Sikopyah Water Preservation Based On Regional Regulation of Purbalingga Regency Number 2 the Year 2014 Concerning Protection And Management of Living Environment

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Abstract
Sikopyah water spring is a clean water supply source for Serang Village, Karangreja District, Purbalingga Regency, which belongs to Village-Owned Enterprise (Badan Usaha Milik Desa, BUMDes). That is also used to meet people outside the village managed by the Regional Drinking Water Company (Perusahaan Daerah Air Minum, PDAM). With the increasing need for clean water, proper management of water resources is urgently needed. Some things that can be known concerning the management of Mata Air Sikopyah are firstly by knowing the spring management program carried out by the community in Serang Village, secondly by analyzing demographic and topographic data from the Serang Village community in managing the Sikopyah Springs, and third by obtaining the factors both impetus and deterrent in efforts to manage springs in Serang Village. The research was conducted using normative juridical research methods and data specifications using descriptive methods, then analyzed using qualitative data analysis methods. The study results show that conservation efforts, namely the use, protection, and preservation of the Sikopyah Spring, have been carried out by the Serang Village people.

Keywords: Environmental Conservation, Sikopyah Spring, Regional Policy.

I. Introduction

Environmental protection and management efforts based on environmental legal norms mean balancing economic interests, preserving environmental functions and social conditions. That is the importance of sustainable development principles in carrying out government tasks related to environmental management. So far, these two things seem to be separate from one another. The government and the private sector are seen as those who prioritize economic
interests over environmental conservation interests. Therefore, Law Number 32 of 2009 regarding Environmental Protection and Management (Perlindungan dan Undang-Undang Pengelolaan Lingkungan Hidup, UUPPLH) has a specific task to protect and preserve the environment.

The need for a legal product, especially in areas that regulate good water resource management, is increasingly urgent following the irrigation law’s reintroduction through the Constitutional Court of the Republic of Indonesia Number 85/ UU-XI/2013, which revives Law Number 11 of 1974 about Irrigation. However, the next question is how water management’s regional authority is based on the Water Resources Law. The Water Resources Law is centralized so that it is not in line with the spirit of regional autonomy according to Law Number 23 of 2014 concerning Regional Government as amended by Law Number 9 of 2015, which gives regional authority and responsibility autonomously to manage natural resources in its territory, including water management under its objectives.

Policies that can be used to achieve environmental conservation in Purbalingga Regency are Regional Regulation of Purbalingga Regency Number 2 of 2014 concerning Environmental Protection and Management and utilization, development, maintenance, restoration, supervision, and control of the environment. That is to prevent the decline of the population of natural resources managed and other natural resources around it and prevent pollution of harmful waste/pollutants. Environmental damage is a social phenomenon and phenomenon often found in various areas, both inland, water, and atmospheric damage. The impact of environmental damage in an area can be felt by residents who live outside the area. The environmental problem in Indonesia, both in big cities and districts, is the destruction of springs.

Management of water resources to plan, implement, monitor, and evaluate water resources conservation, utilization of water resources, and control of water’s destructive force. The utilization of water resources in the area, including in Serang Village, includes the domestic needs of the population, industry, agriculture, and other uses. In terms of quantity, water needs can still be met from existing reserves. However, in the practice of managing water resources so far, the goal of meeting the water needs of all communities is still far from being achieved. That occurs in line with the rapid population growth and increased development activities, so the need for water will also increase both in urban and rural areas. Conservation is a socially optimal allocation of resources over time. In general, conservation is the wise management of resources to ensure their sustainability while maintaining and increasing their quality. Conservation efforts will run well if there is a collaboration between the government and the community. Local wisdom to conserve water resources in an area is needed.

