

## MANAGING ZAKAT FUNDS USING THE DEA METHOD: BAZNAS SUMUT EFFICIENCY ANALYSIS



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### Abstract

This study aims to determine the efficiency level of the North Sumatra National Amil Zakat Agency (BAZNAS) in managing zakat funds for the period 2018 to 2022 using the Data Envelopment Analysis (DEA) method with a production approach. The research method uses non-parametric quantitative and collects data by means of documentation. The type of data used is secondary data in the form of financial report data from BAZNAS North Sumatra for the period 2018 to 2022. There are two variables in this study, namely input and output variables. The input variables used are accumulated funds, fixed assets, managed assets, and *amiil* salaries. While the output variable consists of channeled funds and operational costs. This study uses 2 assumptions, namely Constant Return To Scale (CRS) and Variable Return to Scale (VRS). Based on the results of research conducted using the Data Envelopment Analysis (DEA) method, it was found that BAZNAS North Sumatra managed zakat for the 2018 to 2022 period: In 2018, 2019, and 2020 there were inefficiencies. that is, with numbers 90.29% (2018), 77.37% (2019), and 64.49% (2020). Inefficiency occurs because the actual value is not equal to the target value set by the DEA. Meanwhile, in 2021 and 2022 BAZNAS North Sumatra will be efficient. Because the actual value is the same as the target value determined by the DEA.

**Keywords:** Data Envelopment Analysis (DEA), Efficiency, National Zakat Amil Agency (BAZNAS)

## INTRODUCTION

Poverty has always been a problem that occurs in every developing country. The problem of poverty is an ongoing problem in Indonesia every year. Poverty is a serious problem and always attracts attention to studies related to humanity (Sardini en Imsar 2022). Indonesia is one of the developing countries. Of course, as a developing country, there are several problems that hit the economy. Examples of existing problems are inequality in income distribution and poverty. The emergence of poverty can cause several things, for example the emergence of crime, criminal acts. This happens as a result of the economic pressure that everyone is experiencing (Iman, Setyowati & Setiawan 2018). As a result of this problem, of course there is a need for a sustainable welfare system. Islam offers one solution in solving this problem, namely the obligation to tithe. This is the General Chairperson of the National Amil Zakat Agency (BAZNAS) revealed that the potential for zakat in Indonesia will reach IDR 217.3 trillion annually in 2020 and the potential for zakat in Indonesia in 2022 will increase to IDR 327 trillion annually. Based on that, Zakat can be a solution in solving this problem.

Efficiency is a concept that is often used to measure the performance of an institution or organization. Institutions or organizations are said to be efficient if they can minimize existing costs and maximize the output produced. According to Srivistava in Fahmi & Yuliana (2019) states that efficiency is defined as the ability to use limited resources to produce a certain amount of output in an organization.

The Data Envelopment Analysis (DEA) method is one of the methods used in measuring the performance of Zakat Management Organizations (OPZ). By using the Data Envelopment Analysis (DEA) method, you can determine performance efficiency. Using this method has also been done in Indonesia. Several studies have been carried out using the Data Envelopment Analysis (DEA) method, namely the research conducted Alfina & Putra (2021). To determine the input and output variables using the production approach. Input variables use personnel costs, outreach costs, and other operational costs. As for the output variable, it uses collected funds and channeled funds.

Several previous studies have examined the efficiency of zakat management institutions in Indonesia Akbar, (2013). The results of his research showed that 2005 OPZ was better than 2006. The orientation of the inputs used were other operational costs and

outreach costs. Research conducted Rusydiana & Al-farisi, (2016) mentions that there are 12 decision-making units in zakat management organizations that operate at an efficient level and six decision-making units that are inefficient. The main factor of inefficiency in zakat management organizations from 2007 to 2014 was caused by the distribution of zakat funds to ashnaf. Research conducted Budiantoro, Luthfi, & Herianingrum (2018) by taking the input variable total assets and operational costs. While the output variable is receiving and distributing zakat funds. The results of this study are that total assets and operational costs have a positive effect on receiving funds. Operational costs also have a positive effect. Djagballou et al. (2019) Also examines the financial efficiency of zakat distribution institutions in Nigeria. The results of his research state that the total productivity has increased significantly in all zakat management institutions in Nigeria as a result of technical efficiency.

