SIMBA

7th SEMINAR INOVASI MANAJEMEN BISNIS DAN AKUNTANSI

ANALYSIS OF GROUNDWATER TAX POTENTIAL AND ITS CONTRIBUTION TO LOCAL TAX REVENUE

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Abstrak

Penelitian ini bertujuan untuk mengetahui potensi dan kontribusi pajak air tanah terhadap penerimaan pajak daerah di Kota Ngawi. Penelitian ini merupakan penelitian deskriptif kualitatif dengan pendekatan studi kasus. Hasil analisis pada penelitian ini menunjukkan bahwa potensi pajak air tanah di Kabupaten Ngawi tahun 2020 hingga 2024 terbilang sangat besar, sebagaimana terlihat dari perhitungan potensi penerimaaan mencapai Rp 5.501.700.000,00 per tahun yang berasal dari 116 wajib pajak dengan berbagai kategori penggunaan air tanah, sedangkan kontribusi pajak air tanah terhadap penerimaan pajak daerah dikategorikan ''sangat kurang", sebenarnya penerimaan realisasi pajak air tanah selama tahun 2020-2024 melebihi target tetapi penerimaan PAD tahun 2020-2024 mengalami fluktuasi.

Kata Kunci : Potensi, Kontribusi, Pajak Air Tanah, Penerimaan Daerah

Abstract

This study aims to determine the potential and contribution of groundwater tax to regional tax revenue in Ngawi City. This research is a qualitative descriptive study with a case study approach. The analysis results in this study indicate that the potential for groundwater tax in Ngawi Regency from 2020 to 2024 is quite large, as seen from the calculation of potential revenue reaching IDR 5,501,700,000.00 per year from 116 taxpayers with various categories of groundwater use. While the contribution of groundwater tax to regional tax revenue is categorized as "very low," actual groundwater tax revenue during 2020-2024 exceeded the target, but PAD revenue from 2020-2024 experienced fluctuations.

Keywords*: Potential, Contribution, Groundwater Tax, Regional Revenue.*

A. INTRODUCTION

Taxes are the largest source of revenue received by the state for the common good. In Indonesia, taxation is divided into two groups, namely state taxes and local taxes (Mardiasmo, 2018). Local taxes themselves are divided into two parts, namely provincial

taxes and district / city taxes. One type of tax included in district/city local taxes is groundwater tax. Regional Original Revenue (ROR) is revenue obtained by the government from government activities, public services and the utilization of regionally owned resources (Anggoro, 2017).

According to Law Number 1 Year 2022, Groundwater Tax is a tax imposed on the extraction and/or utilization of groundwater. With the existence of Groundwater Tax, the utilization of groundwater by various parties such as the business sector contributes to Regional Original Revenue (ROR). The potential of groundwater tax can be interpreted as the power that is already owned but cannot be achieved to the maximum or one hundred percent of the acquisition of groundwater tax.

Ngawi Regency is one of the regions in East Java Province, covering an area of 1,395.80 km², and is divided into 19 sub-districts and 217 villages, four of which are designated as urban villages. Regarding the groundwater tax, Group 1 generally consists of groundwater users who utilize water for businesses related to water or other sectors where water accounts for more than 95% of the main raw materials. Group 2 includes users who consume large volumes of groundwater or sectors that use more than 2,500 m³. Group 3 consists of users who utilize groundwater in moderate quantities, or sectors that consume between 1,000 m³ and 2,500 m³. Group 4 refers to users who extract relatively small amounts of groundwater, or sectors that use around 1,000 m³. Group 5 consists of users who utilize groundwater solely to meet basic daily needs. The groundwater tax is collected using an Official Assessment system, whereby tax collection is carried out by local government officials or tax authorities based on data they have obtained, rather than being self-reported by the taxpayers.

Ngawi Regency offers a promising opportunity for maximizing revenue from the Groundwater Tax as a key source of its Regional Original Revenue (ROR). Between 2020 and 2024, groundwater tax revenue did not increase significantly—largely because many

residents had not installed water meters on taxable groundwater sources, and numerous potential taxable sites remained insufficiently explored. The sheer size of Ngawi Regency presents both a challenge and an opportunity for comprehensive mapping and tapping into groundwater tax potential.

1. Research Objectives

   This study was conducted with the aim of determining the potential contribution of Groundwater Tax to local tax revenue in Ngawi Regency from 2020 to 2024 and to determine the contribution of Groundwater Tax to local tax revenue in Ngawi Regency from 2020 to 2024..

2. Benefits of Research

   Some of the benefits that can be obtained from this research are increasing knowledge and insight into the potential of groundwater tax and its contribution to local tax revenue, applying the knowledge gained during lectures to real-world conditions in the field, and providing evaluations and recommendations to the Ngawi Regency.