The community views the Sikopyah spring as a valuable gift from God. The community’s life, both water and local wisdom is a valuable asset and needs to be preserved because the Sikopyah spring distributes most of the population’s needs in 2 villages, namely Serang Village and Gombong Village. Especially with the trend of decreasing water availability and increasing demand for water due to the population’s needs in Serang Village in the form of household needs and the agricultural sector, up to 73% of the total water availability from Sikopyah Spring. That represents the Regional Regulation of Purbalingga Regency Number 2 of 2014 concerning Environmental Protection and Management, a regulation based on local wisdom that is often conceptualized as local wisdom and interpreted as positive law that applies in the

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life order of the community. Among other things, it is used to protect and manage the environment in a sustainable manner in Serang Village. It has been implemented in the management of springs so that conservation effort carried out in Serang Village, Karangreja District, Purbalingga Regency have resulted in problems. Namely how to conserve Sikopyah springs based on Regional Regulation of Purbalingga Regency Number 2 2014 concerning Environmental Protection and Management and what obstacles are faced in implementing Purbalingga Regency Regional Regulation Number 2 of 2014 concerning Environmental Protection and Preservation.

II. Research Problems

Based on the background that has been described, the problem can be formulated, namely how to conserve sikopyah springs based on the Regional Regulation of Purbalingga Regency Number 2 of 2014 concerning Environmental Protection and Preservation and what obstacles are faced in the implementation of Purbalingga Regency Regional Regulation Number 2 of 2014 concerning Protection and Environmental Preservation?

III. Research Methods

To answer the problem used normative juridical research methods. Normative juridical research is literature research in order to obtain legal material for analysis. Normative juridical research is often used in law, a distinct type of research that is different from the type of empirical research or the type of research in other fields of science. The approach used in this study is the Statute Approach because this study examines the laws and regulations, especially the substances related to the preservation of Sikopyah springs. The Conceptual Approach is also used, an approach based on concepts, doctrines, and practices in practice. The last approach used is the Comparative Approach, which compares with regulations regarding preserving springs in other areas. This research is a descriptive study. The descriptive method is a method of examining a group of people, an object, a set of conditions, a system of thought, or a class of events in the present. In this case, the analysis used is qualitative data analysis, namely data that cannot be directly measured or assessed by numbers. Thus, the secondary data in the form of documents is obtained entirely.

IV. Result And Discussion

1. Topographic Conditions of Serang Village

Serang Village is located at an altitude of 650-1,300 m above sea level. Rainfall in this area is relatively high, which is around 6,240 mm with an average temperature of 20 ° C. Serang Village has an area of approximately 2,878,390 ha. Serang Village land consists of dry land, residential land, and forest land. Serang Village land is a fertile land that can be planted with various types of plants which can be a livelihood source for its residents. The land used for agricultural land is 1,070.52 ha with a percentage of 48.65% of the total area in Serang Village, the land used for settlement is only 174.55 ha and with a percentage of 6.06% of the total area in Serang Village, and Most of the land in Serang Village is forest land covering an area of 1,630.52 ha with a percentage of 56.65% of the total area in Serang Village.

Serang Village has administrative boundaries with other regions. The northern administrative boundaries are directly adjacent to Kutabawa Village, Karangreja District, Purbalingga Regency, the western and eastern administrative boundaries are directly adjacent to Perhutani, while the southern administrative boundary is directly adjacent to Sangkanayu Village, Mrebet District, Purbalingga Regency.

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6 Zainudin Ali, Metode Penelitian Hukum (Jakarta: Sinar Grafika, 2009),105.
7 Suteki and Galang Taufan, Metode Penelitian Hukum (Filosafat, Teori, dan Praktik), (Depok: Rajawali Pres, 2018), 133.
8 Miles Mathew and Michel Huberman, Analisis Data Kualitatif, Buku Sumber tentang Metode-Metode Baru (Jakarta: UI Pres, 2009), 102.
Land use significantly affects the condition of natural resources, especially the availability of land for forests. Inappropriate management and land distribution will impact the conversion of the available land use to meet the community's needs, which are always deemed insufficient or insufficient. Lack of land can impact the water condition, affecting the quality and quantity of the water due to reduced rain catchment or water catchment areas.

