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**Policy Paper** 

# Can Regional Spending Management Policies Improve Human Development Index?

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#### ABSTRACT

The management of expenditure carried out by local governments until now is considered not effective and efficient enough, so the government, through Law Number 1 of 2022 (articles 146 and 147) seeks to increase the effectiveness of regional expenditure in regional development by regulating the proportion of employee spending and public service infrastructure spending. This article aims to evaluate regional spending management policies in increasing Human Development Index (HDI) in the Bima regency. This regency was chosen as the research location because it has a fairly large employee expenditure allocation which is 49.29 percent of the total regional expenditure, with an increase in HDI of 0.36. Data analysis was carried out using *Tableau* applications and cost-effectiveness analysis. The results show that in comparison to other Indonesian eastern districts, the Bima region does not manage regional expenditures efficiently. Meanwhile, the results of the 2022-2025 HDI forecast only increased by 0.611 per year. The estimated HDI in 2024 is 69,02863, which is still far below the 2024 HDI target of 75.54. Suggestively, the Bima regency needs to allocate budgets selectively for the HDI driving sector and decrease the employee spending rate.

**Keywords**: Decentralization; Regional Development; Regional Spending; Mandatory Spending; Costeffectiveness analysis

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#### 1. Introduction

In September 2015, the United Nations adopted the 2030 sustainable development agenda to eradicate poverty, combat inequality and injustice, and save the planet by protecting the environment. The 2030 agenda includes a set of 17 Sustainable Development Goals (SDGs) and 169 target projects to assess and monitor sustainable development by 2030 (Benedek et al., 2021). Indonesia has implemented regional autonomy, where each respective region delegates rights and authority for development. Once the authority to manage regional expenditures is handed over to local governments in the hope that local governments can manage regional expenditures effectively and be able to increase HDI in accordance with the SDGs achievement, it will certainly facilitate the process of achieving the goals of the SDGs itself.

Decentralization in Indonesia has been running since the enactment of Law Number 22 of 1999 concerning Regional Government and Law Number 25 of 1999 concerning Financial Balance between the Central and Regional Governments. One of the impacts is that local governments have the potential to achieve effectiveness and efficiency in financial management because government decisions are more aligned with the desires and requirements of their communities (Alm et al., 2001). Unfortunately, financial management by local governments has not progressed as expected. This is due to the management's continuing disregard for the community welfare and the inadequate budgeting, legislation, and control function of the Regional Legislative Council (DPRD) (Karianga, 2017).

Regional financial management is annually discussed and approved jointly by the local government and the Regional House of Representatives to be determined through regional regulations on the Regional Revenue and Expenditure Budget. At the end of the relevant year, the government makes a budget realization report which is a form of accountability for local governments. One of the contents contained in the budget realization report is regional expenditure. According to Minister of Home Affairs Regulation (Permendagri) Number 13, of 2006, regional expenditure is the overall liabilities of local governments which are identified as an inference from the value of net worth. In the budget realization report following with Minister of Home Affairs Regulation (Permendagri) Number 77 of 2020, regional expenditures have four types of categories, namely operating expenditures (employee expenditures, goods and services expenditures, interest expenditures, grant expenditure subsidy expenditures, and social assistance expenditures), capital expenditures, unexpected expenditures, and transfer expenditures. In certain regions of Indonesia, regional spending has a substantial impact on regional development (Hadi, 2011; Priambodo & Noor, 2016; Rosmadayanti et al., 2021; Rustariyuni, 2014; Sari & Supadmi, 2016)

In the domain of regional development, the Human Development Index (HDI) is established as the main indicator to measure the success of regional development; and through HDI, we can also design policies to achieve the regional development goals, especially those related to the SDGs (United Nations Development [UNDP], 2020). In other words, an improvement in the SDGs' achievement can be shown by an increase in HDI (Arriani & Chotib, 2021; Jain & Jain, 2020; Requejo-Castro et al., 2020). However, suppose the data from the Central Statistics Agency are being reviewed. In that case, it is known that the HDI of the provinces of the eastern Indonesia region is still lagging behind the western region. The acceleration of human development can be made through equal income distribution and the adequacy of public expenditure for the education and health sectors (Zulyanto, 2016). It is undeniable that in addition to population indicators and economic growth, the human development index indicator is another indicator that affects income inequality (Rahmawati et al., 2020). Local governments play an important role in managing public expenditure because more than half of public expenditure is managed by local governments. However, greater effort is required to improve management's effectiveness and efficiency. (World Bank, 2020). The results of the IMF Working Paper Report (2019) show that public social spending influences gross national income per capita, expected length of schooling, and life expectancy, so if the government wants to increase these three variables, the government needs to allocate more regional budgets for public spending (Paliova et al., 2019).

Local governments need to pay attention to the allocation of public expenditure since the success of achieving the SDGs goals in the regions largely depends on the ability of local governments to develop regional expenditure allocation plans on programs related to the public interest to support the achievement of the SDGs goals (Badan Perencanaan Pembangunan Nasional [Bappenas], 2017; Haryanto, 2015; Kharas & Mcarthur, 2019; Sisto et al., 2020). Furthermore, relatively low public spending leads to

local governments's incapability to provide adequate public services for their communities which will affect the decline in community welfare (Amalia & Purbadharmaja, 2015)

As a key factor for national growth and development, public spending is used to finance health and education services and infrastructure projects, including roads, electricity, and water(Hall, 2014). Therefore, through Law Number 1 of 2022 concerning Financial Relations between the Central and Regional Governments, the government tries to increase the efficiency of regional spending so that it can be optimal in encouraging the achievement of development results and regional economic growth. The law regulates the obligation of local governments to allocate employee expenditures a maximum of 30 percent (article 146) and an allocation of public service infrastructure expenditures of at least 40 percent (article 147) of the total regional expenditure.

