Unravelling Poverty Indicators in the Tomini Bay Region of Indonesia: A Comprehensive Analysis of SDG 10

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Abstract: *The Tomini Bay Region, with its abundant natural resources, can be leveraged to promote inclusive and sustainable community welfare in line with SDG 10's global target to reduce inequality. However, despite the region's natural wealth, much of the area is plagued by high poverty. In response, local governments have launched several programs to stimulate economic growth while addressing these issues. To assess the effectiveness of these poverty programs, this study evaluated the economic development of the Tomini Bay area using the SDGs framework. The objectives of this study are twofold: 1) to map the progress of SDG 10 poverty indicators in the region, and 2) to project the achievement of SDG 10 poverty indicator targets in the region by 2030. This study employs quantitative descriptive data analysis. The mapping results are expected to aid local governments in formulating more targeted and inclusive development plans.*

Keywords: Sustainable Development; Inequality; Poverty; Tomini Bay Region

INTRODUCTION

The Sustainable Development Goals (SDGs) have become a key policy focus for transforming the world towards sustainability (Omer & Noguchi, 2020). The goals aim to achieve the United Nations 2030 Agenda, which includes a high level of economic prosperity, social sustainability, and environmental quality, as well as ensuring justice and governance that improve the quality of life for future generations. As a refinement of the Millennium Development Goals (MDGs), the SDGs are more comprehensive and were developed through a participatory process involving all stakeholders, including government, civil society, media, academia, the private sector, and philanthropic institutions, from developed and developing countries. The eight MDGs have been expanded into 17 goals under the SDGs, with economic sustainability and reducing economic inequality being prioritised (Niekerk & J, 2020). The SDGs are an inclusive project, and by 2030, each country can determine its priority areas and indicators to achieve the SDGs (Khalid et al., 2020).

According to the second edition of the metadata, the SDGs in Indonesia comprise 124 targets and 289 indicators grouped into four pillars: social, economic, environmental, legal and governance. The analysis of each development pillar provides the basic data that indicates the achievement of SDGs in each region. The SDGs and their targets can be transformed into a management tool by utilising a comprehensive indicator framework, which assists nations in creating and implementing sustainable development policies and properly allocating resources (Leal Filho et al., 2019). Effective policy development, funding, and execution at the local, national, and international levels are critical to achieving the SDGs (Nash et al., 2020). Governments and regulatory agencies are responsible for monitoring and reviewing the achievement of the SDGs indicators at local, regional, and national levels to ensure the coherence of policies and actions (Fraisl et al., 2020). Consequently, decision-makers are now responsible for guiding actions that advance the realisation of the 2030 Agenda while reducing negative outcomes. However, basic analyses of economic situations based on the SDGs indicator framework have not been conducted

in Indonesia, especially in the Tomini Bay Region.

Tomini Bay is the largest bay in Indonesia, known for its abundant and diverse biological resources, including flora, fauna, fishery, marine life, agriculture, minerals, and tourism potential (Arham et al., 2022). This richness can be attributed to its strategic location along the Wallace-Weber line, intersecting three provinces: North Sulawesi, Central Sulawesi, and Gorontalo (Rachma & Windiastuti, 2020). Unfortunately, poverty in numerous areas of the Tomini Bay Region has not been addressed despite its natural richness (Muzakir & Suparman, 2016). The current responses to the COVID-19 problem have also affected the capacity to achieve the SDG targets within the set timeframes (Fenner & Cernev, 2021). The three provinces bordering Tomini Bay are experiencing declining economic growth and persistently high poverty rates. A growing gap between rural and urban areas further underscores the lack of economic development and hinders efforts to expand the local economy. The lack of equality tends to impede economic growth and hampers the development of the country as a whole (Arham & Hatu, 2020). Economic disparities must, therefore, be closely monitored by the government, which will affect development policies in both the short and long term (Trejo Nieto, 2021). While three provinces in the Tomini Bay Region already have political and economic policies, evaluating their likelihood of achieving SDG targets is important if they continue their current policy prioritisation. Are they on track to achieving these SDGs and need to make only a few important policy choices to move forward? Or, does the gap between current levels and indicator goals leave little option to bridge the gap in achieving the SDG targets?

