Explore the role of sustainable utilization of water resources and water resources management

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Abstract: Water resources are very important to our lives. Water is indispensable in our lives, and as the economy continues to rise, the demand for water from all walks of life is also increasing. However, due to various problems in the use of water resources in my country, many problems have arisen in the allocation of water resources. Through the introduction of water utilization and management, the article analyzes various difficulties in the process of water resources utilization, and proposes corresponding solutions to these problems, hoping to make my country's water resources scientifically used.

1. Introduction
Nowadays, my country's economy is constantly rising. In the process of economic growth, my country's industry's demand for water resources is also increasing. However, in the process of industrial water use, there are many unreasonable water consumption situations. A large amount of industrial wastewater and sewage are discharged into the river, causing certain damage to the quality of water resources. This situation not only damages the environment, but also makes the water resources unusable. Therefore, when the industry discharges the sewage, the sewage needs to be treated so as not to damage the water quality of the river. In the use of water resources, it is necessary to implement scientific methods to enable sustainable exploitation of water resources.[1]

2. Introduction to the use of water
The concept of sustainable use of water resources emerged in the 1980s. During this period, due to the rapid economic growth and the huge demand for various resources by industry, the development of resources must be increased. In the process of mining water resources, the industry did not pay attention to the protection of the development environment, which caused great damage to the local environment when mining. Due to the destruction of the development environment, this has greatly affected the quality of water resources and caused great damage to the quality of water resources, resulting in a shortage of water resources. However, when some industries are using water resources, they do not adopt scientific methods and do not use water resources reasonably, resulting in a lot of waste in the use of water resources, thereby increasing the shortage of water resources.[2] In this context, the concept of sustainable use of water resources has emerged. In order to solve the shortage of water resources, some researchers have increased their research on the rational use of resources, which not only enables the maximum use of water resources in the process of utilization, It also enables water resources to reduce the damage to the surrounding environment during mining, so that water resources are protected to a certain extent.
3. Introduction to Water Management

The management of water resources means that the government has established a series of policies and regulations to effectively supervise and manage a series of procedures in the exploitation and utilization of water resources. Water resources are very important in the process of economic development in my country. All kinds of industries are inseparable from water resources in the development process. [3]Having sufficient water resources supply will greatly promote the development of our economy, and water resources are also indispensable in our lives. China's demand for water resources is extremely large, but the supply of water resources is often in short supply. At this time, the government needs to increase the management of water resources, formulate relevant laws and regulations, and carry out industrial Restrict the behavior during the mining process so that it minimizes the waste of water resources during the mining process. Moreover, when mining, the industry needs to protect the surrounding environment. Only when the protection of water resources is strengthened will the quality of water resources be guaranteed. When the industry uses water resources, it needs to use scientific means, so that it can be used reasonably. When the industry uses water resources, it needs to use scientific means, so that it can be used reasonably.

Therefore, in the process of water resources management, the government needs to formulate relevant rules and regulations to restrict the behavior of industrial water use, so that water resources can be efficiently used.

4. Difficulties arising in the use of water resources

A series of problems have arisen in the use of water resources. Due to the pollution of water resources themselves, the supply of resources is seriously insufficient. According to the situation of water resources being damaged, the following solutions are proposed

4.1 Unbalanced regional distribution of water resources

The temperature, latitude, coastal extent, continental area, and mountain area of each area are different, so the existence of water resources in each area also varies greatly. For example, in the southern region, the latitude is low, and it is mostly located in the subtropical region, so the rainy season is more. In addition, the southern regions are mostly coastal regions. Because they are close to the sea, there will be seawater coming up from the sea, which also provides water vapor for precipitation in the southern regions. The precipitation in the southern regions will also become a lot. The northern region is located in a high-latitude region, with high latitudes, arid climate, and less precipitation, and most of the northern region is located inland, and the inland area has a dry climate and water vapor is not easy to enter, resulting in a lack of precipitation conditions in the northern area, let alone sufficient water. Due to the imbalanced regional distribution of water resources, there have been major problems in the use of water resources. The shortage of water resources in the northern region has caused a great impact on industrial production and also affected the economic development of northern my country.[4] The southern region has lower latitudes, more precipitation, and sufficient water resources, which has greatly promoted the economic development of the southern region, and relevant governments need to change the imbalanced regional distribution of water resources, so that when the water resources are used in the north and south, there will be no extreme shortage of water in the north, and the situation of unused water in the south.

4.2 Water pollution

In the process of water resources exploitation, individual enterprises have developed a large amount of groundwater, and the groundwater in the mining area is seriously inadequate, resulting in a clear environmental problem, if the environment in the water resource mining area is damaged, it will have a great impact on the quality of water resources and the water quality will be damaged to a certain extent. It can be seen that, during the mining process, if you do not pay attention to the protection of the surrounding environment, the water quality of the water resources will be damaged, thereby reducing the supply of water resources. Not only will the water resources be affected during the mining process,
when the industry is using water resources, if it does not pay attention to the protection of water resources, it will also cause great damage to the water resources.