Zakat management in Indonesia is regulated through Law No. 23 of 2011 concerning Management of Zakat. This Law, which was passed on November 25<sup>th</sup>, 2011, replaced the previous Law with No. 38 of 1999 concerning Management of Zakat. For the implementation of Law no. 23 of 2011 has also issued a Government Regulation, namely PP No. 14 of 2014 concerning the implementation of Law No. 23 concerning the management of zakat (Siregar 2016).

One of the zakat management institutions in North Sumatra Province is the North Sumatra National Amil Zakat Agency (BAZNAS). BAZNAS North Sumatra was established on the basis of the mandate of Law No. 38 of 1999 concerning the Management of Zakat and Decree of the Governor of North Sumatra Number: 451.7.05/K/2001 as the official collection and distribution of zakat, infaq and alms (ZIS) and also the coordinator of the Amil Zakat Agency. Referring to the BAZNAS Potential Zakat Mapping Indicator (IPPZ), BAZNAS of North Sumatra Province recorded Zakat Receipts of 9.9 Billion Rupiah in 2020, which means that it only fulfills 0.13% of its potential of 7.9 Trillion Rupiah based on the formulated zakat potential mapping BAZNAS Center (Aslami, Soemitra, & Nawawi 2023).

Hatta (2023) said that, based on the principles of guidelines and financial management. BAZNAS SUMUT received WTP. On the other hand North Sumatra BAZNAS has carried out activities distribution and utilization in 2022 based on the

planning set out in the RKAT and regulated in five flagship programs. 1) North Sumatra Taqwa (Dakwah and Advocacy Program) in the amount of IDR 3,566,595,425 with 123 beneficiaries, 2) North Sumatra is smart (Education Program) in the amount of IDR 999,470,000 with 1,027 beneficiaries, 3) North Sumatra is Healthy (Health Program) in the amount of IDR 367,114,529 beneficiaries of 766 people, 4) North Sumatra Cares (Humanitarian Program) in the amount of IDR 5,377,511,666 recipients of 7,076 people and 5) Sumut Makmur (Economy Program) of IDR 5,377,511,666 recipients of 7,076 people. Not stopping from that, the Governor of North Sumatra quoted from the article Admins, (2023) mentioned that the presence of BAZNAS SUMUT can help in alleviating poverty. Given the estimated funds in North Sumatra amounted to 8.8 billion.

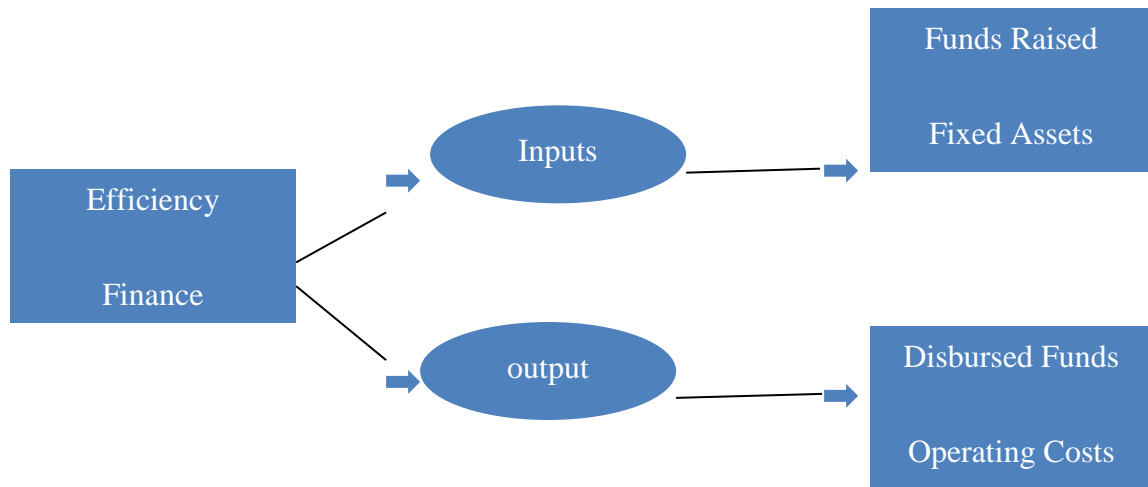
**Table 1**  
**North Sumatra BAZNAS Financial Report for 2021 2022**