SDG 10 emphasises reducing inequality, measured by income and wealth equality. Income inequality is closely related to economic growth, and when income inequality is low, poverty decreases more with economic growth and vice versa. It implies that government should promote economic growth by focusing on programs and policies for the poor to achieve significant poverty reductions (Amar et al., 2020). Assessing the progress of SDGs achievement, particularly in Tomini Bay Region, enables the local government to develop more specialised policies to eradicate social inequalities, boost the economy, and improve the well-being of its citizens (Moyer & Hedden, 2020). Early progress assessment will highlight targets and indicators on which Tomini Bay Region is currently on track and serve as baseline data for developing innovative and targeted work programs to be incorporated into local government planning documents. Therefore, it is important to examine the baseline data of SDG 10 at the provincial level from 2017 to 2022 and project-related indicators to 2030 based on the baseline scenario using trend forecasting with regression analysis to inform policies aimed at reducing poverty and promoting economic development. See Table 1 for an overview of the goals, target, name of indicators, target values, and historical data sources of the indicators examined in this study.

Table 1. SDGs goals, targets, and indicators examined in this study

Goals	Target	Indicators	Target Values by 2030*	Historical data source
Reduce inequality within and among countries.	**10.1** By 2030, progressively achieve and sustain income growth of the bottom 40 per cent of the population at a rate higher than the national average	**10.1.1.** Gini index	Less than 0.31	Central Bureau of Statistics (BPS)
		10.1.1.(a) The proportion of the population living below the national poverty line by sex and age	Reduce below 50% of the proportion	Central Bureau of Statistics (BPS)
	10.2 By 2030, empower and promote the social, economic and political inclusion of all, irrespective of age, sex, disability, race, ethnicity, origin, religion or economic or other status	**10.2.1*** Proportion of people living below 50 per cent of median income by sex, age and persons with disabilities	0%	Central Bureau of Statistics (BPS)

*Based on the United Nations (UN) 2030 Agenda for Sustainable Development

METHODOLOGY

A quantitative descriptive research approach was used in this study, employing a data-driven analysis known as indicator-based assessment. Indicator-based assessment involves interpreting and synthesising information on indicators to assess progress and produce clear messages for policymakers, the public and other stakeholders (Eurostat, 2014). This research aims to analyse the income inequality and poverty indicators of SDG 10 in the

three key provinces within the Tomini Bay Region, namely North Sulawesi, Gorontalo, and Central Sulawesi. The first step of this study involves assessing the current status of income inequality and poverty indicators in these provinces. Subsequently, trend forecasting and regression analysis techniques are employed to project the trajectory of these indicators up until 2030 using a baseline scenario. Projection analyses, including exponential, linear, and logarithmic regression, were conducted using Microsoft Excel as the analytical tool. Regression analysis is typically used to forecast or predict outcomes (Arkes, 2023). This study's selected regression model is based on the highest R-square results, close to 1 (Table 2). The prediction accuracy is higher when output values are close to one, regardless of the measurement scale of the variable (Chicco et al., 2021).

Table 2. Regression Model Summary

Indicator	Province	R^2			Selected Regression Model
		Exponential	Linear	Logarithmic	
10.1.1. Gini index	North Sulawesi	0.2358	0.2384	0.0852	Linear
	Gorontalo	0.3075	0.3078	0.3581	Logarithmic
	Central Sulawesi	0.7722	0.7624	0.8607	Logarithmic
10.1.1.(a) The proportion of the population living below the national poverty line by sex and age	North Sulawesi	0.584	0.5845	0.598	Linear
	Gorontalo	0.5241	0.514	0.7437	Logarithmic
	Central Sulawesi	0.9411	0.9368	0.9234	Exponential
10.2.1* Proportion of people living below 50 per cent of median income by sex, age and persons with disabilities	North Sulawesi	0.0874	0.1077	0.034	Linear
	Gorontalo	0.9528	0.964	0.8899	Linear
	Central Sulawesi	0.996	0.998	0.9759	Linear

Source: Data processing by the author

The following phase entailed an examination of the attainment of the SDGs targets by conducting a comparative analysis of the projected achievement against the 2030 target established by the United Nations Agenda for Sustainable Development. To map the projection results, we employed the scoring method, and to classify the achievements of SDGs targets, we utilised the scorecard method, as shown in Table 3. The scorecard method helps integrate the SDGs into long-term management, ensuring value creation over time (Mio et al., 2020).