3. Finance Agency.Theoretical Review

   TAX

   According to Law No. 28 of 2007 Article 1 Paragraph (1) concerning General Provisions and Tax Procedures defines tax as Tax is one of the mandatory contributions to the state owed by each person or entity that is compelling in nature, but still based on the applicable law and does not get a direct reward.

   LANDWATER TAX

   According to Law No. 28 of 2009, groundwater tax is a tax on the extraction and/or utilization of groundwater by individuals or entities that solely use groundwater for business activities. Groundwater tax is a levy based on the withdrawal or utilization of groundwater (Sukartiningsih dan Rahmi, 2024).

REGIONAL REVENUE

To increase the amount of regional revenue, local governments must be able to explore sources of revenue in the context of regional autonomy, sources of regional revenue include :

a. Regional Original Revenue

According to Law Number 1 of 2022 concerning Financial Relations Between the Central Government and Regional Governments, Regional Original Revenue (ROR) is regional revenue obtained from local taxes, regional levies, the results of the management of separated regional assets, and other legitimate regional original income in accordance with statutory regulations.

b. Balancing Funds

Balancing funds are funds sourced from the Regional Budget Revenue (RBR) allocated to regions to meet regional financing needs (Chandra *et al.*, 2017).

c. Legitimate Regional Revenues

Other types of legitimate revenues based on Law Number 23 Year 2014 include regional revenues that are not included in taxes, levies, or proceeds from regional assets, such as sales of assets and interest income.

POTENTIAL

Definition of Potential

Potential stems from the English term potenty, which refers to something that already exists but has not been utilized. According to Rosman *et al*. (2020), potential is a basic ability that is latent and has the possibility to be developed. According to Fitriani *et al.* (2023), potential is the strength or full capacity of a region to obtain all possible revenue under ideal conditions (100%) without obstacles.

How to Analyze Potential

Potential analysis is the process of determining how much tax revenue can be generated by local governments from various types of existing local taxes. According to Harun in Farida dan Diana (2019), the following formula is used to determine the potential of groundwater tax:

$$Potential = Total\ Water\ Price\ x\ Tax\ Rate$$

The above formula is used to calculate the potential for groundwater tax. The analysis used to determine the potential for groundwater tax in Ngawi Regency from 2020 to 2024, using data on actual groundwater tax revenue from 2020 to 2024.

CONTRIBUTION

Definition of Contribution

Contributions can be understood as assistance provided for the implementation of an event; the more contributions received, the better the event will be (Fitriani *et al*., 2023). These contributions are used to evaluate the extent to which local revenues (such as groundwater taxes) can influence local original revenues. Contribution analysis is used to support local autonomy and independent financial management (Sinurat dan Indriasari 2023). According to Syermi dan Latjandu (2019), the classification of criteria for the contribution of groundwater tax revenue realization is as follows:

Table 1. Classification Criteria for Contribution of Water and Land Tax Revenue Realization

Presentation	Criteria
0 - 10%	Very Poor
10 - 20%	Less
20-30%	Medium
30-40%	Fair
40-50%	Good
>50%	Very Good

How to Analyze Contribution

Contribution analysis is used to determine how much the role of all local revenues (local taxes and local retributions) in increasing Local Original Revenue (LOR).

According to Panekenan *et al*. (2018), to find out how to analyze the contribution of groundwater tax to local revenue as follows:

$$Tax\ Contribution = \frac{Groundwater\ Tax\ Revenue\ Realization}{Realization\ of\ Local\ Tax\ Revenue\ Receipts} x100\%$$

From this comparison formula, it will produce a percentage that is used to determine how much groundwater tax contributes to local tax revenue.

B. METHOD

Type of Research

The research used in this research is descriptive qualitative with a case study approach, where Sahir (2021) states that descriptive qualitative is a research method based on a phenomenon with a data approach so as to produce descriptive analysis in the form of oral sentences from the object of research. Qualitative descriptive research is an activity carried out to obtain data that is what it is.

Research Object

The research object is everything that the researcher chooses to study in order to obtain relevant information and draw conclusions. The object of this research is related to the potential of groundwater tax and its contribution to local revenue managed by the Ngawi Regency Finance Agency.

Data Source

Sugiyono (2018) states that primary data is the main data obtained from research subjects directly or first-hand. Primary data in this study are the results of interviews with the parties concerned, interviews were conducted with the Head of the Ngawi Regency Regional Revenue management sector.

This secondary data was obtained from documents on the target and realization of Groundwater Tax on Local Tax Revenue for the last five years, Law No.10 of 2023

concerning Local Taxes and Levies, Regent Regulation of Ngawi No.05 of 2024 concerning Groundwater Acquisition Value as the Basis for Determining Groundwater Tax.