**BADAN AMIL ZAKAT NASIONAL PROVINSI SUMATERA UTARA**  
**LAPORAN POSISI KEUANGAN**  
**Per 31 Desember 2022**

<b>Uraian</b>	<b>Catatan</b>	<b>2022 Rp.</b>	<b>2021 Rp.</b>
<b>A S E T</b>			
<b>Aset Lancar</b>			
Kas dan setara kas	2.b, 3.a	18.465.472.980	4.833.296.274
Barang berharga	3.b	600.000.000	600.000.000
Piutang	2.c, 3.c	1.646.820.000	1.747.150.000
Persediaan	3.d	5.175.460	8.641.520
<b>Jumlah aset lancar</b>		<b>20.717.468.440</b>	<b>7.189.087.794</b>
<b>Aset Tidak Lancar</b>			
Investasi pada entitas asosiasi	2.d, 3.e	1.113.708.888	1.113.708.888
<b>Aset Tetap</b>			
Harga perolehan	2.e, 3.f	5.438.387.520	4.339.326.520
Akumulasi penyusutan		3.227.960.179	2.995.998.412
Nilai buku		<b>2.210.427.341</b>	<b>1.343.328.108</b>
<b>Jumlah aset tidak lancar</b>		<b>3.324.136.229</b>	<b>2.457.036.996</b>
<b>TOTAL ASET</b>		<b>24.041.604.669</b>	<b>9.646.124.790</b>
<b>LIABILITAS DAN SALDO DANA</b>			
<b>KEWAJIBAN</b>			
<b>JUMLAH LIABILITAS</b>		<b>-</b>	<b>-</b>
<b>SALDO DANA</b>			
Dana zakat	3.g	13.109.219.010	4.205.806.639
Dana infak/sedekah		3.101.898.279	3.462.663.589
Dana amil		2.786.511.951	-
Dana APBD Provinsi		5.043.975.430	1.977.654.562
<b>JUMLAH SALDO DANA</b>		<b>24.041.604.669</b>	<b>9.646.124.790</b>
<b>TOTAL LIABILITAS DAN SALDO DANA</b>		<b>24.041.604.669</b>	<b>9.646.124.790</b>

Based on the financial reports of BAZNAS SUMUT from 2021 to 2022 there has been an increase. In 2021 total assets will be 9,646,121,790, while in 2022 it will increase to 24,041,604,669. Based on that, the researcher is interested in conducting research by taking the title Managing Zakat Funds Using the Data Envelopment Analysis (DEA) Method: Analysis of the Efficiency of the North Sumatra National Amil Zakat Agency (BAZNAS).

## REVIEW OF LITERATURE



**Figure 1**  
**Conceptual Framework**

The variables to be tested are divided into two parts: input and output variables. The input variables used are the funds raised, fixed assets, assets under management, and the salaries of *'amilin'*. These input variables were chosen because these variables are considered as organizational resources that can produce output. While the output variable is channeled funds and operational costs. The choice of output variables is also because these variables can describe the zakat output that can be felt by *mustahik* (zakat recipients) and by BAZNAS itself. Islam has pillars that must be believed and carried out by someone who has a religion that is full of truth. As for the pillars of Islam that we are obliged to do there are five obligations. One of these obligations is zakat, zakat itself according to the language of the basic word *zaka* means zakat assets or assets issued to purify the assets we

have (M Hafiz 2023). Allah SWT explains in the Qur'an Surah Attaubah verse 103 Allah SWT explains:

خُذْ مِنْ أَمْوَالِهِمْ صَدَقَةً تُطَهِّرُهُمْ وَتُزَكِّيهِمْ بِهَا وَصَلِّ عَلَيْهِمْ إِنَّ صَلَاتَكَ سَكَنٌ لَهُمْ  
وَاللَّهُ سَمِيعٌ عَلِيمٌ

“Take zakat from their wealth, in order to clean and purify them, and pray for them. Indeed, your prayer (grows) peace of mind for them. Allah is All-Hearing, All-Knowing.”

The variable is defined as follows: a) The funds collected are the total muzaki funds; b) Fixed assets are the total assets owned by BAZNAS which are fixed (non-current). Fixed assets can be seen from the balance sheet of BAZNAS financial statements; c) Managed assets are assets managed by BAZNAS and can be seen in BAZNAS' financial reports; d) 'Amiliin' salary is the total employee salary issued by BAZNAS for a certain period; e) Distributed funds are the total funds distributed to mustahik in a certain period; f) Operational costs are the total expenditure funds used for organizational financing accumulation.