Previous research on the evaluation of regional spending gives varying results. Some studies state that there is a significant positive relationship between regional spending and the human development index (Fattah, 2012; Ferraz et al., 2020; Handayani et al., 2022; Jaya, 2021; Martinidis et al., 2022; Masduki et al., 2021; Raya, 2021; Rustariyuni, 2014; Sari et al., 2021; Sippa & Saleh, 2021), while some other studies state that there is no relationship between regional spending and the human development index (Williantara & Budiasih, 2016; Muliza et al., 2017; Zuraida, 2017; Bandiyono, 2018; Krismanjaya & Dewi, 2019; Nababan, 2020; Ningrum & Nuryadin, 2021). Based on previous studies, writings that examine the relationship between the Human Development Index and regional spending management policies in Bima Regency have never been carried out, so it is interesting to conduct further research.

In conducting policy evaluations, summative and formative research questions were constructed. Summative questions functioning to prove accountability are asked to find out what and how effectively regional spending is produced. Formative questions which functions to improve aims for improvement (Knowlton & Phillips, 2013). In this study, the summative question was "How the effectiveness/efficiency of regional spending in 2021 on regional development?" In addition to summative questions, researchers also built formative questions, namely "How will the adjustments to regional spending allocations be made to improve regional development?"

To answer the questions above, this paper aims to analyze regional spending management policies through evaluation and forecast of regional expenditure management toward increasing the HDI. Bima regency was chosen as the research location because it has a fairly large employee expenditure allocation of 49.29 percent of the total regional expenditure, with an increase in HDI of 0.36. This is supported by education statistics data published by Badan Pusat Statistik (BPS) from 2018 to 2021, which shows that within three years, there has been an increase in the percentage of illiteracy percentage of the population aged 15 years and over in Bima regency, from 2017 which was only 10.59 percent to 11.44 percent. The average number of school years in Bima regency within three years has decreased, from 8.15 percent in 2017 to 7.78 percent. The evaluation results are expected to be used as input in the preparation of the regional budget so that the allocation of personnel and infrastructure expenditures can be in accordance with Law No. 1 of 2022. Program evaluation is the systematic collection of information to make decisions in improving the effectiveness of the program and/or generating knowledge to inform decisions about future programs. Evaluation can also be carried out for policies, organizations, and employees (Patton, 2002).

In this study, we also used an analysis method different from that used in previous studies by using multiple data analysis methods, namely (1) analysis based on data processing through the *Tableau* application and (2) cost-effectiveness analysis. The use of this dual analysis method is expected to provide more accurate results. In addition, in this article, a forecast of HDI conditions in 2021-2025 is also carried out so that the government can take anticipatory and strategic steps.

#### 2. Methodology

This study was conducted in Bima regency, situated on the island of Sumbawa's easternmost point, West Nusa Tenggara Province and adjacent to Bima city. In 2020 the population in Bima Regency reached 532,677 people with an area of 437,465 Ha or 4,394.38 km2 consisting of 18 sub-districts and 191 villages. Bima regency has a regional revenue and expenditure budget (APBD) of IDR 1.778.713.865742- with a fairly large allocation of personnel expenditure, which is 49.29 percent of the total regional expenditure. However, the increase in HDI in Bima Regency is not too significant when compared to the total realized regional expenditure compared to other Indonesian eastern regions.

The data used in this study were taken from public and official databases provided by *Badan Pusat Statistik* (Central Bureau of Statistics), which is available at https://www.bps.go.id/indicator-indekspembangunan-manusia.html and data from *Kementerian Keuangan Indonesia* (Ministry of Finance) which is available at https://djpk.kemenkeu.go.id. The data from the Central Bureau of Statistics (BPS) is used to obtain information regarding the increase in HDI in 2019-2021 in Indonesia, and those from the Directorate General of Financial Balance (DJPK) Ministry of Finance are used to see the realization of regional spending in 2021.

After the data were obtained, an evaluation analysis of regional spending policies was carried out with a cost-effectiveness analysis approach. Cost-effectiveness analysis was a part of efficiency analysis. This analysis compared the relative efficiency between programs/policies with approximately similar/equal objectives and outcomes based on the input values shown in the monetary unit (Rossi et al., 2004). In this study, the evaluation instrument is in the form of spending realization and changes (increases/decreases) in HDI in the 2021 period. The evaluation results are expected to prepare the APBD in the next period.

In addition to evaluating cost-effectiveness analysis, this study also processed data through the application. The application used in data processing was *Tableau Desktop 2020.3* free license edition for academic purposes. This application is considered capable of mapping and representing data visualization and achieving required analyses in the research process (Kusumasari et al., 2022). *Tableau* is easy to use; it has several advantages when used as a business intelligence over Microsoft Excel (Effendy et al., 2021), among others are:

- 1. data visualization becomes easier, especially in the form of graph or image views, so that patterns, trends, or relationships between data points can be found;
- 2. the drag and drop feature makes tableau very easy to use;
- 3. support geographic location features by using existing special data;
- 4. the drill-down feature that supports by tableau can increase user insights in obtaining information;
- 5. Tableau's flexibility allows users to see the number of calculated numbers coming from a data set without having to manually type in calculation formulas; and
- 6. Tableau can analyze data from a variety of different sources by importing the required data sets into tableau.