It can be seen that when the industry conducts sewage treatment, the discharge of substandard sewage into the river will not only cause great damage to the quality of water resources, but also have a great impact on the health of local residents. When implementing the exploitation and utilization of water resources, individual industries must adopt scientific methods to rationally use water resources, increase awareness of the protection of water resources, and protect water resources from pollution. [5] The following chart shows the discharge of major pollutants in wastewater from major cities (2017) [6] (as shown in Table 1)

| City      | Industrial sewage (Ten thousand tons) | Industrial chemistry (Ton) | Industrial ammonia nitrogen (Ton) | Urban sewage (Ten thousand tons) | Oxygen demand discharge (Ton) | Life chemistry (Ton) | Life of ammonia nitrogen (Ton) |
|-----------|--------------------------------------|---------------------------|---------------------------------|---------------------------------|-----------------------------|---------------------|------------------------------|
| Beijing   | 6494                                 | 2232                      | 97                              | 124045                          | 70312                       | 5571                |
| Hangzhou  | 13107                                | 9041                      | 620                             | 72778                           | 71558                       | 13414               |
| Shanghai  | 7470                                 | 11587                     | 169                             | 3493                             | 54213                       | 7875                |
| Taiyuan   | 3750                                 | 990                       | 72                              | 28520                           | 8519                        | 2180                |
| Shenyang  | 3877                                 | 7718                      | 160                             | 14500                           | 37778                       | 7711                |
| Changsha  | 2501                                 | 3215                      | 323                             | 42670                           | 35613                       | 10149               |
| Hefei     | 2350                                 | 2443                      | 258                             | 37637                           | 64572                       | 11598               |
| Shaoxing  | 3158                                 | 12990                     | 889                             | 179610                          | 125842                      | 39526               |
| Guangzhou | 1902                                 | 5509                      | 286                             | 69102                           | 88159                       | 10283               |
| Hangzhou  | 2493                                 | 12459                     | 507                             | 68551                           | 41314                       | 7292                |
| Wuhan     | 4100                                 | 1583                      | 161                             | 48252                           | 68019                       | 6213                |
| Fuzhou    | 4300                                 | 2229                      | 91                              | 38407                           | 61105                       | 9611                |

### 4.3 Outstanding water resources management issues

My country is now in the stage of economic development and is exploring the various management systems. Therefore, relevant management departments will inevitably have imperfections when formulating water resources management systems. Due to the imperfect systems, the management of water resources in my country is more prominent. In the process of water resources mining, the relevant enterprises have little awareness of water resource conservation due to the lack of relevant institutional constraints. Therefore, in the process of water resources mining, they do not increase the protection of water resources and the development environment and this situation causes great waste of water resources. In the process of water resources utilization, because there is no clear scientific utilization method in the management system, this makes enterprises use resources according to their own methods when using them, which will inevitably cause waste of water resources. Because the management of water resources is relatively obvious, many problems have emerged in the development and utilization of water resources.

The imperfect management system of water resources makes people's awareness of saving water resources in life relatively shallow, the government has not taken corresponding publicity measures to save water resources, which makes people pay less attention to the protection of water resources in the process of resource use. Therefore, in the process of domestic water consumption, water has also been wasted to a certain extent. Because the management of water resources has obvious problems, in the process of industrial mining and utilization of water resources, it has caused certain damage to water resources, and because the people’s awareness of water conservation is shallow, when domestic water is used, no emphasis is placed on saving water resources. The relevant government must strengthen the control of water resources and truly solve the problems in my country’s water resources.[7]
5. methods to promote the rational use of water resources

The problems raised during the utilization of water resources are mentioned above. Since the water resources themselves are polluted and the mining environment of the water resources is destroyed, the supply of water resources is insufficient. In the process of water resource utilization, due to the uneven distribution of water resources, many problems have been caused. Due to the imperfect management system, the lack of management methods, and the lack of awareness of the people to save water, has caused many problems in the use of water resources. In response to the above problems, corresponding solutions are proposed, and relevant governments need to take corresponding measures to increase publicity on the use of water resources, so that people can increase their awareness of water resources utilization and consciously use water resources in their lives. And the government needs to formulate relevant water resources management rules to restrict some unreasonable water use situations in individual industries. In the process of industrial exploitation, the situation of excessive exploitation of groundwater is restricted to avoid corresponding environmental problems. The following is a brief introduction to the methods to promote the scientific utilization of water resources.[8]

5.1 Formulate water resources management rules

In the process of using water resources, due to the occurrence of more irrational water use in individual industries, it has caused a lot of waste of water resources and in the process of water resources mining, due to the excessive exploitation of groundwater, the mining environment has been greatly damaged. Therefore, the relevant government must formulate corresponding water resources management rules to restrict certain industrial activities in the development and utilization of water resources. After the management rules are formulated, they need to be implemented. Relevant departments should strictly investigate some highly polluting enterprises and make up their minds to resolutely ban heavy polluting heavy industry enterprises to promote the protection of water resources and water quality.