## RESEARCH METHOD

This study uses a type of quantitative research with secondary data sources. The secondary data in question is finances that have been compiled and published periodically by the North Sumatra National Amil Zakat Agency (BAZNAS) from 2018 to 2022. These financial reports were taken directly from the official website of North Sumatra BAZNAS.

The data collection technique used is to analyze documents such as financial reports and all documents published by BAZNAS in a certain period. The data taken are financial reports that have been collected by researchers starting from the 2018-2022 period. In addition, there are several other supporting documents such as National Zakat Statistics and National Zakat Outlook for certain periods. This technique is called technical documentation. Furthermore, the researcher in his review will use the Data Envelopment Analysis (DEA) measuring tool. DEA is a technique used to assess the relative efficiency of the DMU (Decision Making Unit) or Decision Making Unit in managing inputs to maximize output. (Siswandi and Arafat, 33) The DEA method is famous for its two models, namely CCR and BCC. CCR uses the CRS assumption, namely the assumption that each addition of one input will be in harmony with the addition of

output. Meanwhile, BCC uses the VRS assumption, namely the assumption that there is no certainty that there is harmony between the addition of inputs and outputs. Therefore, the output of the VRS can be greater or less than one

DEA substantially aims to determine the weight of each institutional resource, both input and output from UKE (Economic Activity Unit). UKE must equalize the weight between several variables so that the ratio can be evaluated and not more than 1. In maximizing the efficiency ratio, DEA can use output orientation or minimize input. In essence, the pattern used is the minimum input with the maximum output combination. Meanwhile, UKE is said to be efficient (William, Seiford, and Tone, 2006: xx) if it is counted as 100% or equal to 1. However, if it is less than 100% or 1, then UKE is considered inefficient.

Mathematically, DEA can be calculated as follows (Rusydia 2013):

$$Efisiensi DMU = \frac{\sum_{k=1}^p \mu y_{kj}}{\sum_{i=1}^{nt} x_{ij}}$$

DMU description	=	Decision Making Unit
n	=	total UPK
m	=	input variable
p.s	=	output variable
x <sub>ij</sub>	=	number of inputs I used by UPK <sub>j</sub>
y <sub>kj</sub>	=	total output produced by UPK <sub>j</sub>

The DEA model is calculated using two approaches, namely the Constant Return Scale (CRS) and the Variable Return Scale (VRS). In this study, to calculate it researchers use Statistics And Data Software (STATA) using the duration of observation for 5 years.

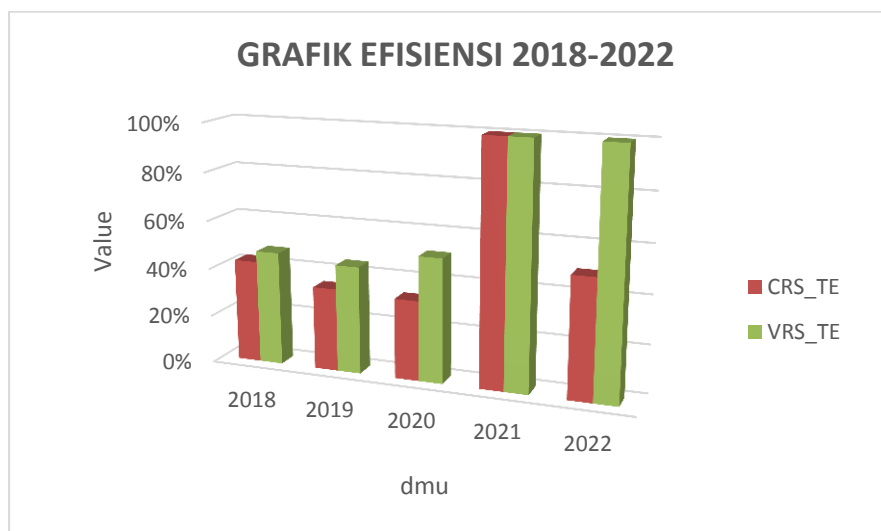
## RESULTS AND DISCUSSION

BAZNAS performance is said to be efficient if it is close to 100% or 1.00. Conversely, if the performance of BAZNAS is further from 100% or 1.00, the performance will be increasingly inefficient. To measure the efficiency of the researcher refers to Akbar (2009), namely input and output. If it is efficient then the results of the input and output are not different. The trick is to minimize the amount of input or output. To measure the financial performance of researchers using Software Statistics and Data

(STATA). Researchers enter the data used as input and output materials into the software as follows.