Table 3. The scorecard category

Category	Definition
Category A	Indicators that are predicted to achieve 100% of the target in 2030.
Category B	Indicators that are predicted to have a minimum level of achievement of 90% of the target in 2030
Category C	Indicators that are predicted to have a minimum level of achievement of 75% of the target in 2030
Category D	Indicators that are predicted to have a minimum level of achievement of 50% of the target in 2030
Category E	Indicators that are predicted to have an achievement level below 50% of the target in 2030

RESULTS

The findings from the review process of SDG 10 income inequality and poverty indicators are presented in Table 4. The dataset of the Gini index and poverty rate from previous years was collected from the Central Bureau of Statistics (BPS) website.

Table 4. Baseline data of the SDGs 10 income inequality and poverty indicators

Indicators and Aggregation Area	Data trend					
	2017	2018	2019	2020	2021	2022
Indicator 10.1.1* Gini Index						
North Sulawesi	0.394	0.372	0.376	0.368	0.359	0.365*
Gorontalo	0.405	0.417	0.410	0.406	0.409	0.418*
Central Sulawesi	0.345	0.317	0.330	0.321	0.326	0.308*
Indicator 10.1.1. (a) The proportion of the population living below the national poverty line by sex and age						

North Sulawesi	7.90	7.59	7.51	7.78	7.36	7.34
Gorontalo	17.14	15.83	15.31	15.59	15.41	15.51
Central Sulawesi	14.22	13.69	13.18	13.06	12.18	12.30
Indicator 10.2.1* Proportion of people living below 50 per cent of median income by age, sex and persons with disabilities						
North Sulawesi	-	14.00	31.01	12.91	12.43	NA
Gorontalo	-	27.71	25.51	24.28	20.84	NA
Central Sulawesi	-	13.99	13.02	12.20	11.39	NA

*March 2022

Source: The Central Bureau of Statistics (BPS) publication

The data presented indicates that Gorontalo has the highest level of expenditure inequality among the three provinces in the Tomini Bay Region. The Gini index, a commonly used measure of income inequality, stood at 0.405 in 2017 and increased to 0.418 as of March 2022. It signifies a significant disparity in income distribution within the province. On the other hand, the Gini index for North Sulawesi and Central Sulawesi demonstrate more fluctuating trends. 2022 North Sulawesi experienced a slight rise in the Gini index from 0.359 in 2021 to 0.365 in March 2022. Although the increase is not substantial, it suggests a potential worsening of income inequality within the province.

In contrast, Central Sulawesi has shown a tendency towards decreasing income inequality, with the Gini index dropping from 0.326 in 2021 to 0.308 during the same period in March 2022. These variations in the Gini index indicate that income distribution patterns differ significantly among the three provinces. Gorontalo faces a substantial challenge in addressing its high expenditure inequality, as reflected in the consistently high Gini index. Meanwhile, North Sulawesi demonstrates a slight increase in income inequality, suggesting a need for proactive measures to prevent further deterioration. On the other hand, Central Sulawesi shows a promising trend of decreasing income inequality, indicating potential positive developments in the province's income distribution landscape.

Meanwhile, the poverty rate in North Sulawesi, Gorontalo, and Central Sulawesi has shown a mixed trend over the years, with improvements and setbacks. From 2017 to 2019, there was a consistent decrease in the poverty rates of these provinces, indicating progress in poverty reduction efforts. However, the outbreak of the Covid-19 pandemic in 2020 led to an increase in poverty rates across the region, reversing some of the gains made in previous years. In 2020, North Sulawesi and Gorontalo experienced a slight increase in their poverty rates, with a rise of 0.27% and 0.28%, respectively, compared to the previous year. This increase was in line with the national poverty rate, which also witnessed a surge in September 2020 due to the economic impact of the pandemic. The Covid-19 crisis disrupted various sectors, causing job losses, reduced income, and increased vulnerability to poverty for many individuals and families.