The recommendations in this study are presented based on the results of the evaluation of regional spending on HDI in 2021 through these two instruments, which are connected with regional spending management policies.

#### 3. Results and Discussions

#### 3.1 HDI and Regional Spending

Analysis of the Human Development Index period 2020-2021 in Indonesia was processed using the tableau. HDI explains the extent to which Indonesian residents can access development outcomes in obtaining income, health, education, and other facilities provided by the government. The following is an analysis of HDI in Indonesia, where data is obtained from BPS and then processed using *tableau*.

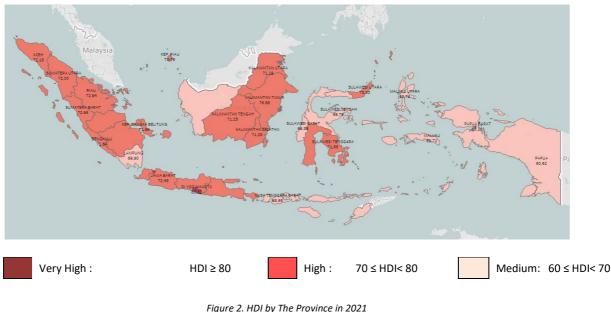
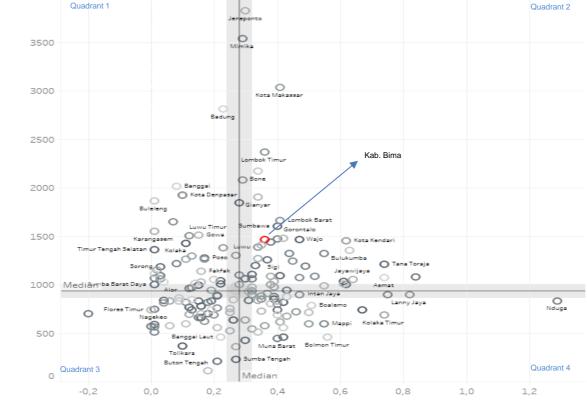


Figure 2. HDI by The Province in 2021 Source: BPS (data analysis)

**Figure 2** shows that the HDI in the West Indonesia Region is mostly in the high category, and only a few are in the medium category. This is in contrast to the HDI of the eastern Indonesian provinces, which is still lagging behind the western regions, where only four provinces (Bali, North Sulawesi, South Sulawesi, and Southeast Sulawesi) have a high category HDI (between 70–80), while the rest have a moderate category HDI. This shows that there is still a high development gap between regions in Indonesia, even though, in its essence, the key policy is to reduce the development gap between regions with the principle of efforts to improve the quality of human life.

The disparities that occur between regions in Indonesia are our concern for further analysis. One of the reasons for the low HDI is the lack of optimal management of regional expenditures. Regional expenditures in Indonesia are mostly used for personnel expenditures, with a portion of around 32.4 percent, while spending on infrastructure is around 11.5 percent. Further analysis of the management of regional expenditures and the increase in HDI in Eastern Indonesia can be seen in **Figure 3**.

To see the efficiency of regional expenditure management, comparisons were made between regional governments in the eastern parts of Indonesia by comparing spending and increasing regional HDI to the regional average level. The results are grouped into four quadrants which can be seen in Figure 3. The average regional expenditure is Rp.936 billion and the average regional HDI increase (HDI 2021 – HDI 2020) is 0.280. Quadrant one is an area with a low level of efficiency. Regional governments that are in quadrant one have regional expenditures above the average with an increase in HDI that is below the average. Quadrant two is an area with a medium efficiency level. Regional governments that are in quadrant two have regional expenditures above the average with an increase in HDI that is above average. Quadrant three is an area with a medium efficiency level. Regional governments that are in quadrant three is an area with a medium efficiency or in the best condition. Regional governments that are in quadrant four is an area with a high level of efficiency or in the best condition. Regional governments that are in HDI that is above the average with an increase in HDI that is above the average. Last, quadrant four is an area with a high level of efficiency or in the best condition. Regional governments that are in quadrant four have regional expenditures below the average with an increase in HDI that is above the average; whereas Bima regency has a regional expenditure of Rp.1.465 billion and an increase in HDI of 0.36 as it is posited in quadrant two. This is interesting fact because Bima regency budget is quite large but the HDI increase is not significant.



HDI Growth (HDI 2021 - HDI 2020)

Figure 3. Regional spending and HDI growth in eastern Indonesia in 2021 Source: DJPK Kemenkeu (realization of spending), BPS (HDI) (data analysis)

# 3.2 Cost-Effectiveness Analysis

HDI plays an important role in encouraging the creation of development in Indonesia, especially in the economic sector. In modern economic development, good human development is needed to increase productivity and job opportunities. The previous analysis showed that, for the eastern Indonesia regions, only a few regions entered the high HDI category, the rest were in the medium and low categories. Compared to the Western Indonesia regions, eastern Indonesia regions lag because of this reason. The unresolved problems occuring in eastern Indonesia are basic problems such as the low net enrollment rate for school children, the lack of health facilities, and the difficulty of accessing proper drinking water. Therefore, there is a need for a strategy to overcome inequality between regions through improving the quality of regional spending to be more focused and optimal.