**Table 2**  
**Input and Output Variables of North Sumatra BAZNAS 2018 2022**

Keterangan	2018	2019	2020	2021	2022
Dana Terhimpun	10.710.019.107	12.879.533.789	16.767.037.842	9.646.124.790	1.541.286.741
Aset Tetap	7.568.366.080	9.842.651.769	13.872.889.279	7.189.087.794	1.548.292.958
Aset Kelolaan	2.899.537.930	3.009.834.927	1.976.247.131	1.755.791.520	4.457.888.343
Gaji Amiliin	411.689.000	405.985.000	467.770.000	501.761.500	185.890.907
<b>Total Input</b>	<b>21.589.612.117</b>	<b>26.138.005.484</b>	<b>33.083.944.252</b>	<b>19.092.765.604</b>	<b>47.666.113.569</b>
Dana Tersalurkan	8.647.406.379	7.797.657.253	9.515.842.928	18.204.063.342	1.361.429.109
Biaya Operasional	1.813.768.805	2.440.647.175	2.945.141.074	3.512.743.094	18.903.834.564
<b>Total Output</b>	<b>10.461.175.184</b>	<b>10.238.304.428</b>	<b>12.460.984.002</b>	<b>21.716.806.436</b>	<b>26.933.837.241</b>



**Figure 2**  
**North Sumatra BAZNAS Input and Output Diagram for 2018 2022**

Based on the diagram above, it is illustrated that each input and output variable from 2018 to 2020 has decreased. However, in 2021 and 2022 there will be an increase again.

After the input and output variables are processed into Statistics And Data Software (STATA), then the results can be known. Based on the results of the analysis using Statistics And Data Software (STATA) with a CSR approach and oriented towards

input variables, it can be seen the level of efficiency of the North Sumatra National Amil Zakat Agency (BAZNAS).

**Table 3**  
**Efficiency Calculation Results Based on the Method Statistics And Data Software (STATA) 2018-2022**

2018	90.29%
2019	77.37%
2020	64.49%
2021	100%
2022	100%

Source: Processed secondary data

It is known from the DEA results that in 2021 and 2022 the maximum or highest scores will be obtained. That is reaching 100%. Furthermore, in 2018 the efficiency level was 90.29%, in 2019 the efficiency level was 77.37%, in 2020 the efficiency level was 64.49%.

In DEA calculations, a period that is frontier (already efficient) is assumed to be efficient if it is 100%, while an inefficient period is between 0% and 100%. Besides that, there are also actual numbers and target numbers. The actual figure is the number of input and output that is owned, while the target is the number suggested by the DEA calculation so that the input and output are efficient. Meanwhile, to again and to achieved are percentages in adding numbers to achieve the target generated by DEA calculations (Susilowati & Indah, 2004).

#### **North Sumatra BAZNAS Efficiency Technical Analysis for 2018**

In 2018, the efficiency level of BAZNAS North Sumatra reached 90.29%. This shows that BAZNAS has made an inefficiency of 90.29%. This efficiency value illustrates that North Sumatra BAZNAS is quite efficient (close to 100%). However, it cannot be said to be maximally efficient. In order to be efficient it can be seen from each input and output variable shown in the table below.

**Table 4**  
**Results of the 2018 North Sumatra BAZNAS Efficiency Analysis**

	Dana Terhimpun	Aset Tetap	Aset Kelolaan	Gaji Amilin	Total Input	Dana Tersalurkan	Biaya Operasional	Total Output
Aktual	4.562.457.430	3.224.116.382	1.235.200.259	175.379.102	9.197.153.172	3.683.786.470	772.663.697	4.456.450.167
Target	5.053.040.565	3.570.792.958	1.368.016.493	194.236.929	10.186.086.945	4.079.889.567	855.745.191	4.935.634.758
To Gain	43%	43%	43%	43%	43%	43%	43%	43%
To Achieved	47%	47%	47%	47%	47%	47%	47%	47%

Increasing the efficiency of BAZNAS North Sumatra in 2018 from the input side can be done by setting a target of Rp. 5,053,040,565 collected funds, which is currently still Rp. 4,562,457,430. In other words, the current actual condition can reach the target if the funds raised are added to 4.3%. Furthermore, fixed assets show inefficiency. In order to increase efficiency, fixed assets are added from Rp. 3,224,116,382 to Rp. 3,570,792,958. Then, the assets under management also show inefficiencies. So it is necessary to add from IDR 1,235,200,259 to IDR 1,368,016,493. So it can be efficiency.