Despite these setbacks, there have been significant efforts to address poverty in the region, resulting in notable progress in subsequent years. In 2021 and 2022, there were improvements in poverty reduction, indicating resilience and recovery from the pandemic's adverse effects. The specific strategies and interventions implemented by the provincial governments and various stakeholders played a crucial role in mitigating the impacts of the pandemic and supporting individuals and communities affected by poverty. However, it is important to highlight that Gorontalo still faces challenges in poverty reduction, as its poverty rate remains higher than the national average. In September 2020, the national poverty rate stood at 10.19%, while Gorontalo had a higher poverty rate. Similarly, Central Sulawesi has struggled to bring its poverty rate below the national average between 2017 and 2022, indicating the persistence of poverty-related issues in the region. Efforts to combat poverty in Gorontalo and Central Sulawesi must be intensified and focused on addressing the underlying factors contributing to the higher-than-average poverty rate.

Moreover, the data presented on the proportion of people living below 50% of the median income, disaggregated by age, sex, and persons with disabilities, provides valuable insights into the economic well-being of the population in North Sulawesi, Gorontalo, and Central Sulawesi. In North Sulawesi, the proportion of individuals living below 50% of the median income exhibited fluctuations over the observed years. In 2018, the rate stood at 14%, then increased to 31.01% in 2019, indicating a significant rise in the number of individuals facing income challenges. However, the subsequent years saw improvements, with rates declining to 12.91% in 2020 and 12.43% in 2021. This downward trend suggests positive progress in addressing income disparities and improving the economic conditions for a significant portion of the population in North Sulawesi.

Similarly, Gorontalo experienced fluctuations in the proportion of people living below 50% of the median income. The rate was 27.71% in 2018, which decreased slightly to 25.51% in 2019. By 2020, there was a further decline to 24.28%, indicating a positive trend towards reducing income inequality. The data for 2021 showed a more significant improvement, with the proportion decreasing to 20.84%. In Central Sulawesi, the data reveals a relatively lower proportion of individuals living below 50% of the median income than the other two provinces. 2018, 2019, 2020, and 2021 rates stood at 13.99%, 13.02%, 12.20%, and 11.39%, respectively. These figures indicate a consistent downward trend, suggesting positive progress in reducing income disparities and improving economic conditions in Central Sulawesi. Although there have been fluctuations in the proportion of people living below 50% of the median income in these regions, the overall trend indicates some positive advancements.

With the available data for 2017-2021, we have conducted a forecast to determine the projected achievement of the selected SDG 10 indicators in the Tomini Bay Region. The regression analysis performed for each indicator

(as presented in Table 5) and the comparison between projected results and target indicators for 2030 at the provincial level provide a comprehensive overview of this projected achievement (as presented in Table 6). An analysis of the data reveals that the Tomini Bay Region continues to face a significant challenge in reducing income inequality. Specifically, considering the economic inequality indicator (10.1.1*), only Central Sulawesi is projected to meet the global SDG target of 100% by 2030. However, concerning the poverty indicator (10.1.1. (a)), the projections indicate that none of the three provinces will reach the United Nations' targeted poverty rate in 2030. Meanwhile, the Tomini Bay Region is witnessing a decrease in the proportion of people living below half of the average income (indicator 10.2.1*). North Sulawesi and Gorontalo have consistently demonstrated downward trends from 2017 to 2021, indicating progress towards achieving the global target of 0%.