Several previous studies stated that land-use change from an open green land to built-up areas would result in changes in the hydrological cycle. An increase in surface runoff and a decrease in water infiltration volume into the soil causes erosion, decreases the land's surface in the upstream area, and causes flooding and inundation in the downstream area.

The most significant land use in Serang Village is used for agricultural activities that will result in less than optimal water absorption into the soil because the plants planted are only seasonal plants that cannot hold large amounts of water.

2. The Condition of Human Resources In Serang Village

The number of family heads in Serang Village is around 2,144 families consisting of 412 underprivileged families; prosperous families totaling 317 families; Prosperous Families II totaling 586 families; prosperous families III totaling 813 families; and a prosperous family plus a total of 16 families.

Table 1 Population Data Based on Gender

<table>
<thead>
<tr>
<th>No</th>
<th>Gender</th>
<th>Number of people</th>
<th>Percentage (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Men</td>
<td>4,397</td>
<td>50.20</td>
</tr>
<tr>
<td>2</td>
<td>Women</td>
<td>4,100</td>
<td>49.80</td>
</tr>
<tr>
<td></td>
<td>Total</td>
<td>8,497</td>
<td>100</td>
</tr>
</tbody>
</table>

Source: Serang Village Government

The gender data in Table 1 shows that the population data of Serang Village consisted of 4,397 men (50.20%) and 4,100 women (49.80%). A gender that leads to gender greatly influences spring management efforts, especially village communities, because of their traditional thinking. Communities tend to create significant gaps in what men and women can do to create boundaries about managing springs that men and women can do. Based on the gender of the Serang Village population, 50.20% were male and 49.80% female. Gender is related to the efforts to manage the Sikopyah Spring, which is carried out because there are differences in perceptions and actions in managing the spring by men and women. Men tend to be put forward in various activities related to the community and many people's interests, such as spring management activities. Women are usually required to always be in the house, besides those women in the village also feel inadequate and not obligated to carry out and take care of spring management activities which are also considered men's work, so that women in effort management of springs do not take many actual actions. In general, men are more capable and more potent in terms of implementing these spring management efforts. Men have a more robust physical condition than women, so men are more active in jobs requiring physical strength. Meanwhile, women have more roles in the domestic sphere.

Table 2 Population Data Based on Education Level

10 Ibid, 33.
11 Ibid, 29.
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Table 2 shows that the village population’s education level attacks the most at the lowest level of education, namely the level of elementary education of 4,125 people. In contrast, at least one person was at the highest education, namely the postgraduate level. Different educational backgrounds of a person can affect a person’s mindset and attitude when facing a problem. A high level of community education does not guarantee that the community will care about the environment. On the contrary, it is also the case that the low level of community education does not rule out the possibility that the community cares about the environment. The level of education possessed by Serang Village people varies, from those who graduate from elementary school to college graduates. Most of the people of Serang Village have only graduated or graduated at the Elementary School level. The education taken by the people of Serang Village will undoubtedly affect the people’s mindset and also influence caring behavior about the environment, such as addressing environmental problems in Serang Village in their daily life. The factors that influence a person’s behavior are values, attitudes, perceptions, and knowledge. The lower the level of education, the optimal use of the environment and the lower the awareness of the environment’s importance.\(^{12}\)