Technical Analysis

In this study the authors used qualitative descriptive analysis techniques, namely explaining the information obtained during the research. The data analysis techniques used are as follows:

a. Data Collection

The first stage is data collection, data collection is a strategic step in research, because the main objective in research is to get data. The data collected are the results of observations, interviews and documentation.

b. Data Reduction

Data reduction is carried out to review all field notes obtained from interviews, observations, and document reviews, then compiled in a summary (Ajat, 2019). The data that has been reduced provides a clear view of the observations and helps researchers to re-examine the information, if needed, to collect additional data that has been previously required.

c. Data Presentation

Data presentation is the process of organizing a set of data and helping in understanding so that a conclusion can be drawn (Herli, 2023).

d. Drawing Conclusions

Drawing conclusions in qualitative research is the final stage in a research period that provides solutions to the problem formulation.

C. RESULTS AND DISCUSSIONS

To calculate the potential revenue from groundwater taxes in Ngawi Regency, the first step is to group taxpayers based on the subject of use or group of groundwater use, which can be seen as follows:

Table 2. Number of taxpayers in 2020-2024

Groundwater Use Group	Number of Persons/Bodies
Group 1	0
Group 2	3
Group 3	6
Group 4	10
Group 5	72
Public Water Company	25
The Total	116

Source: Ngawi Regency Finance Agency

Based on the results of an interview with the Head of the Ngawi Regency Finance Agency regarding groundwater taxes in Ngawi Regency:

1. Maximum average groundwater extraction

   Group 2 : > 2,500 m^3

   Group 3 : >2,500 m^3

   Group 4 : 2,500 m^3

   Group 5 : 2,500 m^3

   Public Water Company : > 2,500 m^3

2. Tax period is 1 month
3. Base Water Price

   The base water price is the price of groundwater subject to groundwater utilization tax, calculated as the raw water price multiplied by the water value factor.

   The calculation of groundwater tax potential can be calculated using the Harun formula in Farida & Diana (2019) , which is the total price of water for one year multiplied by the groundwater tax rate of 20%. Meanwhile, the total annual water price is obtained by multiplying the number of taxable objects, the maximum water extraction, the base water

price, and the number of months in a year. The following is a presentation of data related to the potential for groundwater tax from 2020 to 2024 in Ngawi Regency:

Table 3. Total Groundwater Price

Group	Number of Tax Objects	Vol Maksimal (M^3)	BFW (Base Price of Water) (IDR)	Number of Months	Quantity (IDR)
	1	2	3	4	5 (1x2x3x4)
2	3	2500	7.400	12	666.000.000,00
3	6	2500	9.400	12	1.692.000.000,00
4	10	2500	9.050	12	2.715.000.000,00
5	72	2500	10.300	12	22.248.000.000,00
Perumda Water Supply	25	2500	250	12	187.500.000,00

Source: Ngawi Regency Finance Agency (processed by researchers, 2025)

Based on Table 3 Total Groundwater Prices above, it can be seen that there are 5 (five) groups of groundwater taxpayers in Ngawi Regency with different characteristics, where group 2 has 3 taxable objects with a maximum volume of <2,500 per m^3 and a base price of Rp 7,400, resulting in a tax of IDR 666,000,000.00. Group 3 has 6 taxable objects with a volume of <2,500 per m^3 and a base water price of IDR 9,400, resulting in a tax of IDR 1,692,000,000.00. Group 4 has 10 taxable objects with a maximum volume of 2,500 per m^3 and a base water price of IDR 9,050, resulting in a tax of IDR 2,715,000. Group 5 has the highest number of taxable objects, namely 72 taxable objects with a maximum volume of 2,500 per m^3 and a base price of IDR 10,300, resulting in the highest tax of IDR 22,248,000,000. 000,00, while the Public Water Supply Company receives a very low special rate of IDR 250 per m^3 with a total of IDR 187,500,000.00 for 25 taxable objects, indicating that the base price setting is designed to impose tax burdens in accordance with the volume of groundwater usage for each user group. The following is a summary of the potential groundwater tax revenue data :

Table 4. Groundwater Potential

Total Groundwater Price (IDR)	Tax Rate	Tax Potential (IDR)
666.000.000,00	20%	133.200.000,00
1.692.000.000,00	20%	338.400.000,00
2.715.000.000,00	20%	543.000.000,00
22.248.000.000,00	20%	4.449.600.000,00
187.500.000,00	20%	37.500.000,00
TOTAL		**5.501.700.000,00**

Source: processed by researchers

Based on Table 4 Groundwater Potential, it can be concluded that the calculation of groundwater tax potential with different total water prices is as follows: IDR 666,000,000.00, IDR 1,692,000,000.00, IDR 2,715,000,000.00, IDR 22,248,000,000.00, and IDR 187,500,000.00, when multiplied by 20%, result in potential taxes of IDR 133,200,000.00, IDR 338,400,000.00, IDR 543,000,000.00, IDR 4,449,600,000.00, and IDR 37,500,000.00, resulting in a total potential groundwater tax of IDR 5,501,700,000.00, indicating that the potential for groundwater tax in Ngawi Regency is very good.