Table 5. Data projection of the SDGs 10 income inequality and poverty indicators

Indicators and Aggregation Area	Data Projection								
	2022	2023	2024	2025	2026	2027	2028	2029	2030
Indicator 10.1.1* Gini Index									
North Sulawesi	0.365	0.362	0.360	0.358	0.356	0.354	0.351	0.349	0.347
Gorontalo	0.418	0.414	0.414	0.415	0.415	0.416	0.416	0.416	0.417
Central Sulawesi	0.308	0.321	0.317	0.314	0.311	0.308	0.306	0.303	0.301
Indicator 10.1.1. (a) The proportion of the population living below the national poverty line by sex and age									
North Sulawesi	7.34	7.26	7.17	7.07	6.98	6.89	6.80	6.71	6.61
Gorontalo	15.51	15.05	14.93	14.82	14.73	14.65	14.57	14.50	14.43
Central Sulawesi	12.30	11.74	11.38	11.03	10.70	10.37	10.05	9.75	9.45
Indicator 10.2.1* Proportion of people living below 50 per cent of median income by age, sex and persons with disabilities									
North Sulawesi	9.60	7.32	5.04	2.76	0.48	-1.80	-4.08	-6.36	-8.64
Gorontalo	16.94	14.76	12.57	10.39	8.21	6.02	3.84	1.65	-0.53
Central Sulawesi	9.63	8.77	7.91	7.05	6.19	5.32	4.46	3.60	2.74

Source: Data processing by the author

The data projection above illustrates the progress towards achieving the SDG target by 2030. In North Sulawesi, the Gini index starts at 0.365 in 2022 and gradually decreases. By 2030, it is projected to reach 0.347, indicating a downward trend in income inequality. It suggests that North Sulawesi is progressing in reducing the region's income disparities. Gorontalo, on the other hand, began with a higher Gini index of 0.418 in 2022. The index remains relatively stable from 2023 to 2026 before slightly increasing in subsequent years. By 2030, the projected Gini index for Gorontalo will be 0.417. Central Sulawesi starts with the lowest Gini index of 0.308 in 2022, suggesting a relatively lower income inequality level than the other two regions. However, the index shows a slight increase over the years, reaching 0.301 in 2030.

The provided data also presents projected proportions of the population living below the national poverty line, by sex and age, for 2030 in North Sulawesi, Gorontalo, and Central Sulawesi. In North Sulawesi, the proportion of the population living below the national poverty line starts at 7.34% in 2022 and gradually decreases each year. By 2030, it is projected to reach 6.61%. It indicates a positive trend in poverty reduction in North Sulawesi, suggesting that a decreasing percentage of the population will live below the poverty line. On the other hand, Gorontalo begins with a higher proportion of 15.51% of the population living below the national poverty line in 2022. However, it also shows a downward trend over the years. By 2030, the projected proportion is 14.43%. While there is a decrease, Gorontalo is still expected to have a relatively high poverty rate compared to North Sulawesi. Central Sulawesi starts with a proportion of 12.30% in 2022 and shows a decreasing trend in subsequent years. By 2030, the projected proportion is 9.45%. It indicates significant progress in poverty reduction within Central Sulawesi, with a notable decrease in the population below the national poverty line.

Moreover, the proportions of people living below 50% of the median income, by age, sex, and persons with disabilities, for the year 2030 indicates that the three provinces in Tomoni Bay Region are projected to decrease. In North Sulawesi, the proportion of people living below 50% of the median income is expected to decrease significantly over the projection period. It starts at 9.60% in 2022 and steadily declines each year. By 2030, it is projected to reach less than 0%. The negative projected value indicates that a significant proportion of the population is expected to surpass the 50% median income threshold, suggesting an improvement in income distribution and a reduction in income inequality in North Sulawesi.

Gorontalo also shows a similar trend, with a higher initial proportion of 16.94% in 2022. Over the projection period, the proportion decreases consistently; by 2030, it is projected to be -0.53%. It indicates a substantial improvement in the income situation for a significant portion of the population in Gorontalo, with a higher proportion expected to exceed the 50% median income threshold. Central Sulawesi starts at 9.63% in 2022 and demonstrates a gradual decrease in the proportion of people living below 50% of the median income over the years. By 2030, the projected proportion is 2.74%. It also suggests a reduction in the number of individuals with income below the designated threshold in Central Sulawesi.

The scorecard mapping of the three SDG 10 indicators in this research is presented in Table 6 below.

