West Java, has experienced a decline in groundwater levels (cone of depression) and is categorized as vulnerable, the decline in groundwater levels with vulnerable conditions is due to excessive water extraction [5].

In the realm of literature reviews concerning Islamic perspectives on natural resource management, several insightful studies have shed light on the ethical, social, and economic dimensions inherent in this discourse. Through the analysis and comparison of various published works, this review aims to elucidate the underlying principles and recommendations offered within the Islamic framework.

Utari Pradini dan Sisi Amalia, Literature Review on Islamic Concepts of Energy and Mineral Resources in Indonesia. Energy and mineral resources are two examples of natural resources that are very important for human life. These natural resources are theologically ownership that is essentially in the hands of Allah SWT. In Islam, energy and mineral resources are based on fair and balanced management of natural resources, where everyone is entitled to benefit from these resources without exploiting each other. In addition, Islam also advocates the use of natural resources that are sustainable and environmentally friendly. The concept of *khilafah* (ruler's responsibility) in Islam demands that humans must protect nature and the environment for future generations. Islam also allows the use of public (generic) natural resources by everyone. Ownership of energy and mineral resources in Indonesia, when compared with the Islamic concept is the same, ownership of energy and mineral resources is public ownership which in Indonesia is managed by the state and has been regulated in the law on mining and minerals. The goal is for the welfare of the people [6].

According Siregar, et al. the concept of sustainable development based on social and economic towards the protection of natural resources from the perspective of maqashid shari'ah. The concept of sustainable development based on social and economic towards the protection of natural resources must implement maqashid shari'ah. The community indirectly applies, maintains, does not damage the environment and its ecosystem. Islam provides a clear concept in the management of natural resources for current and future human welfare [7].

Amanah Aida Qur'an, Natural resources in development Sustainable Islamic perspective, along with economic development, the need for natural resources is also increasing. Islam gives freedom to manage abundant resources but must still pay attention to the balance of nature and have limits, not exploitative but proportional so that natural resources are preserved [8].

Iqbal, management and utilization of natural resources in the perspective of Islamic economics. The Qur'an has provided an ideal concept in natural resource management. With the return of humans to the noble values in their respective religious scriptures, it is hoped that they can be more careful and responsible when they want to interact with the environment and manage natural resources [9].

Dini Intan Veronica, Muhammad Iqbal Fasa, Suharto, Natural resource utilization towards Sustainable development in Islamic economic perspective. Allah SWT allows humans to utilize all that is on earth. In meeting the needs and improving human welfare, utilization and management of natural resources are needed. As a caliph on this earth, humans must be able to accept and utilize this nature as a sense of gratitude and to carry out His orders and duties in accordance with Islamic teachings. Optimal utilization of natural resources is expected to realize sustainable development so as to increase economic growth, create prosperity, equal distribution of income and also maintain or preserve natural resources or the environment [10].

From the exposure of the article above, according to the author, there are substantial things between *Das Sollen* and *Das Sein* (expectations and reality) or about gaps / problems that do not sound explain the existence of problems in the management of natural resources in Indonesia. However, from all the literature, it explains the same thing, namely that the concept of Islamic economics is the main and best legal instrument in the management of natural resources, including water resources, theologically, which is the true ownership of Allah SWT. Allah SWT allows humans to utilize everything on earth based on the Qur'an which has provided an ideal concept in the management of natural resources in general, and water resources in particular. This is also in accordance with the decision of the Muhammadiyah congress which explains that all levels of the Indonesian nation have received a gift from Allah SWT in the form of a homeland that has sources of wealth to be managed together to make a country that is just prosperous and blessed by Allah SWT, *baldatun thayyibatun wa rabbun ghafur* [11].