Contribution

This analysis is used to determine the contribution of groundwater tax revenue to the local revenue of Ngawi Regency. The formula for calculating the contribution of groundwater tax is as follows :

$$Tax\ Contribution = \frac{Groundwater\ Tax\ Revenue\ Realization}{Realization\ of\ Local\ Tax\ Revenue\ Receipts} x100\%$$

Source: Panekenan *et al*., 2018

The calculation of the contribution analysis of groundwater tax revenue in Ngawi Regency is as follows:

1. Contribution of groundwater tax revenue in 2020

$= \frac{86.911.080,00}{270.197.416.011,46} \times 100\% = 0,3\%$

2. Contribution of groundwater tax revenue in 2021

$= \frac{80.837.710,00}{283.608.932.666,86} \times 100\% = 0,3\%$

3. Contribution of groundwater tax revenue in 2022

$= \frac{86.716.666,00}{309.326.829.397,26,46} \times 100\% = 0,3\%$

4. Contribution of groundwater tax revenue in 2023

$= \frac{112.907.555,00}{307.575.629.862,43} \times 100\% = 0,4\%$

5. Contribution of groundwater tax revenue in 2024

$= \frac{444.206.455,00}{328.358.703.731,22} \times 100\% = 0,14\%$

Based on the above calculations, it is evident that the contribution of groundwater tax is relatively small. From 2020 to 2022, its contribution to Local Own-Source Revenue (PAD) was only 0,03%. In 2023, the contribution increased to 0,04%, and reached its highest level in 2024 at 0,14%. In percentage terms, although the actual amount of groundwater tax revenue has been increasing year by year, the contribution of groundwater tax revenue remains very small. This is due to the fact that the PAD revenue of Ngawi Regency from 2020 to 2024 has experienced fluctuations.

DISCUSSION

Groundwater Tax Potential

Based on the results of the above study, it appears that potential groundwater tax revenue for the period 2021 to 2024 will not increase because the number of taxpayers remains the same each year. The following table shows the potential groundwater tax revenue:

Table 5. Potential Groundwater Tax Revenue

Year	Potential That Can Be Exploited (IDR)	Realized (IDR)
2020	5.501.700.000,00	80.837.710,00
2021	5.501.700.000,00	86.716.666,00
2022	5.501.700.000,00	112.907.555,00
2023	5.501.700.000,00	444.206.455,00
2024	5.501.700.000,00	724.668.386,00

Source: processed by researchers

Based on the results of the analysis of the potential of groundwater tax, it can be seen that the data on the potential of groundwater tax in Ngawi Regency from 2020 to 2024 is greater than the realization in the Ngawi Regency Finance Agency. The potential extracted over the 5 years shows a consistent figure, considering that the number of taxpayers and the volume of water use (m^3) are relatively stable.

Groundwater Tax Contribution

The calculation of the contribution of groundwater tax shows a very poor figure, where in 2020 to 2022 it only contributed 0,03% then in 2023 it increased with a contribution of 0,04% and in 2024 it experienced a greater increase than in previous years with a contribution of 0,14% of total local tax revenue. this is due to the lack of awareness of taxpayers to pay their tax obligations. Based on the results of interviews, the factors that hinder groundwater tax revenue are:

a. Lack of taxpayer awareness, because there are still many taxpayers who avoid paying for groundwater usage.
b. It is difficult to know the use of groundwater because many tax objects are not installed with meters, so it must be estimated to determine the determination of the amount of tax.

c. Many people operate businesses from their homes, making it challenging to determine the boundary between household and business groundwater usage.

D. CONCLUSIONS

1. The potential for groundwater tax in Ngawi Regency from 2020 to 2024 is very large, as seen from the calculation of potential revenue reaching IDR 5,501,700,000.00 per year from 116 taxpayers with various categories of groundwater use.
2. The contribution of groundwater tax revenue to local tax revenue in Ngawi Regency in 2020 to 2024 averaged 0,05% so that it contributed less. This is because the revenue of Ngawi Regency's Regional Original Revenue has fluctuated so that it does not reach the predetermined target and affects the calculation of the contribution

E. SUGGESTIONS

1. The Ngawi Regency Government needs to improve the management of fluctuating local revenue by optimizing local taxes and levies through improvements to the administrative system.
2. The Ngawi Regency Finance Agency must re-register taxpayers who are not yet registered and form a team to survey groundwater use. The local government must require all taxpayers to install water meters on their bore wells.
3. For future researchers, it is recommended to add other independent variables related to Local Own-Source Revenue, such as other types of local taxes or local levies.

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