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**The Implementation of Green Accounting in  
Deciding the Amount of Tax in Using the Well  
Water as the Environment Conservation Fund:  
A Study on Hotel Industry in Yogyakarta  
Special Region**

— *Review of* —  
**Integrative  
Business &  
Economics**  
— *Research* —

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### ABSTRACT

Nowadays, environmental issues become the prime concern of the world and water is a part of the environmental issues, therefore water consumption increases as the industrial activities raise. Since water is an important part of human lives, and every citizen deserves clean water, Indonesian government must assure that everyone has easy access to clean water. Considering this condition, Indonesian government should maintain water supply sustainability. To perform this task, the government has used land-water tax to maintain land-water supply sustainability. It seems that what has been done by the government so far cannot support the government task optimally. Seeing this fact, Indonesian government needs to find a method to solve the problem. The government has used the traditional method in determining water cost but the land-water tax has been very low. The solution to this problem is the implementation of green accounting. This research is intended to show the importance of considering the green accounting concept in land-water cost determination which will be used in calculating the land-water tax. The research finding shows that, by using traditional accounting, the cost of land-water in Yogyakarta and Sleman are 2,000 Rupiahs and 100 Rupiah per meter cubic, respectively. On the other hand, by using the green accounting concept, the cost of land-water in Yogyakarta is 5,806 rupiahs and in Sleman is 12,090 rupiahs per meter cubic. The different methods generate the difference in land-water tax calculation. The land-water tax in those areas based on traditional method is 85,246,174 rupiahs on average, while the land-water tax in those based on green accounting concept is 26,686,702 rupiahs.

Keywords: Green accounting, Water cost, Land-water tax.

## 1. INTRODUCTION

Nowadays the preservation of environment is a serious problem in the entire globe. All countries in the world are expected to pay much attention to the damaged environment which can affect people's lives. The world's awareness towards the significance of keeping the preservation of environment is stated as one of the Millennium Development Goals (MDG's). MDG's is supported by 189 countries and it has been implemented since 2000. One of the agreement in MDG's relating to environment is that countries in the world agree to integrate continuous development principles in every country's policy and program and to minimize the vanishing natural resources. In 2010, United Nation listed water in the human rights' point. In the UN's 2010 resolution, it is declared that the access to drinking water and clean and safe sanitary is inseparable realization of human rights.

Indonesia with its 245 million people is in the fourth rank of the world population. That number is 3.49% of the whole world population. The average population growth of Indonesia is 1.18% annually and the average population density is 133 people per kilometer. Since Indonesia has a very big number of population, it is sensible if Indonesia participates actively in saving the environment. Indonesia shows its concern towards environment saving by joining the Millennium Development Goal's agreement.

As a developing country, Indonesia has good economic growth. Since five years ago, the average economic growth has been increased 6.6% if it is seen from the Brutto Domestic Product aspect. The growth has happened in all sectors. Tourism sector is one of the prominent sectors of Indonesian economic growth. Tourism sector has been pushed by the government in order to minimize the economic growth which depends on oil and natural gas. The tourism industry in Indonesia has grown rapidly. In the year of 2015 the growth was 7.2% according to the Statistic Center Bureau. This figure exceeds the average number of Asean Countries' tourism growth (6%) and the world's tourism growth (4.4%).

The growth of tourism sector in Indonesia has affected the other related industries. One of them is hotel industry. The hotel industry along with the trade sector and restaurants is the second highest sector after processing sector. The number of hotels in Indonesia in 2011-2015 grew approximately 10.97%, the number of rooms grew around 11.76% and the number of beds grew approximately 10.94%. Table 1 shows the growth of hotels, rooms and beds in 2010 to 2015.