Table 6. The SDGs scorecard method

	Indicators	Global target 2030	Projected result 2030	% of target achievement	Category
10.1.1*	Gini Index				
	North Sulawesi	0.31	0.347	88%	C
	Gorontalo	0.31	0.417	66%	D
	Central Sulawesi	0.31	0.301	100%	A
10.1.1.(a)	The proportion of the population living below the national poverty line by sex and age	(Decreased by 50% from 2015)			
	North Sulawesi	4.49%	6.61%	53%	D
	Gorontalo	9.08%	14.43%	41%	D
	Central Sulawesi	7.03%	9.45%	66%	D
10.2.1*	The proportion of people living below 50 per cent of median income by age, sex and persons with disabilities				
	North Sulawesi	0%	0.00%	100%	A
	Gorontalo	0%	0.00%	100%	A
	Central Sulawesi	0%	2.74%	73.63%	D

Source: Data processing by the author

Based on the scorecard mapping, the projection data for the SDG indicator, the Gini index, compared to the global target of 0.31 in 2030, shows that North Sulawesi falls under category C, as it is predicted to achieve a minimum of 75% of the target. The projected Gini index for North Sulawesi in 2030 is 0.347, corresponding to achieving 88% of the target. Gorontalo falls under category D, predicted to achieve a minimum of 50% of the target. The projected Gini index for Gorontalo in 2030 is 0.417, corresponding to achieving 66% of the target. Meanwhile, the projected Gini index for Central Sulawesi in 2030 is 0.301, which corresponds to achieving 100% of the target. Based on the scorecard mapping, Central Sulawesi falls under category A. These projections indicate that Central Sulawesi is on track to meet the global target for the Gini index in 2030.

Furthermore, data on other SDG 10 indicators, specifically the proportion of the population living below the national poverty line by sex and age, reveals projected results indicating a downward trend in poverty for the three provinces within the Tomini Bay Area by 2030. In 2022, North Sulawesi had a poverty rate of 7.34%, and it is estimated that this region will experience an average reduction of 0.09% in the poverty rate annually, reaching 6.61% by 2030. Similarly, Gorontalo, with a poverty rate of 15.51% in 2022, is projected to experience an average decline of 0.08% in the poverty rate from 2023 to 2030. However, in 2030, Gorontalo is still expected to have a relatively high poverty rate of 14.43%, the highest among the three provinces. On the other hand, Central Sulawesi, with a poverty rate of 12.30% in 2022, is projected to achieve a poverty rate of 9.45% in 2030.

Compared to the global target set for 2030, the projected poverty rates in the three provinces significantly fall below the desired level. The global target for this indicator aims to achieve a 50% reduction in poverty compared to the poverty rate 2015. In 2015, North Sulawesi had a poverty rate of 8.98%, which means the target poverty rate to be attained by 2030 is 4.49% or lower. Similarly, Gorontalo and Central Sulawesi had poverty rates of 18.16% and 14.07%, respectively, in 2015, resulting in targets for 2030 of 9.08% and 7.035% or lower. Unfortunately, the projected results for these indicators in the three provinces indicate that they are falling within the range of 50% to 75% of the target, placing them in category D. This signifies a significant gap that needs to be addressed by the local government.

In addition, the proportion of people living below 50% of median income, categorised by age, sex, and persons with disabilities, is also a crucial indicator of economic inequality and social well-being. The global target for 2030 aims to achieve a 0% rate for this indicator. The data projections for North Sulawesi and Gorontalo indicate that they are on track to achieve the target of 0% by 2030, which places them in category A, indicating that they are projected to achieve the target fully. On the other hand, Central Sulawesi is projected to have a rate of 2.74% in 2030, placing it in category D. Category D signifies indicators that are predicted to achieve a minimum level of 50% but fall below 75% of the target by 2030. The projections for North Sulawesi and Gorontalo reflect their successful efforts in addressing income disparities and uplifting the living standards of their populations. By reaching the global target of 0% in 2030, they will demonstrate their commitment to reducing income inequality and enhancing social welfare. On the other hand, Central Sulawesi faces challenges in achieving the target by

2030, as the projected rate of 2.74% indicates some income disparity within the population. To address this issue, the local government must intensify its efforts in implementing targeted policies and initiatives.