Knowing the causes of groundwater depletion in Bandung City is one form of output from this study, how to carry out development that does not damage and pollute the environment and natural resources, so that development can increase the ability of the environment and natural resources, to support continued development. With the support of the ability of the environment and natural resources that are maintained and fostered in harmony and balance, the implementation of development, and the results of development can be carried out and enjoyed sustainably generation after generation. Through this paper, there are interesting and important things to be studied further related to the causes of the decline in groundwater resources in the city of Bandung. Perspective of Islamic economic law and to provide solutions to the management of groundwater resources based on the Qur'an.

2. Method

The research used in this study is a literature review research method by searching for publications in scientific databases such as Web of Science and Google Scholar. This research also uses a normative doctrinal approach or normative juridical legal research that examines the internal aspects of law or positive regulations. Data collection techniques are carried out through library research in the form of secondary data in the form of published articles in journals as basic research material. Data analysis is carried out qualitatively and the results are presented descriptively, so that the results of the analysis can produce conclusions to answer the research questions in this study.

3. Results and Discussion

Currently, especially in the Bandung City area, there has been intensive groundwater extraction or overexploitation of groundwater, thus depleting groundwater resources in a short period of time, which can result in various direct and indirect impacts. In direct conditions, the decline in groundwater levels causes impacts in the form of land subsidence which results in inundation or flooding in the area, then in indirect conditions within a community scope, people will experience difficulties in obtaining water normally and even if there is, it is not suitable for use. Underground water in Bandung

City is currently increasingly critical, and the condition of Bandung City's clean water supply is strongly supported by the existence of Situ Cileunca and water sources that are not from Bandung City [12].

The condition of the Groundwater Basin (CAT) in Bandung City is now entering a critical condition. One indication is the decline in groundwater levels by 60-80 percent each year. In Bandung City, there are 12 sub-districts identified as experiencing critical groundwater conditions. Among them are Sukajadi, Andir, Sukasari, and others which are called densely populated residential zones and allegedly used to have many industries [13].

Groundwater drilling is currently a real threat of disaster in the city of Bandung, the use of groundwater by the community is considered massively dominant, the decline in groundwater levels caused by uncontrolled excessive groundwater extraction or utilization [14]. The reason is that the community does not need a permit to use groundwater. This also makes it difficult for the government to monitor groundwater use by the community. The deterioration phenomenon in the Bandung City area was also conveyed in the discussion of Land Subsidence in the Bandung Basin researched by a team of ITB Geodesy experts, who presented their research results, and was also attended by groundwater experts from academics and researchers, including from the Indonesian Groundwater Experts Association (PAAI), ITB, Unpad, LIPI, and the Geological Agency of the Ministry of Energy and Mineral Resources [15], the experts explained that there had been land subsidence in the Bandung basin with a wide scope and relatively fast every year, the cause of land subsidence in the Bandung Basin was due to groundwater exploitation, especially by industry.

3.1. Theoretical Review of Water Resources Deterioration

Deterioration is a condition/state of decline in water resources in an area. Water is a renewable resource, dynamic in nature following the hydrological cycle which naturally moves and changes shape and nature [16]. Groundwater is a water resource found in layers of soil or rocks below the ground surface. Groundwater resources come from water on the land surface (rainwater, lake water, etc.) then seep into the soil/ aquifer and flow towards the release area. The flow of soil in the aquifer takes quite a long time, it can even reach tens to thousands of years depending on the distance and type of rock it passes through.

Basically, groundwater is a renewable natural resource, but when compared to the time of human life, groundwater can be classified as a non-renewable natural resource [17]. The need for water is part of the fulfillment of the entire community's right to the environment as a human right. The right to optimal use of water resources, in terminology commonly used in International Human Rights Law, is often called environmental and economic rights, which are part of social rights. This is the basis that social rights and their institutionalization are legal rights in the juridical context of instruments in the field of social rights [18], including in terms of groundwater management.