Table 1: the growth of hotels, rooms and beds in 2010-2015

Year	Number of Accommodation Increase		Number of Rooms Increase		Number of Beds Increase	
2010	1.306		124.789		191.948	
2011	1.489	14,01%	142.481	14,17%	215.633	12,34%
2012	1.623	8,99%	155.740	9,30%	238.485	10,59%
2013	1.778	9,55%	171.432	10,07%	263.774	10,60%
2014	1.996	12,26%	195.886	14,26%	295.426	11,99%
2015	2.197	10,07%	217.474	11,02%	322.590	9,19%
Source: Statistic Center Bureau						

The rapid growth of hotels which is used to push the Indonesian tourism brings some effects to the need of water resources. Although many hotels do some promotion to the guests to save water, the water consumption is still quite high. The average international water consumption for two guests per day is 1.332-1.954 meter<sup>3</sup> (Chan & Lam, 2001). In 2015, Indonesia had 217.474 hotel rooms and each room was occupied approximately by 2 persons. In 2015, their water consumption was 289.675.368 – 424.944.196 meter<sup>3</sup> per day or it was approximately 105.731.509, 32 – 155.104.63, 54 per year.

In Indonesia, most of the water consumption in the hotel industry takes up the well water. Most hotels do not use the water supply from the government. The use of the well<sup>8</sup> by the hotel industry causes the difficulty in managing the use of the land water. In the long term if the consumption of the land water keeps increasing, the availability of land water may become a problem. This may bring some harm to people's lives in the future.

Yogyakarta is the second most popular tourist destination after Bali. The tourists who visit Yogyakarta are local tourists and foreign tourists. In 2015 the number of local visitors were 3.896.572. This number was higher than the target, which was 258.636 (Tribun Jogja, 24 January 2017). Most of them were local visitors. It was 93% and the rest was foreign visitors. The average staying of the foreign tourist in Yogyakarta Special Territory was 2.23 days and the average staying of the domestic



tourists was 1.58 days.

The increasing number of local tourists and foreign tourist in Yogyakarta Special Territory affects the growth of star hotels. The average growth of star hotel in Yogyakarta Special territory between 2010 and 2015 was 20.15%, the growth of the rooms was 20.26%, and the growth of beds was 18.75%. Table 2 shows the growth of hotel, rooms and beds in Yogyakarta Special Territory in 2010-2015.

Table 2: Growth of hotels, rooms and beds in Yogyakarta Special Territory

	Total Accommodation increase		Number of Rooms Increase		Number of Beds increase	
2010	34		3491		5481	
2011	42	23,52%	3966	13,60%	6497	18,53%
2012	52	23,80%	4869	22,76%	7832	13,62%
2013	61	17,30%	5801	19,14%	9280	18,48%
2014	74	21,31%	7101	22,40%	11090	19,50%
2015	85	14,86%	8763	23,40%	13709	23,61%

The increasing number of hotel affects the economic growth. However, it also brings some social problems. Most hotels in Yogyakarta use land water for fulfilling their guests' need of water since the Water Company cannot fulfill their water needs. The tourists' water needs in Yogyakarta Special Territory is 113.718.068 liter per year. The action of taking up the land water brings the negative effect to the society in Yogyakarta Special Territory. It dries the peoples' wells. It means people do not have a free access to clean water. According to the UN Declaration 2010, this action is against the human rights. The growth of industry which brings economic growth should not cause the losing of natural resources.

In Indonesia, according to the Local Otonomy Law No. 12 year 2004, the effort to preserve the environment is one of the local government' duty. Land water is one of the environment system which must be saved in order to ensure the availability of water supply for people in the future. Nowadays the local government of Yogyakarta Special territory decides the tax of using and taking land water (PPABT) according to Law No. 34 year 2000 as regional tax (Widowati and Ekasari, 2011). This tax in fact could become the resource fund for carrying out the implementation of land water conservation that can be used by personal society member or body, including hotels, except for houses and people's land farming. The correct PPABT will give a room to the government to do the duty. PPABT must cover the users'

contribution in conservation efforts in the future.

The compensation of using the land water by the hotel industry is by paying PPABT. Actually, PPABT paid by the hotel industry must suit the quantity of the taken up water and the compensation for the damaged environment. The problem related to it is whether the amount of the compensation paid by the hotel industry through PPABT is adequate to preserve the environment.