Furthermore, from the output variable, inefficiencies still occur, namely, funds are channeled. For efficiency, it can be done by setting the channeled funds of Rp4,079,889,567 which is currently IDR 3,683,786,470 by adding 4.3%. Then set an operational cost of IDR 855,745,191 which is currently IDR 772,663,697.

#### **North Sumatra BAZNAS Efficiency Technical Analysis for 2019**

Zakat growth data in Indonesia can be seen in Zakat National 2019 Statistics, an annual BAZNAS publication that presents data on the collection and distribution of zakat, infaq, alms, and DSKL funds in Indonesia. The data collection method used this year is no different from previous years, namely direct data collection from BAZNAS Information Management System Application (SIMBA) which until 2019 was actively used by 171 regional BAZNAS and 5 LAZs, as well as data collection through reports sent manually (Adilla, Nasution, en Sugianto 2021).

In 2019 the efficiency level of BAZNAS North Sumatra reached 77.37%. This shows that BAZNAS has made an inefficiency of 77.37%. This efficiency value illustrates that North Sumatra BAZNAS is quite efficient (close to 100%). However, it

cannot be said to be maximally efficient. In order to be efficient it can be seen from each input and output variable shown in the table below.

**Table 5**  
**Results of the 2019 North Sumatra BAZNAS Efficiency Analysis**

	Dana Terhimpun	Aset Tetap	Aset Kelolaan	Gaji Amilin	Total Input	Dana Tersalurkan	Biaya Operasional	Total Output
Aktual	4.435.363.690	3.389.543.518	1.036.505.883	139.810.272	9.001.223.363	2.685.302.621	840.492.990	3.525.795.611
Target	5.732.461.537	4.380.796.977	1.339.626.359	180.697.022	11.633.581.895	3.470.604.683	1.086.290.567	4.556.895.250
To Gain	34%	34%	34%	34%	34%	34%	34%	34%
To Achieved	45%	45%	45%	45%	45%	45%	45%	45%

Increasing the efficiency of BAZNAS North Sumatra in 2019 from the input side can be carried out by setting a target of collected funds of IDR 5,732,641,537 which is currently still IDR 4,435,363,690. %. Furthermore, fixed assets show inefficiency. In order to increase efficiency, fixed assets were added from IDR 3,389,543,518 to IDR 4,380,796,977. Then, the assets under management also show inefficiencies. So it is necessary to add from IDR 1,036,505,883 to IDR 1,339,626,359 so that it can become efficiency.

Furthermore, from the output variable, inefficiencies still occur, namely, funds are channeled. For efficiency, it can be done by setting the channeled funds of Rp3,470,604,683 which is currently IDR 2,685,302,621 by adding 4.3%. Then set an operational cost of IDR 1,086,290,567 which is currently IDR 840,492,990.

**North Sumatra BAZNAS Efficiency Technical Analysis for 2020**

In 2020 the efficiency level of BAZNAS North Sumatra will be reached 64.49%. This shows that BAZNAS has made an inefficiency of 64.49%. This efficiency value illustrates that North Sumatra BAZNAS is quite efficient (close to 100%). However, it cannot be said to be maximally efficient. In order to be efficient it can be seen from each input and output variable shown in the table below.

**Table 6**  
**Results of the 2020 North Sumatra BAZNAS Efficiency Analysis**

	Dana Terhimpun	Aset Tetap	Aset Kelolaan	Gaji Amilin	Total Input	Dana Tersalurkan	Biaya Operasional	Total Output
Aktual	5.552.186.610	4.593.826.937	654.408.546	154.895.954	1.095.5318.048	3.151.047.680	975.245.180	4.126.292.859
Target	8.608.247.529	7.122.382.975	101.4611.206	24.0154.521	16.985.396.231	4.885.462.307	1.512.044.263	6.397.506.570
To Gain	33%	33%	33%	33%	33%	33%	33%	33%
To Achieved	51%	51%	51%	51%	51%	51%	51%	51%

Increasing the efficiency of BAZNAS North Sumatra in 2020 from the input side can be carried out by setting a target of funds collected in the amount of Rp. 8,608,247,529 which is currently still Rp. 5,552,186,610. %. Furthermore, fixed assets show inefficiency. In order to increase efficiency, fixed assets are added from IDR 4,593,826,937 to IDR 7,122,382,975. Then, the assets under management also show inefficiencies. So it is necessary to add from IDR 654,408,546 to IDR 1,014,611,206 so that it can become efficiency.