The general principle of groundwater management as part of overall water resources will follow the concept of integrated and sustainable management. The hydrogeologic cycle or groundwater cycle is closely related to the meteoric water cycle. Both cycles are part of the hydrological cycle on the earth's surface. An understanding of the hydrological system in an area to be developed is the main basis in determining the optimal options for planning the handling of water resources issues. Therefore, the characteristics of the global hydrological system and local characteristics are very important to study in order to facilitate a good way to manage water resources [19].

Deterioration of water quality of groundwater resources (hereinafter referred to as Deterioration) of water, a disturbance of environmental changes that can be caused by natural phenomena or human actions or both. Water deterioration is included in natural disasters that are difficult to predict when they occur, so that in a relatively short time they cause suffering, disruption of life in the community, environmental damage and hampering the economic pace. In fact, deterioration causes environmental problems due to human activities that do not care about the balance and harmony of the environment. Humans always try to fulfill their needs and desires by not considering that excessive activity in exploiting the environment, especially water, to meet their needs and desires will result in damage to land resources or the environment in supporting the harmony of life.

The right to groundwater resources or the right to the environment (HAL) is access to intact natural resources, enabling humans to live and survive including better ecological rights, ranging from the rights of certain species to the rights of individuals to enjoy and live in nature that is still good [20]. HAL as human rights in the context of economic, social and cultural rights, can be seen in one of the provisions of the International Covenant on economic, social and cultural rights which emphasizes that all peoples can freely manage all their own wealth and resources, without reducing the obligations that may arise from international economic cooperation on the basis of the principle of mutual benefit and international law, so that it is not justified for a nation to deprive its own people of their livelihood efforts [21].

According to Ronald Dworkin's theory of rights, "Rights are best understood as over some background justification for political decisions that the state a goal for the community as a whole" (that all people have rights to be upheld by anyone, but it would be better if there are greater interests of the community (or those determined by the community), the demand for rights does not sacrifice greater interests [22], so that getting proper groundwater is an absolute right for every community to get it. The affirmation of the right to water in a constitution and laws and regulations is a framework to provide justice for all the people of Indonesia, with the form of restrictions on humans themselves in utilizing water only for personal interests, certain groups by not paying attention to the interests of the general public, so that the existence of these arrangements will have an impact on justice for all people without discrimination and monopoly by a person or group [23].

Water resources are a basic right of every community entity, and one of the sources of clean water used by the community is groundwater. As the demand for water continues to increase, water users, both industrial and household sectors, are competing to increase their pumping discharge, which in turn leads to uncontrolled exploration of water resources with detrimental impacts. Some communities will have unlimited access to water, while others will be deprived (water crisis). The water crisis will lead to potential conflicts at the community level, because water is a public good that is limited in quantity, in addition to having sacred meaning for certain groups, so that it needs universal regulation that can guarantee the right to water resources for the entire community.

3.2. Regulation Review

Water resources have properties and characteristics that are very different from other natural resources. No one can deny that water is a basic need for all life, whether humans, animals or plants, which cannot be replaced by other sources [16]. Therefore, the right to control water in public law lies with the State, based on the legitimacy of the 1945 Constitution on the constitutional rights of water, a sovereign state should protect its sovereignty in various aspects, especially water which is environmental sovereignty. Article 33 of the 1945 Constitution is an article that specifically serves as the foundation of Indonesia's political, economic and environmental ideology. Especially in article 33 paragraph (3) of the 1945 Constitution which states: "The land, water and natural resources contained therein shall be controlled by the state and utilized for the greatest prosperity of the people."

The phrase "controlled by the state" has various interpretations. The article is a form of state control that is intended for the prosperity of the people, which is environmentally sound with social justice. Therefore, Indonesia bases its state on the sovereignty of economic democracy which is used only for the welfare of the people.