DISCUSSION

Before the COVID-19 pandemic, Indonesia's progress towards achieving SDG 10 global target had generally declined in recent years. One of the metrics that makes this clear is the Gini index, which rose to 0.385 in the second semester of 2020, demonstrating the growing disparity in Indonesia. The Gini index represents an equitable income distribution among residents, with a value as close to zero as possible. A higher Gini index indicates a less equitable income distribution and vice versa (Rachmawati et al., 2021). The income distribution in the Tomini Bay Region appears less equal, especially in Gorontalo, as measured by the Gini index. Central Bureau of Statistics (BPS) data shows that Gorontalo has the highest level of expenditure inequality compared to the other two provinces. After reviewing the projection results, the Gorontalo government needs to realise that Gorontalo's Gini index is not likely to trend downward until 2030. The Gini index for Gorontalo starts at 0.418 in 2022 and decreases slightly to 0.417 in 2030. Although the decline is minimal, it suggests a relatively stable level of income inequality in Gorontalo. It indicates the need for targeted policies and initiatives to address the persistent income disparities in the region and ensure a more equitable distribution of resources and opportunities. If left unaddressed, economic inefficiency and excessive inequality, typically viewed as unfair to people's welfare, can negatively affect overall economic growth.

In North Sulawesi, the Gini index is projected to decline gradually from 0.365 in 2022 to 0.347 in 2030. It indicates a positive trend towards reducing income inequality over the years. The consistent decrease in the Gini index suggests that income distribution is becoming more equitable in North Sulawesi. However, the projected 2030 achievement of 0.347 has not yet met the global target. The local government must undoubtedly address the obvious inequality in the Tomini Bay Region through inclusive financial policies that empower people with the lowest incomes. High inequality weakens a nation's prospects for long-term prosperity and threatens future progress (Gradín et al., 2021). This condition illustrates that in the Tomini Bay Region, income between residents or household consumption expenditures among residents is still uneven, although not alarming. Economic inefficiency and excessive inequality, typically viewed as unfair to people's welfare, are all the negative effects of income inequality (Weya, 2022).

Meanwhile, Central Sulawesi shows a mixed pattern in its projected Gini index values. The Gini index initially increased from 0.308 2022 to 0.321 in 2023 but gradually decreased to 0.301 in 2030. This fluctuation implies some volatility in income distribution over the forecast period. It highlights the importance of closely monitoring and addressing the factors contributing to income inequality in Central Sulawesi. However, the data projection indicates that only Central Sulawesi will meet the global target in 2030.

Moreover, SDG 10 emphasises the eradication of poverty in addition to economic inequality. Poverty is a multifaceted phenomenon impacting societal and economic well-being (Burchi et al., 2019). From 2017 to 2019, North Sulawesi, Gorontalo, and Central Sulawesi saw an overall decline in the poverty rate. Poverty increased in 2020 due to the Covid-19 pandemic, then declined in 2021 and 2022. However, when compared to the global target for 2030, almost all provinces in the Tomini Bay Region have projected poverty rates that are far above the global target, placing them in category D. In North Sulawesi, the data projection for 2030 shows that 6.61% of the population is expected to live below the national poverty line, while the target is set at 4.49%.

Similarly, Gorontalo is projected to have a poverty rate of 14.43% in 2030, with a target of 9.08%. Central Sulawesi is also facing challenges, with a projected poverty rate of 9.45% in 2030, while the target is 7.03%. This situation may slow down the achievement of the SDGs' global target. These projections indicate that despite efforts to address poverty, these regions still face significant socio-economic challenges. It highlights the need for more targeted and effective measures to reduce poverty and improve the population's well-being.