This research is intended to evaluate the sufficiency of the compensation paid to PPABT for preventing the water resources and environment. This research is expected to give some input to the Local Government that needs to consider the use of green accounting method in deciding the tax for taking up land water by the hotel industry. This research is also expected to widen the hotel entrepreneurs' insight in calculating the basic production cost by using green accounting approach.

## 2. THEORITICAL REVIEW

The green accounting in fact has been developed since 1970's in Europe. It has been followed by the growth of related research in green accounting issues in 1980's (Bebbington, 1997; Gray, et al., 1996 in Purnama Sari and Hadiprayitno, 2013). The term "Green Accounting" has been known since 20 years ago when the economist, Peter Wood, stated his opinion that in Gross Domestic Product (GDP) the calculation does not cover the environment and the effect of the company's activity towards the environment so that a suitable model is needed to accommodate them. (Financial Express, 2013). Peter Wood confirms that Green Accounting is a model or a new concept that enable the measurement of "the true costs" of the company's activity which is related to earth and it will also trace the effects of people's life style towards the planet where we live.

The development of Green Accounting is also supported by the increasing of the green movement all over the world. Accounting in order to keep its relevance, needs to develop itself so that it is ready to internalize various external things which appear as the consequences of the industrial process. The operational activity of an industry must bring some effects to its surroundings. Therefore, accounting is expected to be able to measure those effects both financially or non-financially. Green Accounting appeared due to this demand. The term Green Accounting later on is also known as Environmental Accounting. The explanation of Green Accounting is understood clearly in the following definition:

Green Accounting is considered to be an important tool for understanding to influential aspect of natural environment with respect to economy. The data and information of natural resources in economic development and costs

occurred due to pollution or resources degradation (Farouk, Cherian and Jacob, 2012)

The previous Green Accounting definition describes the effort to calculate the benefit of environment and cost of the natural resource usage, the effect of the resource degradation for an organization when it takes any decision. Purnama Sari and Hadiprayitno (2013) explain that Green Accounting is often classified into Social Accounting Discourse. The reason is that both have the same objective: to internalize the external things (social environment and ecological environment), either positive or negative into the company's financial report. Social Accounting and Environmental Accounting face some difficulties in measuring the cost and benefit of the externality appearing in the industrial process. This problem appears as the cost and benefit in Environmental Accounting and Social Accounting are tangible and intangible.

The traditional concept of accounting only focuses on cost and benefit that are tangible and could be measured by monetary unit. The emission produced by a factory is very difficult to be measured and calculated in a monetary unit. Liquid waste, solid waste or emission are the effects of the production activity of a factory in a certain environment. Green Accounting is based on the externalities, a concept or economic theory specializing in studying the effect of the economic activity that must be calculated and put into the financial report of a company or Government. Green accounting is an important concept to understand the effect or the economic natural factors in a company or a country. The Government's role in implementing Green Accounting is to prevent or to minimize the negative externality from the company which may cause environment damage.

Based on the Environmental Accounting Guidelines issued by the Japanese Environment Minister (2005:3), Environmental Accounting covers activities that identify the cost and benefit of environmental conservation activities, provide the facilities for continuity of development, maintain the beneficial relationship with the community and achieve the effectiveness and efficiency in implementing the environmental conservation activity. According to the definition made by Schaltegger and Burritt in Bettina Hodi Hernadi (2010, p.27), "Environmental accounting is a branch of accounting that deals with activities, methods and systems; recording, analysis and reporting; and environmentally induced financial impacts and ecological impacts of a defined economic system." The last definition stated by US EPA (1995) focuses more on the role of Green Accounting in assisting the manager to implement the managerial functions: planning, controlling and decision making, and informing to the external use.