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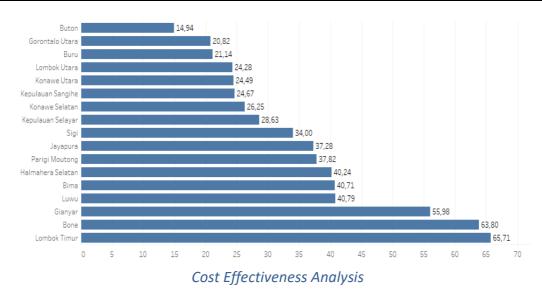


Figure 4. Cost-Effectiveness Analysis in Eastern Regency with An Increase in HDI of 0.34-0.38 in 2021 Source: DJPK Kemenkeu (realization of spending), BPS (HDI) (data analysis)

After analyzing the HDI and regional expenditures, then an evaluation using cost-effectiveness analysis was carried out by comparing eastern regencies that had an increase in HDI in the range of 0.34 - 0.38 and comparing the proportion of employee spending in each region, with the results shown in **Figure 4**.

Figure 4 shows the regional spending needed to increase HDI by 0.01. The smaller the value of regional spending needed, the more efficient regional spending used in increasing HDI. Using a cost-effectiveness analysis, it shows that of the seventeen regencies in eastern Indonesia with an increase in HDI in 2021 of 0.34 - 0.38, Bima regency is in 13th place with a cost efficiency value of 40.71 which means that to increase the HDI by 0.01, it requires Rp.40.71 billion of regional expenditure. This shows that the Bima Regency in increasing the HDI is 3 times higher than the Buton regency which only needs Rp.14.94 billion to increase the HDI. This means that Bima regency is not efficient enough in managing regional expenditures.

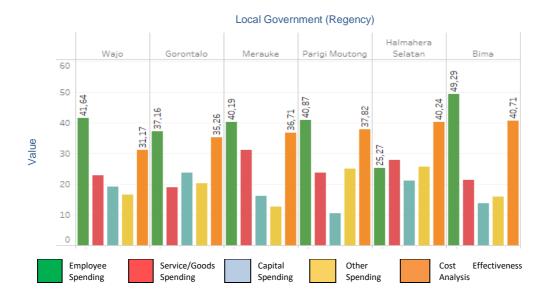


Figure 5. Cost-Effectiveness Analysis in Regency with A Regional Expenditure Value of Rp. 1,400-1,500 billion Source: DJPK Kemenkeu (realization of spending), BPS (HDI) (data analysis)

The same analysis was carried out on regency governments with a regional expenditure value of Rp.1,400-1,500 billion, with the results as provided in **Figure 5**.

From the figure above, it is learned that the Bima regency is ranked sixth out of six regencies in the East Indonesia region with the realization of a regional expenditure of Rp. 1,400-1,500 billion, in terms of regional spending efficiency towards increasing HDI. Figure 5 also shows that the proportion of employee spending in the Bima regency is still much larger than in other regions.

# 3.3 Future Forecast of Human Development Index in Bima Regency

Forecasting is the activity of making predictions as accurately as possible, based on all available data, including historic data and insights about future events that may have an impact on forecasts (Hyndman & Athanasopoulos, 2018). Forecasting and planning are important aspects of policy science, especially those related to policy design, because the concepts of forecasting and planning can be a tool to form useful policy science concepts (Jantsch, 1970). In future planning, forecasting is the potential to be the foundation for the Bima regency government in predicting what will happen in the future, which can later change current habits so that the future will be better and more developed.

In this study, the forecasting of the human development index was carried out using the *Tableau* application, based on the data on the Number of HDI of the Bima regency. Forecasting at *tableau* uses exponential smoothing techniques by finding regular patterns in size that can be continued. The results of forecasting the HDI of the Bima regency are shown in **Figure 6**.

			Conv	Evoor	t All
				Lapos	C Par
Forecast indicator	Kabupaten/Kota	IPM			
Estimate	Kabupaten Bima	67,80663			
Estimate	Kabupaten Bima	68,41763			
Estimate	Kabupaten Bima	69,02863			
Estimate	Kabupaten Bima	69,63963			
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Figure 6. Bima Regency HDI Forecast for 2022-2025 Source: BPS (data analysis)

Data processing was carried out using the *Tableau* application based on the HDI period 2010-2021. The resulting trend is linear with an R-Squared of 0.9888954. Furthermore, IPM forecasting is carried out in 2022-2025. The results show an increase in HDI of 0.611 per year with an estimated HDI in 2025 of 69.63963. The model shows an R-Square value of 0.995993, indicating that the model-issued regression is very good. The estimated value of the 2022–2025 HDI is still in the moderate category; consequently, the local governments still need strategic steps to increase HDI to reach the high category.

# 3.4 Bima Regency Spending Policy

Bima regency's spending policies prioritize expenditures that must be paid in the relevant year, namely employee spending, goods and services expenditures, interest expenditures, subsidy expenditures (included in the operational expenditure category), and loan principal payments. The remaining funds between the estimated available funds and operational expenditures are allocated to development expenditures which are prioritized for improving the community's quality of life, basic services, education, health, social and public facilities, and developing social security systems. The proportion of regional expenditure in the Bima regency in 2016-2021 can be seen in **Figure 7**.

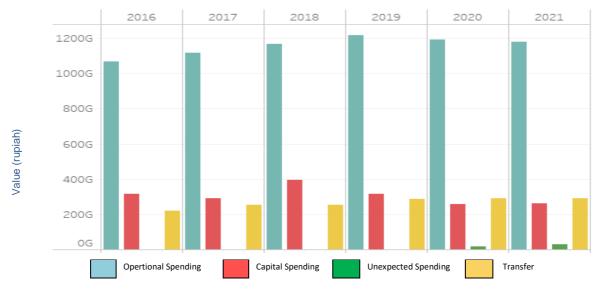


Figure 7. Regional Expenditure Proportion in Bima Recency in 2016-2021 Source: Bima Regency Government

**Figure 8** shows that regional expenditures in the Bima regency are still dominated by operational expenditures such as employee spending, service goods expenditure, interest expenditure, subsidy expenditure, grant spending, and social assistance, with a value that tends to increase.