Water Resources are natural resources that must be protected and used to the greatest extent for the prosperity of the people. Groundwater resources are currently regulated in Law Number 17 of 2019 concerning Water Resources (Water Resources Law) and some provisions have been amended by Law Number 11 of 2021 concerning Job Creation (Job Creation Law). This is a basic milestone to change the existing water governance in Indonesia. Furthermore, Article 53 of the Job Creation Law amends several provisions in the Water Resources Law. In relation to the use of water for business activities, the Job Creation Law amends Article 8 of the Water Resources Law. In essence, the priority of using natural resources must be used for basic needs after basic needs are met, natural resources can be used for business purposes.

The disclosure of water resources is based on article 33 UUD 1945, according to article 33 paragraph (2) and paragraph (3) can be contextualized the paradigm of mastery over water resources between the rules of the SDA Act, the Labor Act and its derivative regulations must advance water resources management with a responsibility approach of the State, (State management) which prioritizes the interests of social needs (the welfare of the masses) and the restraint of the community in the planning of enterprises, protection and financing for the benefits of irrigation and has not yet been detailed the rules concerning the use of water for other industrial interests. Then the phrase “dominated by the State” in Article 33, paragraph (2) of UUD 1945 should be optimized. On the other hand, in accordance with the government's goal of facilitating investors with the creation of the Labor Act, the government must continue to prioritize the interests of the people over the SDA. The role of the state is to control the SDA which is used to the greatest extent for the prosperity of the people in accordance with the mandate of the constitution.

The State as having the right to manage and control the water, in accordance with Article 33 (3) of the 1945 Basic Law, which describes the arrangements concerning the land, water and natural wealth contained therein as a national wealth, the results of its management and control must be based on the values that live in the Nation of Indonesia, such as religious values and gotong royong values. So, water resources are an asset of the Indonesian nation, which contains benefits for the natural universe. In the SDA Act and the Labor Creation Act, the interests of water for the enterprise world are regulated by the Use of Water Resources for business activities that can be the use of water resources for enterprise activities that require raw water as a raw material for production, as one of the main media or elements of the activity of an enterprise, such as a drinking water company, a beverage company in packaging, a water power plant, a sports raft, and as an auxiliary material for the production process, like water for machine cooling system or water for washing mineral exploration results.

There needs to be a similarity of perceptions, patterns or models that can lead to a renewed paradigm, as explained by Thomas Kuhn's theory [24], one of its forms is the action of the Government to organize universally and massively build a well of resorption that can be carried out at 7-10 points of precipitation level in the area of Bandung every year. A government-owned building, such as a school, a sanitary office, or a nursery office, has been chosen as the place where a well is built.

The Government's action is also one of the values of Islamic economic law that describes the attitude of truth, virtue and honesty in a cooperation will automatically give rise to fraternity, and mutually beneficial partnership, without loss and regret. Facts about the problem of water deterioration in Bandung City, one of its factors is the development of society that occurs as a consequence of technological advances as well as today's globalization, has influenced the mindset of commercialization, exploration of land resources that ignores the impact on the environment. In addition, the competence that occurs in the community has demanded that the community be able to compete with other societies in the endeavor to own the water resources that exist in its environment.

The control of groundwater use in Bandung City has been implemented but is not effective, as there are still shortcomings based on the stages of surveillance and socialization/communication about the rules to the public. This socialization is intended to enable people to know the rules that become the standard in making use of groundwater in the city of Bandung. And in the *Perda* has also been explained in detail about the rights, obligations and prohibitions of the undertaking of groundwater.

3.3. Study of Water Supply Management in the Economic Concept of Islamic Law

Water is a necessity and one of the basic human rights, making it the government's obligation to provide and manage water supply to the people. The implementation of ensuring the people's rights by the government can be examined through a hadith narrated by Abu Maryam Al Azdy r.a. Prophet Muhammad SAW stated [25]:

"Whoever is entrusted by Allah with authority to handle the affairs of the Muslim community, but fails to pay attention to their needs and the needs of the poor, Allah will not pay attention to their needs" (HR. Abu Dawud and Tirmidhi)."