Furthermore, from the output variable, inefficiencies still occur, namely, funds are channeled. For efficiency, it can be done by setting the channeled funds of IDR 4,885,462,307 which is currently IDR 3,151,047,680 by adding 3.3%. Then set an operational cost of IDR 1,512,044,263 which is currently IDR 975,245,180.

#### **North Sumatra BAZNAS Efficiency Technical Analysis for 2021**

The North Sumatra National Amil Zakat Agency (BAZNAS) in 2021 has achieved an efficiency value of 100%. This shows that BAZNAS North Sumatra has been able to use existing inputs to produce maximum output. Achievement of efficiency can be seen in each input and output variable shown in the table below.

**Table 7**  
**Results of the North Sumatra BAZNAS Efficiency Analysis for 2021**

	Dana Terhimpun	Aset Tetap	Aset Kelolaan	Gaji Amilin	Total Input	Dana Tersalurkan	Biaya Operasional	Total Output
Aktual	9.646.124.790	7.189.087.794	1.755.791.520	501.761.500	19.092.765.604	18.204.063.342	3.512.743.094	2.1716.806.436
Target	9.646.124.790	7.189.087.794	1.755.791.520	501.761.500	19.092.765.604	18.204.063.342	3.512.743.094	2.1716.806.436
To Gain	0%	0%	0%	0%	0%	0%	0%	0%
To Achieved	100%	100%	100%	100%	100%	100%	100%	100%

The table above shows the results of the efficiency analysis of BAZNAS North Sumatra for 2021 showing that the level of efficiency has reached 100 percent in all input and output variables. With the meaning of a value of 100 percent indicates that BAZNAS North Sumatra is able to achieve the actual value (actual value) with the target value (value to be achieved) suggested through DEA calculations. The proof can be seen from the to gain value of 0 percent meaning that there is no actual value that does not reach the target value.

**Technical analysis of North Sumatra BAZNAS efficiency in 2022**

Year 2022 the efficiency value of BAZNAS North Sumatra achieves an efficiency indicator of 100% or close to 1. This efficiency achievement can be seen in each input and output variable which is shown in the table below:

**Table 8**  
**Results of the North Sumatra BAZNAS Efficiency Analysis for 2022**

	Dana Terhimpun	Aset Tetap	Aset Kelolaan	Gaji Amilin	Total Input	Dana Tersalurkan	Biaya Operasional	Total Output
Aktual	1.541.286.741	1.548.292.958	4.457.888.343	185.890.907	7.733.358.949	1.361.429.109	18.903.834.564	20.265.263.673
Target	1.541.286.741	1.548.292.958	4.457.888.343	185.890.907	7.733.358.949	1.361.429.109	18.903.834.564	20.265.263.673
To Gain	0%	0%	0%	0%	0%	0%	0%	0%
To Achieved	100%	100%	100%	100%	100%	100%	100%	100%

The table above shows the results of the efficiency analysis for 2022. This table proves that BAZNAS North Sumatra is relatively optimally efficient. This means that BAZNAS North Sumatra has reached the actual value which is the same as the target value suggested by the DEA. BAZNAS in the 2022 period is good. The performance of BAZNAS financial management remains efficient because the amount of input and output funds is in accordance with the efficiency calculation target.

The findings of the researchers have the same results as the research conducted by Syaifuddin, (2019). The results of his research stated that from 2015 to 2016 there were inefficiencies. In 2015 and 2016 all input variables experienced inefficiencies, while the output variable was only the distribution of zakat funds. Zainuddin, (2021) stated that in 2018 there were inefficiencies. This occurs because of a discrepancy between the actual number and the target number which does not match. Atiya et al. (2020) also mentioned that in 2018 there was inefficiency in zakat management. The reason is because the amount of zakat collected has not been optimal. Besides that Firdaus, Purbayati, & Setiawan, (2022) mentions that operational costs are one of the variables that are not inefficiency.

Research conducted by Degely & Rahmawati, (2023) mentions that in managing zakat infaq and alms Muhammadiyah in 2021 it has been efficient. This is in line with the findings made by researchers that in 2021 and 2022 the input and output variables will be efficient.