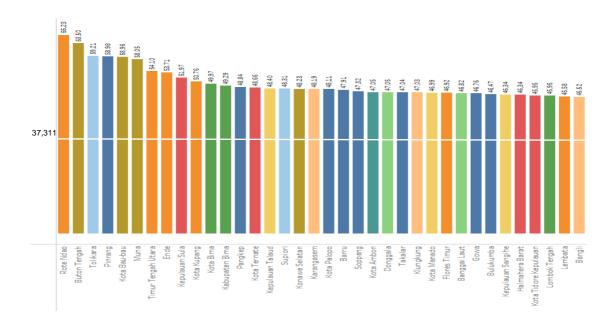


Figure 8. The eastern regional government, which has the proportion of employee spending in 2021> 45% Source : djpk kemenkeu (processed data)

# 3.4.1. Employee Spending

Employee spending is expenses given to civil servants, state administrators, and honorary employees in exchange for work that supports the duties and functions of government. Employee spending is routine and binding. Employee spending is allocated for 13 months' payment. Other spending allocations are adjusted after employee spending is established.

The average proportion of employee spending in 2021 to local governments in eastern Indonesia was 37.31 percent. Figure 8 shows district/city governments in the eastern regions with a proportion of employee spending above 45 percent. Bima regency is in the top 12th place with a proportion of 49.29 percent. This figure is still far from the proportion regulated in Law Number 1 of 2022, which is a maximum of 30 percent.

Employee spending is influenced by the number of State Civil Apparatus (ASN) professional expenses. In December 2021, Bima regency had a total of 7,395 ASN, with an age range of 23-60 years, with details in **Table 1**.

	50–60 years old	40–49 years old	30–39 years old	20–29 years old	Total
Sum	3.341 employees	2.422 employees	1.398 employees	234 employees	7.395 employees
Percentage	45,18	32,75	18,91	3,16	

Table 1: The Number of ASNs of Bima Regency by Employee Age as per December 2021

Source: Employee Data December 2021 Bima Regency (data analysis)

The ASN retirement age limit is 58 years for administrative officials, young expert functional officers, first functional experts, and skilled functional officers. As for intermediate functional officials and main expert functional officials, they have a retirement age limit of 60 years and 65 years. Analysis of employee spending was carried out by predicting the number of retired employees during 2022-2026, assuming a retirement age of 58 years and no additional employees. The results showed that 2,413 employees retired in the period, or a decrease of 32.63 percent. Thus, employee spending will also experience almost the same decline. The allocation of funds from the decrease in employee spending can be diverted to infrastructure capital expenditure, goods and services expenditure, or other expenditures, more specifically in the HDI driving sectors.

# 3.4.2. Public Service Infrastructure Spending

In the explanation of Law Number 1 of 2022, it is stated that public service infrastructure spending is regional infrastructure spending which is directly related to the acceleration of development and/or maintenance of public service facilities oriented towards regional economic development. Infrastructure development is closely related to capital expenditure. Infrastructure spending dominates capital expenditure. The proportion of capital expenditure in local governments is still relatively small compared to operational expenditures in employee expenditures and goods/services.

Bima regency is a part of West Nusa Tenggara Province along with nine other regencies/cities. Bima regency had a total population in 2021 of 520.44 thousand people, with an area of 4,389 km2 or 21.78 percent of the area of West Nusa Tenggara province. The area affects the amount of capital expenditure (Hardiningsih & Wakhidati, 2017). Capital expenditure tends to be carried out for the physical development of the area so that the wider the area is, the greater the development costs are needed. Regional expenditures, capital expenditures, and the area of regencies/cities in the West Nusa Tenggara region can be seen in **Table 2**.

Local government	Area size (km2)	Regional expenditure*	Capital spending*	Proportion capita spending
Sumbawa	6.643,98	1.669,71	184,39	11,04
Bima	4.389,40	1.757,04	261,58	14,89
Dompu	2.324,60	912,55	137,60	15,08
Sumbawa Barat	1.894,02	1.007,37	146,86	14,58
Lombok Timur	1.605,55	2.732,61	406,73	14,88
Lombok Tengah	1.208,40	2.118,59	225,85	10,66
Lombok Barat	1.053,87	1.661,84	204,50	12,31
Lombok Utara	809,53	850,53	134,50	15,81
Kota Bima	207,50	716,70	138,38	19,31
Kota Mataram	61,30	1.382,35	185,55	13,42

Table 2: Area Size, Regional Expenditure, and Capital Spending of The NTB Region in 2021

Source: BPS, Regional Government Financial Report (data analysis)

Table 2 shows that for local governments in the NTB regions, the amount of capital expenditure is not in line with the area. The type of expenditure allocated to each region is greatly influenced by the conditions of each region. The proportion of capital expenditures is also quite far from the proportion of infrastructure spending expected to be fulfilled in the next five years, which is at least 40 percent of regional expenditures.

Bima regency's capital expenditure for the 2016—2021 period shows the value and proportion of capital expenditures experiencing a downward trend. In 2019, there was an increase but followed by a decline in 2020 and 2021. The capital expenditure of the Bima regency government in 2016-2021 can be seen in **Figure 9**.