The local governments in North Sulawesi, Gorontalo, and Central Sulawesi should focus on implementing comprehensive poverty alleviation strategies, including enhancing social protection programs, promoting inclusive economic growth, and improving access to quality education and healthcare. The most promising option for creating a positive cycle of SDG development is to focus on alleviating poverty in all forms (Sompolska-Rzechuła & Kurdyś-Kujawska, 2022). These regions must address the underlying factors contributing to poverty, such as limited employment opportunities, inadequate infrastructure, and social inequalities. By developing targeted interventions and collaborations with relevant stakeholders, the government can work towards achieving the desired targets by 2030. Furthermore, categorising these regions under category D emphasises the importance of monitoring and evaluating the progress of poverty reduction initiatives. Regular assessments and adjustments to strategies are necessary to ensure that efforts are effective and aligned with sustainable development goals.

Contrary to the projections for achieving the SDGs on the poverty indicators discussed above, examining the baseline data for the proportion of the population living on less than half the median income shows relatively positive results. This indicator is a relative poverty measure used to track changes in the relative welfare level of the population whose income is less than half the median value of the population's income (Bappenas, 2022). From 2018 to 2021, the proportion of the Tomini Bay Region population living on less than half of the average income is expected to decline. North Sulawesi and Gorontalo are projected to achieve the global target before 2030. The consistent downward trend in North Sulawesi and Gorontalo from 2017 to 2021 has accelerated the achievement of the global target.

The global target for 2030 aims to achieve a 0% rate for this indicator. The lower the achievement of this proportion, the greater the increase in welfare for people in low-income groups (Bappenas, 2022). The data projections for North Sulawesi and Gorontalo indicate that they are on track to achieve the target of 0% by 2030, which places them in category A, indicating that they are projected to achieve the target fully. This encouraging trend suggests that the 2030 SDGs target can be optimistically met by implementing various strategic development programs that empower and promote social, economic, and political inclusion for all, regardless of age, gender, disability, race, ethnicity, origin, religion, or economic ability or another status. The projections for North Sulawesi and Gorontalo reflect their successful efforts in addressing income disparities and uplifting the living standards of their populations.

On the other hand, Central Sulawesi still faces challenges in achieving the target by 2030, as the projected rate indicates some income disparity within the population. Central Sulawesi is projected to have a rate of 2.74% in 2030, placing it in Category D. Category D signifies indicators predicted to achieve a minimum level of 50% but fall below 75% of the target by 2030. To address this issue, the local government must intensify its efforts in implementing targeted policies and initiatives. It may involve promoting job creation, enhancing vocational training programs, and supporting marginalised groups and persons with disabilities. By focusing on these areas, Central Sulawesi can work towards narrowing the income gap and improving the overall well-being of its residents.

CONCLUSION

In conclusion, the Tomini Bay Region in Indonesia faces significant challenges in achieving SDG 10's global income and poverty inequality targets. The high Gini index indicates a less equitable income distribution, while projected poverty rates indicate that they will remain above the global target for 2030. However, there are positive trends in the proportion of the population living on less than half of the median income, suggesting improvements in the welfare of low-income groups. To address these challenges, the local government in the Tomini Bay Region must adopt an inclusive approach that tackles the root causes of inequality and poverty. This approach should prioritise empowering individuals with the lowest incomes, ensuring their active participation and access to opportunities. Achieving SDG 10's global targets requires a coordinated effort involving the government, civil society, and the private sector. Collaboration among stakeholders is crucial to foster social, economic, and political inclusion for all members of society.

It is important to recognise that the challenges the Tomini Bay Region face are not unique to Indonesia. Income inequality and poverty are widespread issues globally, particularly in low- and middle-income countries. Governments must commit to achieving SDG 10's global targets and work together to ensure no one is left behind. The readiness to implement the SDGs extends beyond the availability of planning documents and scientific studies. It encompasses aligning government programs, establishing monitoring and evaluation frameworks, and raising public awareness about the SDGs and their pathways to success. By embracing these elements, each region can create a more equitable world where individuals have equal access to opportunities, enabling them to realise their full potential. Furthermore, it is important to conduct additional studies to evaluate the effectiveness of existing poverty programs and policies in the Tomini Bay Region. This evaluation will provide valuable insights into the outcomes of interventions and help identify areas for improvement.

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