In contrast to the research conducted by Azizah, Rojak, & Yusuf, (2020). The results of his research stated that in 2018, 2019 and 2020 the West Java Province BAZNAZ funds were efficient. Ningsih & Yuliana, (2023) also mentioned in his research that BAZNAS JATIM for the 2018-2020 period had been efficient. Pujianto & Kristianingsih, (2020) also mentions that the input and output variables in the form of zakat receipts, operational costs, and digital zakat receipts are already efficient. This happens with the optimal collection of zakat funds.

### **Analysis of the Factors Causing the Inefficiency of BAZNAS North Sumatra in 2018 2022**

Factors causing the inefficiency of the North Sumatra National Amil Zakat Agency (BAZNAS) during the period 2018 to 2022. In 2018, 2019, 2022 BAZNAS

experienced inefficiency. In 2018 there was an inefficiency of 90.29%, in 2019 there was an inefficiency 77.37%, and in 2020 experienced 64.49% inefficiency. This occurs due to an imbalance in the amount of funds contained in variables that have been processed to calculate the level of efficiency.

Based on the explanation presented in the technical efficiency tables for 2018, 2019 and 2020, all input and output variables are in accordance with the DEA efficiency calculation target. The variables that cause inefficiency in 2018 are the variables of collected funds, fixed assets, assets under management, and company funds, channeled funds and operational costs. Of all these variables, there were also inefficiencies in 2019, namely 3.4%. Whereas in 2020 all input and output variables experienced an inefficiency of 3.3%. In 2021 and 2020 BAZNAS North Sumatra will be 100% maximum efficient. This means that in these two periods there was no inefficiency, or an inefficiency of 0%. In other words, there are no factors that cause inefficiency.

In 2018 BAZNAS North Sumatra was classified as a national zakat institution with an inefficiency performance with a score of 90.29%. Inefficiencies occur in input and output variables. In the input variable, which consists of funds collected, fixed assets, and amii, there is an imbalance of 4.3%. Likewise what happened to the output variable which consisted of channeled funds, and operational costs needed to add 4.3% so that it became efficient.

Furthermore, in 2019 BAZNAS North Sumatra is classified as a national zakat institution with an inefficiency performance with a score of 77.37%. This has decreased from 2018. Inefficiencies occur in input and output variables. In the input variables, which consist of funds collected, fixed assets, and amii, there is a fund imbalance of 3.4%. Likewise what happened to the output variable which consisted of channeled funds, and operational costs needed to add 3.4% so that it became efficient.

In 2020 BAZNAS North Sumatra is classified as a national zakat institution with an inefficiency performance with a score of 64.49%. This has decreased from 2019. Inefficiencies occur in input and output variables. In the input variable, which consists of funds collected, fixed assets, and amii, there is a fund imbalance of 3.3%. Likewise what happened to the output variable which consisted of channeled funds, and operational costs needed to add 3.3% so that it became efficient.

This finding is in line with the research conducted by Nurhasanah & Lubis, (2017). In the operational cost variable, the funds collected and the funds channeled experienced inefficiencies. Parisi, (2017) also mentioned in his research that there were inefficiencies in the variables of operational costs, receiving funds, and channeling funds.

## CONCLUSION

Based on the results of the efficiency level analysis at the North Sumatra National Amil Zakat Agency (BAZNAS) using the Data Envelopment Analysis (DEA) method for the 2018 2022 period with a production approach in determining input and output variables, the conclusions of this study are: a) In 2018 BAZNAS North Sumatra experienced an inefficiency of 90.29%. In 2019 there was also an inefficiency of 77.37%, as well as in 2020 there was an inefficiency of 64.49%. While in the 2021 and 2022 periods it will reach 100% or equal to 1. This shows that the North Sumatra BAZNAS in 2021 and 2022 has been maximized. The exact number at 0.0% to gain indicates that the efficiency target is in accordance with the actual conditions and achieved 100%; b) In 2018, 2019 and 2020 experienced inefficiencies. Thus 2018, 2019 and 2020 will be efficient. This happens because of a waste of costs, or an imbalance in the amount of funds between several variables as measured by the level of efficiency. In order to be efficient, in 2018 it is necessary to add 4.3% to each input and output variable. Meanwhile for 2019 it is necessary to add 3.4% to each input and output variable. Whereas for 2020 it is necessary to add 3.3% to the input and output variables. Thus 2018, 2019 and 2020 will be efficient. While in 2021 and 2022 it will be efficient because it has reached 100%.

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