The content of the hadith explains that those who handle the affairs of the Muslim community must be transparent to them, making it easier for the poor, weak, and needy to claim their rights. Islam strongly advocates for fairness in business dealings and prohibits cheating or acting unjustly. The Prophet Muhammad SAW was sent by Allah SWT to establish justice, as the Qur'an has made it clear that the ultimate purpose of divine revelation is to uphold justice, as justice brings people closer to piety. As Allah SWT stated in the Quran, in Surah Al-Maidah, verse 8:

"O you who have believed, be persistently standing firm in justice, witnesses for Allah, even if it be against yourselves or parents and relatives. Whether one is rich or poor, Allah is more worthy of both. So, follow not (personal) inclination, lest you not be just. And if you distort (your testimony) or refuse (to give it), then indeed Allah is ever, with what you do, Acquainted."

This verse emphasizes the importance of upholding justice, even if it goes against our personal interests or biases. It reminds believers to be fair and just in their actions, as Allah is fully aware of their deeds.

The management of natural resources, particularly water resources, at the community level (RT/RW/ Village/Sub-district/District level) is governed by what is known as universal law (*hukum semesta*). This universal law is a manifestation of the concept of Islamic legal economics and serves as an important tool for regulating human behavior towards the environment in all its aspects, to prevent environmental degradation, pollution, and the decline of environmental functions. Environmental law also serves as a legal instrument that contains principles for the management of the environment. The goal of water resource management is to prevent depletion and degradation of soil quality, ensuring sustainable utilization of land within a given environment for human benefit.

The mismanagement of water resources has led to various negative impacts on humans, including the decline in groundwater quality, pollution, and environmental destruction. Water resources in a healthy and sustainable environment are a gift from Allah SWT to all human beings, without exception. Therefore, the right to access a clean and healthy environment is equal for all humans and even extends to all living creatures in the world. It is important to recognize the significance of water as a shared resource and prioritize its sustainable management for the benefit of present and future generations. The obligation here pertains to all actions, efforts, and activities undertaken by individuals or groups to protect and preserve the environment. The responsible and sustainable utilization of water resources for the benefit of the community, while ensuring their preservation and avoiding damage, is a manifestation of the shared interest of both the government and society. This is in accordance with the words of Allah SWT in Surah Al-A'raf, verse 56.

"And do not cause corruption on the earth after it has been set in order. And pray to Him with fear and hope. Indeed, the mercy of Allah is near to those who do good."

In relation to natural resources, the Prophet Muhammad (peace be upon him) said:

"No Muslim plants a tree or cares for a plant, and then it is eaten by a bird, a human, or an animal, except that it is counted as charity for him." Bukhari:2152, Muslim 2904, Tirmidhi 1303, and Ahmad 12038, 12529, 130636.

This hadith emphasizes the urging of the entire universe, especially human beings (Muslims), to manage natural resources (including water) in a productive manner. Unproductive land or areas should be transformed into productive ones, resulting in various outcomes such as water resources, plants, plantations, agriculture, or the construction of buildings for economic development. The concept of Islamic legal economics teaches mankind that the essence of production is understood as the activity of transforming natural resources into something of greater value. Production does not mean creating something out of nothing, as that is the work of Allah SWT, the ultimate Creator, through His act of *khalaqa* (creation). The more popular Arabic term for production is *al-intaj*, which means making something existing into something valuable and more beneficial [8].

3.4. Reporting Research Results

One of the causes of deterioration is the addition of overburden such as due to civil infrastructure development, natural consolidation of under-consolidated sediments, groundwater extraction, and movement activities of geological structures (e.g. faults) [14], [15]:

1. There are still groundwater operations in Bandung City that do not have recharge wells.
2. There are still many groundwater companies that extract groundwater in excess of the permitted discharge each month, which can reduce the quantity and quality of groundwater resources in the city of Bandung. This is contrary to the applicable rules or standards, that every groundwater user or exploiter must use water in accordance with the underground water withdrawal and utilization permit (IPPA) owned.