The above definitions states clearly that Green Accounting is meant to know and measure the effects of the operational activities of an organization in one community (Jankovic and Krivacic, 2014). By implementing Green Accounting, it is expected that accounting can provide more relevant information for those who need it. It is not easy to measure the effect of a company which does the logging in an area where land slide happens or the effect of a new hotel that causes less water supply for the people who live near by the hotel. The most important result of Green Accounting's role is the real cost information about the environment. This is the Environmental Costs. Environmental Costs should reflect all effects of an organization that a person experiences, industries or communities do. The effects are the short-term effects. The long-term effects that can be measured by monetary unit or non-monetary unit.

The similar idea is stated by AICPA in Ali, Mamunir and Ainul (2010). It states that Green Accounting or Environmental Accounting is an identification process, a measurement process, a classification process and allocation of costs related to environment. It integrates the environmental cost information into the business decision or to the stakeholders. This definition states that the primary focus of Green Accounting is providing environmental cost information for the internal use and external use. Green Accounting is a concept that considers the indirect costs and direct costs from a certain activity done by a company.

### **3. RESEARCH METHODOLOGY**

This is a descriptive research. This research explains how to decide the cost of water consumption in the hotel industry in Yogyakarta Special Territory and how to equalize it with the Green Accounting concept. So far the calculation of the water tax paid by hotels to the Local Government is based on the tax of the water land usage (PPABT). It refers to Law No. 43, year 2000. The question is whether the amount paid by the hotels is as big as the amount of the water consumption and water conservation in the future.

The object of the research is the water consumption in the hotel in Yogyakarta Special Territory and the tax for taking the land water. This research compares the realization of tax for using the land water by star hotels in Yogyakarta Special Territory to the water consumption cost paid by the hotels if they use the water supplied by the water company. This research also compares the basic water price determined by the Local Government to the basic water price estimated by using Green Accounting approach. The decision for the basic water price is very crucial since it is used for the base to determine the tax of using the land water. If the basic water price is too low as a result the tax will be very low too.



The research data is taken from the primary and secondary sources. The data of the water used by hotels, water resource investment, maintenance cost and the data of the tax paid is compiled directly from the sample hotels. The population is the star hotels in Yogyakarta Special Territory. The sampling method is the stratified random sampling. Despite the primary data from the hotels, the secondary data from the Central Statistical Bureau and Regional Government. This research also ensures the data and the research finding through FGD (Focus Group Discussion) with related parties, namely hotel industries, the Government of Yogyakarta Special Territory and the Government of the Regency and City. The data obtained is analyzed by using the following steps:

1. Study the PPABT regulation in calculating the water tax through FGD with the Government and the legislation of Yogyakarta Special Territory. The information obtained will be studied by the researchers to find out whether the water tax determined by the Government is in line with the Green Accounting or not. It is to know if the water price does not only cover the “price” of water consumed but it also includes the contribution for water conservation in the future.
2. Estimate the water consumption (BKAH variable) by considering water conservation aspect. The way to determine the hotel water price is by considering if the hotels get the water by buying it from other party. The amount of the hotel water cost is equal to the amount of the water spent multiplied by the water tariff determined by the Government Water Supply Company.
3. Provide the formula to calculate the water tax that must be paid by using Green Accounting. The tax of taking up the water and using the land water is determined based on the value of the water obtained. The value of the land water in this research uses the green accounting approach.
4. Calculate the amount of tax that must be paid by hotels if it uses Green Accounting approach. The calculation of the tax is calculated by multiplying the tax rate and land water value. The water value is the water cost after considering several factors determined by the local government.
5. Compare all results. The outcome will be used to answer the problems: water consumption cost, the practice of determining the water price used by hotels and obtaining information if the practice is in line with the green accounting concept.

The results will be used to give some input to the Authorities (Local Government and House of People's Representative). It is expected that there will be some improvement in natural resource conservation in the future.

#### **4. RESEARCH FINDINGS**

This research is carried out in Yogyakarta city and Sleman Regency. The reason in choosing both areas is that most hotels are built in those areas. The sample from Yogyakarta is 29.71% from the total hotel population in Yogyakarta City. The sample from Sleman Regency is 12.96% from the total hotel population in Sleman Regency. The total sample is 20.58%. The low respond rate is due to the difficult bureaucracy in the hotels. Although the respond rate is not high, the representation of each hotel in Yogyakarta is adequate.