**Table 3 Population Data**

**Based on Livelihood**

<table>
<thead>
<tr>
<th>No.</th>
<th>Livelihood</th>
<th>Number of people</th>
<th>Percentage (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>Farmworkers</td>
<td>670</td>
<td>19.85</td>
</tr>
<tr>
<td>2.</td>
<td>Farmers</td>
<td>1928</td>
<td>57.14</td>
</tr>
<tr>
<td>3.</td>
<td>Traders</td>
<td>231</td>
<td>6.9</td>
</tr>
<tr>
<td>4.</td>
<td>Civil servants</td>
<td>26</td>
<td>0.8</td>
</tr>
<tr>
<td>5.</td>
<td>Drivers</td>
<td>46</td>
<td>1.3</td>
</tr>
<tr>
<td>6.</td>
<td>Private employees</td>
<td>238</td>
<td>7</td>
</tr>
<tr>
<td>7.</td>
<td>Carpenters</td>
<td>106</td>
<td>3.14</td>
</tr>
<tr>
<td>8.</td>
<td>Bricklayer</td>
<td>123</td>
<td>3.7</td>
</tr>
<tr>
<td>9.</td>
<td>Private Labor</td>
<td>6</td>
<td>0.17</td>
</tr>
<tr>
<td></td>
<td><strong>Total</strong></td>
<td><strong>3374</strong></td>
<td><strong>100</strong></td>
</tr>
</tbody>
</table>

\(^{12}\) *Ibid, 32.*
Table 3 shows that most of the Serang Village population, totaling 1928 people (57.14%), work as farmers. The smallest population of private workers is six people (0.17%). Community livelihoods affect spring management efforts because several livelihoods are in direct contact with nature, so that they have a direct impact on the destruction of nature. The use of nature as a source of livelihood can be a threat to nature, but it cannot be prevented if people want to make ends meet by utilizing the surrounding nature because they think they feel they belong in that nature.

3. **Source Of The Sikopyah Waterspring**

Spring is a natural state where groundwater flows out of an aquifer to the ground. Springs are part of the hydrosphere. Springs can occur because surface water seeps into the ground and becomes a spring. Groundwater then flows through the cracks and into the ground, which can turn small gaps into underground caverns. The water will eventually gush out from underground to the surface in the form of springs. The discharge of water to the ground surface can result from confined aquifers, where the groundwater level is at a higher elevation than the water outlet.\(^\text{13}\)

The water discharge produced by the Sikopyah water spring is 15 liters/second or 1,296,000 liters/day. Sikopyah water spring is managed mainly through Serang Village-Owned Enterprises and partly managed by Purbalingga Regency Drinking Water Company which is used for:

a. **Household = 86.4 liters/person/day.**
   - Total 8368 people = 8368 x 86.4 liter x 1 day = 722,995.2 liter/day.

b. **Watering Plantation/Agriculture = 104.16 liters/hour/hectare.**
   - Land area 87.00 hectares = 87.00 hectares x 24 hours x 104.16 liters = 217,468.08 liters.
   - Used water needs for households and plantations/agriculture per day in Serang Village are 940,463.28 liters.

**Use of Sikopyah Waterspring**

![Use of Sikopyah Waterspring](image)

Source: Serang Village Government

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4. Implementation of Purbalingga Regency No 2 of 2014 Concerning Environmental Protection and Management

Water is a source of livelihood for humans, whether it is used to fulfill their basic needs as drinking water and to maintain their livelihood source for irrigation of their agriculture. Therefore, water should not only be seen as a natural resource entity, but it also has significant functions and benefits for human life. Severe and proper management of water resources that can meet the needs of the community is necessary. As water is essential for human life, water management requires serious attention not to experience a water crisis. The need for severe and proper water resource management initiated in the movement to plant a thousand trees is quite reasonable considering that improper and less severe water resource management has harmed human survival. Matters related to environmental preservation in the Regional Regulation of Purbalingga Regency Number 2 of 2014 concerning Environmental Protection and Management regulate environmental preservation as referred to in article 8, which reads the Environmental Protection and Management Plan (Rencana Perlindungan dan Pengelolaan Lingkungan Hidup, RPPLH) contains plans concerning,

a. utilization and/or reserves of natural resources;

b. maintenance and protection of the quality and/or function of the environment;

c. control, monitoring, and utilization, and preservation of natural resources; and

d. adaptation and mitigation to climate change

Whereas in article 11 paragraph (1), Purbalingga Regency Regional Regulation Number 2 of 2014 concerning Protection and Conservation of the Environment regulates how an environmental function itself which states that in the context of preserving environmental functions, pollution and/or environmental damage is controlled which includes:

a. prevention;

b. countermeasures; and

c. recovery.