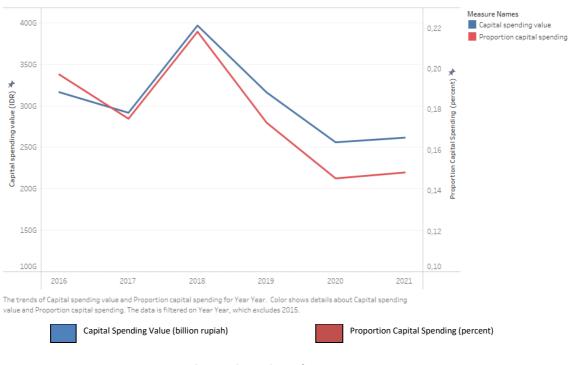


Figure 9. The Capital Expenditure of Bima Regency in 2016-2021 Source: Bima Regency Financial Report (data analysis) In developing countries, capital expenditure on infrastructure can encourage economic growth compared to spending in the form of goods (Butkiewicz & Yanikkaya, 2007). It is projected that there will be a decrease in the number of Bima regency government employees to reach 32.63 percent in 2026; hence, the funds formerly assigned for employee expenditures can be allocated for other expenditures, including capital expenditures. The addition of capital expenditure allocation is expected to increase regional economic growth for this region.

### Conclusions

In the realm of regional development, the Human Development Index (HDI) is set as the main indicator to measure the success of regional development and SDGs. This shows that HDI is an important factor in measuring the success of regional development and the regional SDGs achievements. For this reason, the government needs to pay more attention to regulating the allocation of regional expenditures to empphasize more on sectors that can support the increase in HDI such as education and health. The results of the analysis of regional expenditure efficiency on increasing HDI using a cost-effectiveness analysis conducted based on the HDI increase group (0.34-038) and the regional expenditure value group (Rp.1,400 billion) indicate that the Bima regency is not ready for escalation.

The Human Development Index is still in the moderate category because the Bima regency is still not efficient and effective enough in managing regional expenditures when compared to other regencies in eastern Indonesia, which have experienced an increase in HDI and equivalent regional expenditures. In addition, the forecast results show that the Human Development Index in the next three years (2022-2025) in Bima regency only increases by 0.611 per year, making Bima Regency classified in the medium category. This means that there will be no significant increase in the HDI in Bima in the next three years if Bima regency does not make changes to the structure of the APBD for the strategy to increase HDI.

#### Recommendations

To escalate the effectiveness and efficiency of regional spending to support the commitment of the Bima regency government in supporting the achievement of SDGs goals, and fulfilling the obligation to fulfill the proportion of employee spending and public service infrastructure expenditure, the local government of Bima regency are suggested to: (1) reduce the proportion of employee spending. ASNs reaching retirement age until 2026 are expected to reach 32.63 percent; thus local governments can offer early retirement schemes to ASNs whose work productivity does not allow them to be increased again and divert employee spending to infrastructure capital expenditure, goods, and services expenditure, or other expenditures—more specifically in the HDI driving sectors; (2) allocate the budget to the HDI driving sector selectively. HDI is influenced by three components, namely, the level of education, health, and a decent standard of living. The allocation of expenditure for education and health in Bima regency in the 2021 APBDP has reached 46.83 percent and 26.74 percent of the total regional expenditure allocation, respectively. Of this amount, more than 85 percent is operational expenditure. The government needs to reduce operational costs by reviewing the use of contract labor, implementing green offices by reducing the use of documents in hard copy form, increasing the use of digital offices, reducing meeting activities outside the office, and increasing cooperation between the government and business entities in the development of public infrastructures such as roads, schools, hospitals, electricity networks, internet networks, and others; (3) evaluate each program and activity and prioritize budget allocation for programs and activities that support the increase of regional development in the following year, such as poverty alleviation, expansion of employment, increasing the capacity of human resources, strengthening productive sectors (infrastructure, agriculture, industry), improving environmental quality, and others. Regional spending policies are prepared annually in the APBD. These policies must run simultaneously so that regional development can achieve the desired goals. The results of the evaluation of regional expenditures can assist the Bima regency government in formulating regional expenditure management policies so that regional development can be achieved effectively and efficiently; (4) enhance the knowledge of regional spending as well as its regulations and implementation procedures by providing training and education to related ASNs, to reduce fraud, overspending, underspending, misspending, and fraudulent spending; (5) intensify the implementation of a merit system in ASN management through the merit system will encourage ASNs to be more optimal and productive in performance, so that local governments do not need to use additional labor. This effort can save the realization of employee spending; (6) develop public service standards, especially in the fields of education and health, that apply evenly and are well published in all regions of Bima regency; (7) promote equitable development of public service infrastructure facilities in all regions In every aspect, monitoring and evaluation need to be carried out, whether it is carried out by internal regional government supervisors or through surveys of users of public services.