##### **The use of Land Water by Hotels**

The average hotel occupancy in Yogyakarta and Sleman is 76%. From 21 respondents, there are 5 hotels that only use the land water resources, 15 hotels use land water resources and Government Company water supply. There is only 1 hotel that uses water supply from the Government Company since its location does not give it a room to use the land water. The consumption of land water in Yogyakarta and Sleman is quite high. 71.42% of the respondents say that the consumption is more than 100m<sup>3</sup> each month. 53.33% respondents say the average consumption land water by hotels in Yogyakarta and Sleman is 2.500m<sup>3</sup> per month. All respondents say that the land water installations were built when the hotels were being built. It means that hotels in Yogyakarta and Sleman have used land water since the hotels were built.

##### **Cost of Water used in the Hotels**

Most of hotels in Yogyakarta and Sleman use land water and water supplied by the Government Water Company. The price of water used by hotels consists of tax of using land water (PPABT) and the subscription price of water supplied by the Government Water Company. The average cost for using water in Sleman and Yogyakarta is 36.11 million rupiahs per annum.

The method for calculating land water tax (PPABT) in Yogyakarta and Sleman is based on the acquired water value (NPA). The amount of PPABT in those areas is 20% of the acquired water value. Although both areas use the same reference to determine the PPABT, they do not use the same method to determine the acquired water value. Government of Yogyakarta determines the

acquired water value base on the decree of Energy and Natural Resource Minister number 1451K/10/MEM/2000. This decree states that the calculation of the acquired water value is calculated after the depreciation cost for investment and operational cost for getting land water are calculated. The formula to determine the basic water price is

$$\text{Cost of water/m}^3 = \frac{\text{investment cost} + (\text{operational cost} \times \text{economic life})}{\text{Volume of water usage in the investment economic life}}$$

Based on that method, Yogyakarta Government through Yogyakarta Mayor's decree number 51, year 2011, determines the basic water price is 2000 per m<sup>3</sup>. Meanwhile, Sleman Government determines it 100 per meter<sup>3</sup>. Those prices are used to determine the acquired water value.

In Green Accounting approach, the calculation of the water price considers the waste processing. Waste processing means the used water will not send back to nature as waste but it must be sent back as contaminated free water. The research finding shows the different result between the water price determined by Yogyakarta Government and Sleman Government. The calculation of the basic water price is obtained by using the following formula:

$$\text{Cost of water} = \frac{(\text{depreciation cost of well-water investment} + \text{depreciation cost of waste processing investment} + \text{maintenance cost per year})}{\text{Volume of water taken from the land per year}}$$

The results are different as the calculation in this research includes the waste processing cost. This calculation considers the Green Accounting concept. The water resource investment per annum is calculated based on the average depreciation from hotels in Yogyakarta and Sleman. The waste processing investment per annum is calculated from the average depreciation of the waste processing investment in the hotels being observed. The maintenance cost is calculated from the average cost of the waste processing installation. The basic water price based on the Green Accounting for Yogyakarta is Rp5.806 per meter<sup>3</sup> and for Sleman is Rp12.090 per meter<sup>3</sup>. The average of the basic water price in both areas is Rp8.948.



Table3 The Comparision Between Basic Water Price by Green Accounting Concept and the Basic Water Price Determined by Yogyakarta Government and Sleman Government (per meter<sup>3</sup>)

Area	Basic Water Price according to Green Accounting	Basic Water Price Determined by the Government
Yogyakarta	Rp 5.806	Rp 2.000
Sleman	Rp 12.090	Rp1 00
Average of Yogyakarta and Sleman	Rp 8.949	

The basic water price in Yogyakarta and Sleman calculated based on Green Accounting is much more expensive than the basic water price determined by the Government of Yogyakarta and Government of Sleman. In FGD, one respondent stated the water basic price has not consider the cost factors. The Government of Yogyakarta in fact had done a study on it. The result, however has not been implemented due to some consideration.