Management of water resources includes the benefit, conservation, and empowerment of supervision. The management of water sources by Serang Village-Owned Enterprises and Regional Human Water Companies in Purbalingga Regency includes utilization, conservation, and supervision.

a. Utilization

The total water availability capacity from natural springs in Serang Village, Karangreja District, Purbalingga Regency cannot all be taken. If everything is taken, it can reduce water discharge allocated to the community or residents, especially farmers. The local water company of Purbalingga Regency can take 15 liters per second of spring water, while the remaining 10 liters are reserved for local communities and agriculture. The installed source capacity of the Sikopyah spring is currently 12 liters/second, while the production capacity intended for the Purbalingga District Human Water Company is currently 2 liters/second. The water debit taken by Serang Village Owned Enterprises has been intended again for the community, Village-Owned Enterprises also help the community meet household needs, and the community uses the rest for agriculture.14

b. Conservation

The steps taken by Serang Serang Village Owned Enterprises and Purbalingga District Human Water Company in the management and maintenance of existing springs in Serang Village, Karangreja District, Purbalingga Regency include the following:

1) Reforestation

Reforestation is carried out to improve life quality, especially for humans, by increasing natural resources quality. Reforestation can be obtained. The first is to conserve water resources to maintain the continuity and quality of the water resources themselves. Regulations must

14 Results of an interview with the Secretary of Serang Giriyanti Village, on June 26, 2020.
accompany actions of exploitation on the use and preservation of Natural Resources. Second, to reduce environmental pollution, especially air pollution due to motor vehicle smoke pollution and industry, it must be a serious concern because the increasing number of motor vehicle users and industrial activities such as factories and mining has disturbed the living ecosystem. Therefore it is essential. To carry out reforestation activities or better known as Go-Green activities. Reforestation activities can prevent or overcome global warming. The Serang village government does reforestation when the trees are damaged or dead. The number of trees planted is quite a lot, approximately 1000 trees. This activity has also been carried out by associating the 1000 tree planting movement by the Serang Village Government and residents. The Serang Village Government is currently planting one type of tree, namely pine. The background for choosing the pine tree is that pine trees benefit from maintaining the balance of nature and making the air fresher. In planting pine trees, the community also participates in the planting and preservation of pine trees, and we can feel that the results of reforestation of the air around the water source feel more relaxed and fresher.

Once a month, carry out reforestation around the source. The number of trees planted by the Serang Village Government is approximately 50 trees per month. So in a month planting approximately 50 trees to replace the dead trees. Types of trees planted other than around water sources are mahogany, jati kebon, and resin/thorny trees. The Serang Village Government chose mahogany, jati kebon, and resin / thorny trees because these trees could prevent natural disasters such as floods and landslides. This management is also a program of the Purbalingga Regency Government itself. The form of reforestation management, the Purbalingga Regency Government, only provides tree seedlings to the Serang Village Owned Enterprise to manage all the trees to be planted. So the Purbalingga Regency Government does not participate in the management of the reforestation.

2) Community Development

To make good management of springs in Serang Village, Karangreja District, Purbalingga Regency. The Management of the Regional Human Water Company of Purbalingga Regency has an idea to create a water reservoir from rainwater infiltration, which will later be made around a spring, intending to absorb the capacity of rainwater that falls so that it does not flow on roads that are already on concrete or asphalt, so that water is not wasted. However, this is only a plan. As for the implementation, the management of Bumdes and Regional Human Water Companies involves the community’s participation to maintain water resources and the surrounding environment to maintain the availability of capacity and quality of existing spring resources. Efforts are being made, namely reforestation by planting a thousand trees. The community is only involved in maintaining the environment around the water source, and for the maintenance of the water source itself, the community does not participate.

c. Supervision empowerment

Every day, each spring location is monitoring efforts in Serang Village, Serang Village-Owned Enterprises, and Human Water Company delegates several employees to monitor each existing spring. Efforts to carry out such supervision also involve the surrounding community so that when problems occur in the maintenance and management of water sources, the community will also help.