# Reference

- Alm, J., Aten, R. H., & Bahl, R. (2001). Can Indonesia decentralize successfully? Plans, problems andprospects. Bulletin of Indonesian Economic Studies, 37(1), 83–102. https://doi.org/10.1080/000749101300046537
- Amalia, F. R., & Purbadharmaja, I. B. P. (2015). Pengaruh kemandirian keuangan daerah dan keserasian alokasi belanja terhadap indeks pembangunan manusia. *E-jurnal Ekonomi Pembangunan Universitas Udayana*, *3*(6), 17–18.
- Arriani, R. R., & Chotib. (2021). The Correlation of SDG 1 and 8 and spatial effect of human development index in Central Java. *IOP Conference Series: Earth and Environmental Science*, *940*(1). https://doi.org/10.1088/1755-1315/940/1/012063
- Badan Perencanaan Pembangunan Nasional. (2017). *Pedoman penyusunan rencana aksi sdgs 2030 Indonesia*. Kementerian Perencanaan Pembangunan Nasional/ Bappenas. https://www.google.co.id/books/edition/Rencana\_Aksi\_SDGs\_2030\_Indonesia/RbYjEAAAQBAJ?hl =id&gbpv=1
- Benedek, J., Ivan, K., Török, I., Temerdek, A., & Holobâcă, I. H. (2021). Indicator-based assessment of local and regional progress toward the Sustainable Development Goals (SDGs): An integrated approach from Romania. Sustainable Development, 29(5), 860–875. https://doi.org/10.1002/sd.2180
- Butkiewicz, J. L., & Yanikkaya, H. (2007). Time-consistent polities and growth in developing countries: An empirical analysis. *Review of World Economics*, *143*(2), 306–323. https://doi.org/10.1007/s10290-007-0109-9
- Effendy, I., Widayati, Q., & Sepriyansyah, R. (2021). Pemanfaatan software tableau dalam pembuatan dashboard bencana karhutla di BPBD Sumatera Selatan. *JPKMBD (Jurnal Pengabdian Kepada Masyarakat Bina Darma)*, 1(2), 132–141. https://journal.binadarma.ac.id/index.php/pengabdian/article/view/1449/799
- Fattah, S. (2012). Local government expenditure allocation toward human development index at Jeneponto Regency, South Sulawesi, Indonesia. *IOSR Journal of Humanities and Social Science*, *5*(6), 40–50. https://doi.org/10.9790/0837-0564050
- Ferraz, D., Mariano, E. B., Rebelatto, D., & Hartmann, D. (2020). Linking human development and the financial responsibility of regions: combined index proposals using methods from data envelopment analysis. *Social Indicators Research*, *150*(2). https://doi.org/10.1007/s11205-020-02338-3
- Hadi, S. (2011). Analisis determinan belanja daerah di kabupaten/kota Provinsi Jawa Barat dalam era otonomi dan desentralisasi fiskal. *Jurnal Bisnis dan* Ekonomi, *18*(1), 46–58.
- Hall, D. (2014). Why we need public spending. Public Services International University of Greenwich.
- Handayani, R., Soleh, A., Santoso, A., & Rahayu, Y. (2022). Analisis kausalitas belanja modal, bantuan sosial dan indeks pembangunan manusia. *Jurnal Manajemen dan Sains*, 7(1), 264–269. https://doi.org/10.33087/jmas.v7i1.368
- Hardiningsih, A. P., & Wakhidati, I. N. (2017). Karakteristik daerah terhadap belanja modal dengan pemoderasi pertumbuhan ekonomi. *Dinamika Akuntansi, Keuangan Dan Perbankan*, 6(1), 53–66.
- Haryanto, J. T. (2015). Studi ecological fiscal transfer sebagai potensi pendanaan lingkungan di daerah. Jurnal Ilmu Sosial Dan Ilmu Politik, 18(3), 252–266.
- Hyndman, R., & Athanasopoulos, G. (2018). Forecasting principles and practice. OTEXTS.