Another cause is the over-exploitation of groundwater extraction that causes consolidation (the process of reducing the volume or reducing the pore cavity of a low-permeability saturated soil due to loading, where the process is influenced by the speed at which pore water escapes from the soil cavity) in the soil [26]. Based on Fig. 1, the increase in the volume of groundwater extraction from 1990 to 2008 was in line with the increase in the number of groundwater wells dug. The increase in the number of linear groundwater wells was caused by the increase in population and the increase in industry in Greater Bandung. The statistics of groundwater extraction in the Bandung Basin from 1900 to 2009 show a histogram depicting the volume of groundwater extraction from deep aquifers (>100 meters), while the blue dots indicate the number of wells [27].

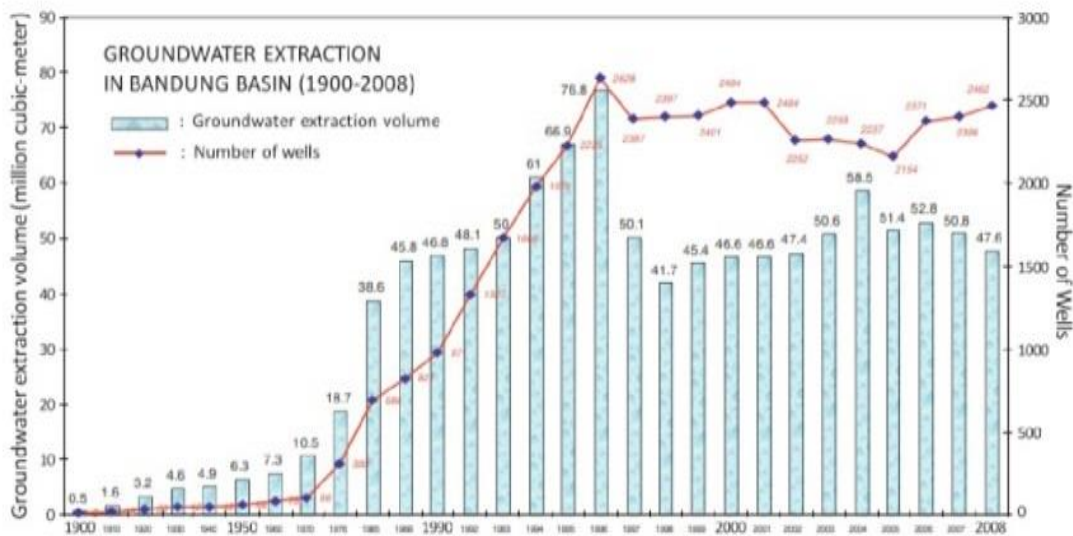


Fig. 1. Groundwater Extraction

The data above is also confirmed by information from The Center for Groundwater and Environmental Geology (PATGL) of the Geological Agency noted a decline in the water table in the Greater Bandung area. As a result, wells must be dug deeper to obtain groundwater, the decline in the water table in the Greater Bandung area ranges from 60 to 100 meters. According to him, the groundwater safety zone should be at a depth of 20 to 40 meters [28].

Furthermore, based on Fig. 2 there are also real conditions in the Bandung City area, on the condition of land subsidence with a value of 0.1 to 4 cm per year. Surveys that produce this data output need to be carried out on an ongoing basis because environmental conditions from day to day are increasingly showing a significant decline in quality due to the lack of community cooperation to assist the Government in the process of maintaining the groundwater ecosystem, where there are still many people who use groundwater without permission for commercial activities [29].