5. Constraints Faced In Implementing Regional Regulation of Purbalingga Regency No 2 Of 2014 Concerning Environmental Protection and Management

Efforts to take action to preserve the environment must have various kinds of obstacles. Constraints and obstacles experienced by the Serang Village Government in implementing

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Purbalingga Regency Regional Regulation Number 2 of 2014 concerning Environmental Protection and Management often occur. That is because several factors greatly influence the management and preservation of water sources. The factors inhibiting efforts to manage Sikopyah Springs in Serang Village are as follows.

a. Road Access Problems

Lack of attention from related parties in environmental preservation is a problem in road access facilities to Sikopyah Spring. Meanwhile, Village-Owned Enterprises and Regional Drinking Water Companies in Purbalingga Regency carry out normal controls on the Sikopyah Spring. The road to Sikopyah spring passes through the residents' gardens' cultivated path and does not have a unique route to make it easier to carry out normal controls.

b. Budget Issues

The budget issued by the Purbalingga Regency government is deemed insufficient for the management and maintenance of the Sikopyah Spring in Serang Village. This problem can make it difficult for the Serang Village program to manage and conserve the Sikopyah spring in Serang Village because the Purbalingga Regency Government is considered to cause jealousy towards other villages, especially in the budget to conserve water sources and the tourism village sector.

c. Natural disasters

The high rainfall in the Sikopyah Spring area meets the residents' household needs because it often causes landslides in the Sikopyah Spring area to experience drought.

V. Conclusions

The implementation of Purbalingga Regency Regional Regulation Number 2 of 2014 concerning Environmental Protection and Management to conserve the environment, especially the Sikopyah Spring in Serang Village, Karangreja District, Purbalingga Regency as a whole, has been carried out well. Management of the Sikopyah Springs includes the benefit, conservation, and empowerment of supervision. Conservation of the Sikopyah Spring management, which consists of reforestation and environmental development, is realized by planting 1000 trees in the spring area to protect and conserve the Sikopyah Spring. That is proof that the Serang Village Government cares about the environment in Serang Village.

The obstacles faced, such as road access, budgets, and natural disasters, have been a problem for a long time, but these activities have made a significant difference in the spring area's sustainability. Sikopyah Spring management's activities have received concern from stakeholders, both government and water users, to conserve this area so that its function as a clean water source remains sustainable.

VI. Suggestion

1. Efforts to conserve the Sikopyah spring source related to the management and empowerment of the spring must be maintained so that the local community can fulfill their daily needs using water from the Sikopyah Spring. Therefore, maintaining environmental conservation efforts to preserve the spring area is very important.

2. The regency level government's concern for the preservation of Sikopyah Springs must be increased. Considering that the efforts to conserve the environment of Sikopyah Springs require a large budget so that the budget must be increased so that preservation can be carried out better, and problems of road access to the Sikopyah Spring area must be addressed so that efforts to conserve the Sikopyah spring can be implemented well.

References


18 Ibid.


Law Number 11 of 1974 concerning Irrigation.

Law Number 32 of 2009 concerning Environmental Protection and Management.

Local government Law Number 9 of 2015 The Second Amendment To Law Number 23 Of 2014 Concerning Regional Government.


Purbalingga Regency Regional Regulation Number 2 of 2014 concerning Environmental Protection and Management.


The decision of the Constitutional Court of the Republic of Indonesia Number 85/PUU-XI/2013.