- Jain, P., & Jain, P. (2020). Are the sustainable development goals really sustainable? A policy perspective. *Sustainable Development*, 28(6), 1642–1651. https://doi.org/10.1002/sd.2112
- Jantsch, E. (1970). From forecasting and planning to policy sciences. *Policy Sciences*, 1(1), 31–47. https://doi.org/10.1007/BF00145191
- Jaya, A. H. (2021). The effect of economic growth and government expenditure on human development in Palu City. *Jurnal Mantik*, *4*, 2715–2721.
- Karianga, H. (2017). Carut marut pengeloaan keuangan daerah di era otonomi daerah (p. 242). Kencana.
- Kharas, H., & Mcarthur, J. (2019). Building the SDG economy. Global Economy & Development.
- Knowlton, L. W., & Phillips, C. C. (2013). *The logic model guidebook: Better strategies for great results* (2nd ed.). Sage.
- Krismanjaya, I., & Dewi, N. (2019). Pengaruh belanja daerah dan investasi terhadap kesejahteraan masyarakat melalui pertumbuhan ekonomi pada Kabupaten Kota Provinsi Bali. E-Jurnal Ekonomi Pembangunan Universitas Udayana, 8(6), 1390–1442.
- Kusumasari, B., Munajat, E., & Zul, F. (2022). Measuring global pandemic governance : How countries. *Journal of Management and Governance*. https://doi.org/10.1007/s10997-022-09647-4
- Martinidis, G., Komninos, N., & Carayannis, E. (2022). Taking into account the human factor in regional innovation systems and policies. *Journal of the Knowledge Economy*, *13*(2), 849–879. https://doi.org/10.1007/s13132-021-00722-z
- Masduki, U., Rindayati, W., & Mulatsih, S. (2021). Spending quality and development performance: Evidence from less developmeny regions. *Jurnal Ekonomi Dan Pembangunan*, *29*(2), 167–182. https://doi.org/10.14203/JEP.29.2.2021.167-182
- Muliza, M., Zulham, T., & Seftarita, C. (2017). Analisis pengaruh belanja pendidikan, belanja kesehatan, tingkat kemiskinan dan PDRB terhadap IPM di Provinsi Aceh. *Jurnal Perspektif Ekonomi Darussalam*, *3*(1), 51–69. https://doi.org/10.24815/jped.v3i1.6993
- Nababan, A. A. (2020). Analisis pengaruh belanja daerah, jumlah pengangguran, dan indeks pembangunan manusia (IPM) terhadap jumlah penduduk miskin di Kabupaten Labuhanbatu tahun 2006-2017. *Repository Universitas HKBP Nommensen*.
- Ningrum, E. W., & Nuryadin, M. (2021). Pengaruh belanja daerah terhadap pertumbuhan ekonomi, ipm, dan kemiskinana di Kalimantan Selatan. *Jurnal Ilmu Ekonomi dan Pembangunan*, 4(1), 9–25.
- Paliova I., McNown, R., Nulle. G. (2019). *Multiple dimensions of human development index and public social spending for sustainable development*. International Monetary Fund. https://www.imf.org/en/Publications/WP/Issues/2019/09/26/Multiple-Dimensions-of-Human-Development-Index-and-Public-Social-Spending-for-Sustainable-48610
- Patton, M. Q. (2002). Qualitative research and evaluation methods. SAGE Publications Inc.
- Priambodo, A., & Noor, I. (2016). Analisis pengaruh belanja pemerintah daerah terhadap indeks pembangunan manusia (Studi pada Kabupaten/Kota di Pulau Jawa tahun 2007-2013). Jurnal Ilmiah Mahasiswa FEB, 3(2).
- Rahmawati, F., Ananda, F. P., & Narmaditya, B. S. (2020). Socio-economic indicators and income inequality: Lesson from west Java in Indonesia. *Scientific Papers of the University of Pardubice, Series D: Faculty of Economics and Administration*, *28*(3). https://doi.org/10.46585/sp28031114
- Raya, M. (2021). Analisis pengaruh belanja daerah dan indeks pembangunan manusia terhadap pertumbuhan ekonomi kabupaten dan kota di Bolaang Mongondow Raya. Jurnal Ekonomi Pembangunan dan Keuangan Daerah, 22(3), 75–95.
- Requejo-Castro, D., Giné-Garriga, R., & Pérez-Foguet, A. (2020). Data-driven Bayesian network modelling to explore the relationships between SDG 6 and the 2030 Agenda. *Science of the Total Environment*, *710*, 136014. https://doi.org/10.1016/j.scitotenv.2019.136014
- Rosmadayanti, D., Imaningsih, N., & Wijaya, R. S. (2021). Pengaruh pertumbuhan ekonomi, pendapatan asli daerah, dana alokasi khusus dan belanja daerah terhadap indeks pembangunan manusia di Jawa Timur. Jurnal Syntax Admiration, 2(8), 2722–5356. https://doi.org/10.46799/jsa.v2i8.284
- Rossi, P. H., Lipsey, M. W., & Freeman, H. E. (2004). *Evaluation a systematic approach*. SAGE Publications Inc. https://doi.org/10.1016/0738-0593(82)90010-4

- Rustariyuni, S. D. (2014). Pengaruh gini ratio, pengeluaran non makanan per kapita, belanja daerah dan laju pertumbuhan ekonomi pada indeks pembangunan manusia Kabupaten/Kota di Provinsi Bali Periode 2004-2012. *Piramida*, *10*(1), 45–55.
- Sari, Y., Winarni, E., & Amali, M. (2021). Analisis kausalitas pertumbuhan ekonomi, indeks pembangunan manusia dan belanja modal di Provinsi Jambi. *Ekonomis: Journal of Economics and Business*, 5(2), 565–571.
- Sari, I. A. C. Y., & Supadmi, N. L. (2016). Pengaruh pendapatan asli daerah dan belanja modal pada peningkatan indeks pembangunan manusia. *Jurnal Akuntansi Universitas Udayana*, *15*, 2409–2438.
- Sippa, F., & Saleh, M. (2021). Analisis pengaruh belanja daerah bidang pendidikan, bidang kesehatan dan bidang infrastruktur tehradap indeks pembangunan manusia di Kabupaten Hulu Sungai Utara tahun 2003-2015. Jurnal Ilmu Ekonomi dan Pembangunan, 4(2).
- Sisto, R., López, J. G., Quintanilla, A., de Juanes, Á., Mendoza, D., Lumbreras, J., & Mataix, C. (2020). Quantitative analysis of the impact of public policies on the sustainable development goals through budget allocation and indicators. *Sustainability (Switzerland)*, *12*(24), 1–15. https://doi.org/10.3390/su122410583
- Bandiyono, A. (2018). Pengaruh belanja pemerintah daerah berdasarkan fungsi terhadap peningkatan IPM dan pengentasan kemiskinan (studi pada Kabupaten/Kota di Provinsi Aceh). Jurnal Info Artha, 2(1), 11–28.
- United Nations Development. (2020). *Human development and the SDGs | human development reports*. http://hdr.undp.org/en/content/human-development-and-sdgs
- Williantara, G. F., & Budiasih, G. A. N. (2016). Pengaruh pendapatan asli daerah, dana alokasi umum, dana alokasi khusus, dan dana bagi hasil pada indeks pembangunan manusia. *E-jurnal Akutansi Universitas Udayana*, *16*(3), 2044–2070.
- World Bank. (2020). Indonesia public expenditure review (per) 2020 : Spending for better results.
- Zulyanto. (2016). Pengeluaran pemerintah dan indeks pembangunan manusia di Provinsi Bengkulu. *Jurnal Ekonomi-Qu*, *6*(2), 115–139. http://dx.doi.org/10.35448/jequ.v6i2.4340
- Zuraida, R. (2017). Pengaruh pertumbuhan ekonomi, pendapatan asli daerah dan belanja daerah terhadap indeks pembangunan manusia. *eProceedings Management*, 5(2), 773–783. https://doi.org/10.3969/j.issn.1001-1242.2017.07.028