Fig. 2. Groundwater

3.5. Discussion

To minimize violations of ecology that have an impact on groundwater, it is necessary to make strategic efforts by the West Java Provincial Government as the party that has the authority in guidance, supervision and control activities to reduce violations that occur. This is evidenced by the efforts to control groundwater withdrawal/utilization can be done by regulation of the density of groundwater withdrawal locations, determination of safe withdrawal/utilization zones, limiting groundwater withdrawal discharge, setting the depth of the tapped aquifer, application of economic instruments on groundwater utilization/groundwater utilization, application of Environmental Impact Analysis (AMDAL) to groundwater withdrawal activities, and clarity of authority in control implementation.

As stipulated in the regional regulation on groundwater utilization, the authority to implement guidance, supervision and control activities has been regulated. In controlling groundwater utilization in Bandung City, there are several agencies that are responsible for ensuring that groundwater exploitation has an official permit and operates in accordance with applicable regulations. This is explained in the Regional Regulation of West Java Province number 1 of 2017 article 58 which explains that the authority for guidance, supervision and control of groundwater utilization is carried out by the regional apparatus in charge of energy and mineral resources affairs, namely the Energy and Mineral Resources (ESDM) Region IV Office. Furthermore, there are comprehensive universal efforts that can be made by the Government and the community to improve Deterioration, namely:

1. Stop environmental damage to water resources. As a form of risk mitigation from environmental degradation or damage, stopping deforestation is central to the water resources management system. Cutting or burning trees should not be done carelessly because trees store greenhouse gases, produce oxygen and are natural habitats for many animals and plants, which can become endangered if forests are destroyed. Massive and extensive greening publicity or socialization activities should be launched in the interest of protecting water resources. Further positive steps can be taken through reforestation or afforestation, resulting in the restoration of water resources in the soil.

2. Government Regulation. The government has the competence to intervene and establish a framework whenever there are problems that lead to significant environmental degradation, especially water quality degradation in the Bandung City area. The government can set high taxes for activities that explore groundwater resources indefinitely and support environmentally friendly behavior with financial subsidies. This will also force industry and the private sector to avoid activities that lead to degradation of the water resource environment.

3. Landfill, reduce waste production by using goods and food more efficiently. If it cannot be used again, separate organic and non-organic.
4. Avoid the use of plastic, avoid buying items with plastic wrapping or packaging, do not use disposable plastic bags, cups, plates, containers, cutlery, and others.
5. The community looks for previous water sources to be managed, maintained and distributed to the surrounding community. So that in practical terms, management is not based on commercial interests, while financing from the community is only concerned with the management and maintenance of these water resources.

In this research, according to the author, the solution to the problem of damage to groundwater resources in the Bandung City area and its surroundings is the need for a formula agreement between the Government and the Community through the legislature, which ultimately results in the birth of renewable regulations. The formulas are:

- a. one source for 1 (one) area 1 *RT/RW*;
- b. existing springs in the *RT/RW* area, must be maintained and managed directly by the community.

This formula will tighten the use of boreholes in the *RT/RW* area, which in turn can be an instrument to reduce the impact of damage to groundwater resources in the Bandung City and surrounding areas

4. Conclusion

The cause of the decline in groundwater resources in the Bandung city area is because the current regulations on water resources management do not involve the concept of Islamic economic law perfectly (universal effort). The control of water by community entities that run businesses or not, tends to be massive, without seeing the environmental factors of water resources and the existence of surrounding communities. The important role of the Government is to provide protection, recognition and law enforcement in the management of water resources at the community level at the *RT/RW*/Village/Sub-district/District level. The government is obliged to encourage renewable laws by issuing regulations that there are water management schemes in each administrative area of *RT/RW*, Village/Sub-district/District level. The community is fully involved in managing water resources sourced from springs, such as rainwater, river water, dew water, well water, lake water, waterfalls, and groundwater.

Furthermore, the concept of mandatory continuous supervision from the West Java Provincial Government, on the control of the utilization of groundwater resources can be one of the actions to improve the deterioration or decline in the quality of Water Resources. One example of actions that must be continuous is the curbing of companies/communities, which use groundwater exploration without a permit and exceed the discharge.

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