#### Calculation of Aquired Water Value

The aquired water value is the value describing the basic water price after considering the environment factors. This value is the value that will be used as the basic value to determine the amount of tax for taking and using the land water. The value of aquiring water is calculated from the basic price multiplied by the water value factor (FNA). The water value factor is the mupltiplied factor referring to the natural resource value and the amount of the water used and the aim of using it. In the decree of the Minister of Energy and Mineral Resources number 1451K/10/MEM/2000 is stated that the value for the water resouce consists of two components: natural resource component and compensation component. The component of natural resource is the component giving the value of taking the land water based on the type of water, location and water quality. The taking of shallow water land has higher value than that of the process of taking deep water land. It affects the price of aquired shallow water is higher than the price of aquired deep water land. The taking of good quality water land has a higher value than the taking



of worse quality water land. It means the value of better water taking is higher than the value of the worse water taking. The location of the water taking determines the value of the water taking. If there is an alternative water resource, the multiplied factors for deciding the land water value will be higher. When there is an alternative water resource, it will be better that the alternative water resource is used instead of the land water resource. Table 4 shows the multiplying factors of the water resource components.

The second multiplying factors (value) for taking the water is the compensation. The compensation factors consist of aim and volume of taking. If the aim is more profit oriented, the price/value of the acquired water is higher. For example, the consumption for big industry has higher value than that of the small industry. The volume of the land water taking is also a factor that influences the value/price of water taking. If the volume is bigger the value will be higher. Table 4 is the value determined in the value of acquired water for compensation components.

Table 4 Multiplying factors of water resource components

Criteria of water resources	Value
Narrow land water, good quality, with PDAM supply/alternative resources	1
Narrow land water, quite good quality, with PDAM supply/alternative resources	0,9
Narrow land water, good quality, no PDAM supply/alternative resources	0,8
Narrow land water, quite good quality, no PDAM supply/alternative resource	0,7
Deep land water, good quality, with PDAM supply/alternative resources	0,6
Deep land water, good quality, no PDAM supply/alternative resources	0,5
Deep land water, quite good quality, with PDAM supply/alternative resources	0,4
Deep land water, quite good quality, no PDAM supply/ alternative resources	0,3
Spring with PDAM supply/alternative resources	0,2
Spring without PDAM supply/alternative resources	0,1

Source: Yogyakarta Mayor's Regulation No. 5/2011

Table 5. The multiplying factors of acquired water for compensation  
Components

Volume(m3) per month	0-50	>50-500	>500-1000	>1000-2500	>2500-5000	>5000
User						
Non-business	0,1	0,2	0,3	0,4	0,5	0,6
Small Business	0,7	0,8	0,9	1	1,1	1,2
Small Industry	1,3	1,4	1,5	1,6	1,7	1,8
Big Business	1,9	2	2,1	2,2	2,3	2,4
Big Industry	2,5	2,6	2,7	2,8	2,9	3

Source: Yogyakarta Mayor's Regulation No. 5/2011

For getting the value of water taking, the basic water price is multiplied by the factors of water value based on the water resource component value. Decree of the Minister of Energy and Natural Resources no 1451/10/MEM/2000, decides the proportion of the natural water resource is 60% and the component of compensation is 40%.

Sleman and Yogyakarta do not use the same method in calculating the acquired water. Based on Sleman's Regent regulation no. 47 year 2010, the water price is Rp100 per meter<sup>3</sup>. The value of the acquired water is determined by multiplying the basic water price and the water value factors consisting of type of the water resource, location of the water resource, objective of taking the water and/or the use of the water, the volume, quality of the water and the level of the environment damage. Sleman Regency's calculation does not consider the basic cost, but it considers more about the water value factor.

For obtaining the acquired water value, the water basic price is multiplied by the water value factor based on the value components of the water resources. Based on the decree of the Minister of Energy and Natural Resources No. 1451K/10/MEM/2000, the proportion of the natural resource is 60% and the compensation component is 40%.