In addition to the industry's waste of water resources in the production process, in life, due to people's lack of awareness of water resource protection, it will also cause a certain amount of waste of water resources, this requires some relevant departments to publicize more, and more advertisements for protecting water sources in the broadcast media. Or there is a way to set up stepped hydropower in the community, that is, if residents use water in their lives, once the residents exceed this limit, the water price will rise, and this system also limits the amount of water people use to a certain extent. The use of this method is also some of the state's measures to protect water sources, and this measure is related to the interests of some citizens. Under the drive of water prices, they will also be more willing to save water [9]. Therefore, when formulating the corresponding water resources management rules, the government needs to consider the contents of both industrial and domestic water use. In terms of industrial water use, it is necessary to restrict its exploitation and utilization of water resources, in terms of domestic water consumption, it is necessary to strengthen people's awareness of water conservation and avoid unnecessary waste of water resources.

5.2 Enhance the understanding of the rational use of water resources

In the rational use of water resources, the relevant government needs to increase publicity on water conservation, so that the people have awareness of water conservation. The problem of unreasonable utilization of water resources mentioned above is ultimately due to people's lack of awareness of saving water resources. In industrial production, there is no understanding of the rational use of water resources, which cause a certain waste of water resources, in the course of life, because people do not understand the current shortage of water resources, they do not have the habit of saving water. Therefore, in order to solve the waste of water resources from the root cause, the government must increase the advocacy of water conservation, so that people have the awareness of water conservation, so as to form good behaviors of water conservation in life. If people across the country increase their awareness of the scientific use of water resources, it will greatly reduce the unreasonable use of water resources.
resources, therefore, the government must pay attention to the promotion of water conservation, and can adopt various media to enhance people's awareness of water conservation, so that people can reduce the waste of water resources in the process of industrial water use and domestic water use.

5.3 Strengthen technical regulation
When individual industries use water resources, due to the lack of scientific means, when mining and using water resources, it causes a lot of waste of water resources. Therefore, some researchers must increase the research on the rational use of water resources, which will greatly reduce the waste of water resources, and make the scientific use of water resources by using corresponding technical means. The role of technology is more than that. By using corresponding science and technology to regionally allocate water resources to solve the problem of uneven distribution of water resources in the region, using science and technology to allocate water resources in the south to the north, this measure can solve the difficult problem of using water in the north, and can greatly promote the development of China's economy. Through the use of scientific and technological regulation of water resources, the water resources can be balanced in a certain space and time. It can be seen that the staff can not only reduce the waste of water resources, but also make efficient use of water resources by increasing the technical research on the rational use of water resources.

6. conclusion
After introducing the use and management of water, by analyzing the water resources, the difficulties arising from the use of water and proposing corresponding solutions. In the process of using water resources, there are the following problems. Since the water resources themselves are polluted and the geographical distribution of water resources is not balanced, the management problems of water resources themselves are more obvious. In response to these problems, the relevant governments need to increase publicity for the rational use of water resources, formulate corresponding water resources management rules and regulations, restrict some unreasonable water use conditions, and strengthen technical regulation.

Reference:
[1] Li Zhihong.(2016)On the importance of sustainable utilization of water resources and water resources management[J].Low-carbon World,12:88-89.
[2] Yang Liang.(2017)On the importance of sustainable utilization of water resources and water resources management[J].Low Carbon World,33:212-213.
[3] Zhang Chunmei.(2016)Research on sustainable use of water resources and water resources management[J].Water Energy Economics,4:140-140.
[4] Zhang Zailong.(2016)On the importance of sustainable utilization of water resources and water resources management[J].Water Energy Economics,11:80-84.
[5] Lu Jia.(2016)On the importance of sustainable utilization of water resources and water resources management[J].Water Energy Economics,22:28-23.
[6] National Bureau of Statistics.(2019)Discharge of Major Pollutants in Wastewater from major cities (2017).http://www.stats.gov.cn/tjsj/ndsj/2019/indexch.htm
[7] Ding Wenxi.(2011)Countermeasures and suggestions for sustainable development of water resources in China[J].Chinese Agricultural Science Bulletin,14:221-226.
[8] Yang Tingfeng.(2014)Dynamic changes of sustainable development of water resources[J].Guizhou Agricultural Sciences,08:066.
[9] Li Li, Zhang Xingwen, Li Fulin(2014)etc. Seawater Utilization: An Effective Way for Sustainable Development of Water Resources in Dalian[J].Environmental Protection, 24:023.
[10] Gao Yun,Xie Li.(2010)Multi-dimensional thinking of sustainable development of water resources in Gansu Province[J].Jiangsu Agricultural Science.01:131.