Sleman uses the different method from the one used by Yogyakarta in calculating the value of the acquired water. Based on the Sleman Regent's regulation No 47 year 2010, the basic water price is Rp100 per meter<sup>3</sup>. The acquired water price is determined by multiplying the basic water price and the water value factors; various type of water resources, location of water

resources, aims of obtaining and/or using water, volume of the water used, and the level of the environment damage. Sleman's calculation does not include the basic cost, but it considers the value of the water factors. This approach although it includes the environment factors, it has not used the Green Accounting approach. Green Accounting is more capable in tracing the cost of the acquired water cost since it identifies the related costs in water acquired. This research estimates the tax in obtaining and using the land water by using Green Accounting approach.

This research uses the method that is in line with the decree of Minister of Energy and Natural Resources No. 1451K/10/MEM/2000 used by Yogyakarta Government. The reason of using this method is that it is more suitable with the Green Accounting concept. Out of 21 samples for this research, only 17 hotels gave complete data. Therefore, this research calculates the acquired water cost (NPA) based on the data from 17 hotels. Based on the calculation, the result of the average of NPA for Yogyakarta and Sleman is Rp426.230.731.

The tax of obtaining and using the water is determined on the tax tariff multiplied by the water acquired cost (NPA). The PPABT of Yogyakarta and Sleman is the same. It is 20% from the acquired water value. The calculation shows the estimation of the average tax that must be paid based on the Green Accounting. It is Rp85.246.146. The tax paid by those hotels is Rp26.686.702. The difference is Rp 58.5999.444. Table 6 shows the result of NPA of 17 sample hotels using Green Accounting approach, estimation of PPABT, realization of PPABT and the difference between estimation of PPABT with Green Accounting approach and PPABT paid by the sample hotels. The calculation shows that the tax of obtaining and using water paid by hotels in Yogyakarta and Sleman is only 31% from the total amount of tax that must be paid if it is calculated by using Green Accounting approach.

Table 6. Water acquired value (NPA), estimation of Water Tax and actual sample of Water Tax (in rupiah)

Sample	Water Acquired Value	Estimation of PPABT (20% NPA)	Actual PPABT	Difference
1	332,865,600	66,573,120	16,000,000	- 50,573,120
2	687,206,400	137,441,280	46,068,544	- 91,372,736
3	687,206,400	137,441,280	48,000,000	- 89,441,280

4	128,851,200	25,770,240	16,027,872	- 9,742,368
5	708,681,600	141,736,320	112,973,000	- 28,763,320
6	687,206,400	137,441,280	54,500,000	- 82,941,280
7	687,206,400	137,441,280	24,000,000	-113,441,280
8	687,206,400	137,441,280	17,820,000	- 119,621,280
9	687,206,400	124,556,160	30,000,000	- 94,556,160
10	316,759,200	63,351,840	19,544,690	- 43,807,150
11	332,902,800	66,580,560	8,212,584	- 58,367,976
12	62,285,040	12,457,008	436,800	- 12.020,208
13	549,826,560	109,965,312	22,446,448	- 87,518,864
14	300,686,400	60,137,280	9,000,000	- 51,137,280
15	115,979,040	23,195,808	5,769,600	- 17,426,208
16	5,369,400	1,073,880	4,874,400	3,800,520
17	332,902,800	66,580,560	18,000,000	- 8,580,560
average	426,230,732	85,246,147	26,686,702	- 58,559,444

## 5. CONCLUSION AND RECCOMENDATION

The basic water price in Yogyakarta and Sleman is much cheaper than the basic water price calculated using Green Accounting approach. It affects the acquired water price. As this price is very low, the tax of obtaining and using the land water (PPABT) paid by the hotel industry in Yogyakarta Special Territory is low. It may not be able to support the cost for preserving the environment.

The Government of Yogyakarta Special Territory must evaluate the decision of the basic water price. They need to consider risk of the environment damage. Green Accounting is the method that can be used to determine the basic water price for it considers the risk of environment damage.

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