

Analysis of Education Quality

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Analysis of Education Quality based on Education Indicators in West Sumatra Province in 2019-2021

ABSTRACT

This research aims to analyze Net Enrollment Ratio (NER), number of school educational facilities at different levels of education, and student-teacher ratio in Sumatera Barat Province using a descriptive quantitative method with secondary data from Badan Pusat Statistik for the period 2019-2021. The results of the analysis show that the Net Enrollment Ratio of each age group experienced an increase by 0.09-0.044%. The number of elementary schools in Sumatera Barat has fluctuated while Madrasah Ibtidaiyah have increased. The number of junior highschool has increased meanwhile the number of Madrasah Tsanawiyah has decreased. The number of upper-level education is dominated by senior highschool, followed by Madrasah Aaliyah, then vocational high school. The trend of changes in the elementary school student-teacher ratio has decreased meanwhile both junior and senior high school teachers have increased. In general, the student-teacher ratio in Sumatera Barat is fairly good because it does not exceed the standards set by the government.

Keywords: quality of education; NER; school facility; student-teacher ratio.

INTRODUCTION

West Sumatra is one of the provinces located on the island of Sumatra with a total area of 42,297.30 km². Based on data published by the Central Statistics Agency (BPS), West Sumatra is recorded to have a young population of 972,082 people or equivalent to 17% of the total population in 2021 (BPS Sumatera Barat, 2021). The high number of young people indicates that West Sumatra has the potential for abundant availability of Human Resources (HR). However, often this large number of human resources becomes a burden of problems that can hinder regional development. Therefore, quality human resources are needed to accelerate regional development in West Sumatra Province. One way to improve the quality of human resources is through improving the quality and quantity of education.

The need for education is a right for all Indonesian people. In addition, education is also an obligation regulated by the Law of the Republic of Indonesia Number 20 of 2003 concerning the National Education System as stated in Article 6 paragraph (1) which states that, "Every citizen aged seven to fifteen years must attend basic education". Education is seen as important because it is the basis for the development of constructive and creative thinking patterns, and has a role in improving the quality of human life (Gewab et al.,

2015). Improving the quality of education is included in the SDGs action plan as an effort to create quality human resources. Therefore, education can be used as a parameter to measure the human development index in a region.

The basic problems in the education sector that often occur in West Sumatra are mostly related to the level of participation of the school-age population to take an active role by going to school at every school level, the issue of educational facilities (schools), and the student-teacher ratio. For measuring the level of education participation in West Sumatra, the School Participation Rate (APS) indicator is one indicator that can be used. The School Participation Rate (APS) is the ratio between the number of people currently attending school at a certain level of education and the population of the school age group corresponding to that level of education (Figueiredo et al., 2021). Furthermore, Nurhanifa & Pujiastuti, (2020) stated that the APS indicator can also be used as a parameter to determine the level of education equity in a region.

Educational facilities are needs that must be met to support the teaching and learning process in an area (Sachdeva et al., 2008). Uneven educational facilities will potentially cause educational problems such as the availability of educational facilities that do not meet the needs of the community (Apple, 2012). Educational facilities that are desperately needed include schools and teachers (Okolie et al., 2020). The number of schools and teachers in West Sumatra must be able to meet the needs of the community according to the ideal standards set by the government. Therefore, it is necessary to examine the distribution and number of educational facilities in West Sumatra to see whether the community's need for school facilities has been properly met so as to ensure equal distribution of educational opportunities.

The problems related to education previously mentioned led to this research with the aim of analyzing the School Participation Rate (APS) by district/city, the number of educational facilities at each level of education by district/city, and the ratio of the number of students to teachers at each level of education by district. / city in West Sumatra Province.

RESEARCH METHODOLOGY

The type of data used in the analysis of the quality of education in West Sumatra is secondary data derived from the publications of the BPS West Sumatra Province. The data used in the form of data on the School Participation Rate (APS), the number of school facilities, and the Student-Teacher Ratio. The data were analyzed in a time series. The data collection technique was carried out using a literature study approach, namely data collection techniques by studying various reference books and similar previous research results that were useful for obtaining a theoretical basis on the problem to be studied. Information on the results of data analysis is visualized in the form of descriptions, tables, and diagrams. The analytical method used in this research

is descriptive quantitative data analysis. Descriptive quantitative is one type of method to describe and describe data in the form of numbers processing results and data analysis using statistical methods.

RESULT AND DISCUSSION

School Participation Rate (APS)

School Participation Rates aged 7-12 years show the proportion of children who are still in elementary school, according to their age group, namely 7-12 years. In Table 1, it can be seen that APS aged 7-12 years in West Sumatra Province for 2019-2021 did not experience significant changes. In 2019, the APS for 7-12 years was 99.52% then increased to 99.61% in 2020 and will not change until 2021. This means that from 2019-2020 there are 1 in 100 children aged 7-12 years in West Sumatra Province who do not attend school. So it can be said that almost all children aged 7-12 years are in school. If you look at the distribution of APS scores at the district/city level, the situation is very good where all regions have a relatively high APS for the age group corresponding to the Elementary School/equivalent level, which is above 99%. This also indicates that education for the elementary/equivalent level is quite evenly distributed in the province of West Sumatra. The high APS value for the population aged 7-12 years can be caused by the increasing public awareness of the importance of education. Based on BPS data, the education level of the population of West Sumatra is getting higher every year so that it affects the public's view of the urgency of education and its positive impact on family economic life in the future. Another thing that supports it is the increasing and even distribution of educational facilities, especially schools and teaching staff.

Even so, there are several areas with lower APS than West Sumatra Province, including South Solok Regency and Dharmasraya Regency. Solok Selatan is an expansion area of Solok Regency which has just come out of lagging status in 2019 where development in the field of education has not been as good as other regencies/cities (Murdaningsih, 2019). The South Solok government is still improving the quality of education and preparing excellent programs such as the driving school program (Akbar, 2021). As for Dharmasraya Regency, until 2021 there are still 3 nagari or traditional villages that are categorized as underdeveloped. The Dharmasraya community also attaches great importance to religious education, so it is possible that some residents of the 7-12 year age group choose to receive religious education in non-formal educational institutions (Dharmasraya District Government, 2021). This factor is one of the reasons why Dharmasraya's APS is lower than the provincial APS.

The APS for the 13-15 year age group in West Sumatra Province has increased every year from 2019-2021, starting with an APS value of 96.23%, then

improving to 96.6% and rising again in 2021 to 96.63% (Table 1) . This shows that for every 100 children aged 13-15 years, there are 4 children who do not attend junior high school/equivalent. The increase in the APS in West Sumatra for the 13-15 year age group is influenced by the increase in educational facilities such as schools and teaching staff. There was an increase in the number of schools by 18 units under the Ministry of Education and Culture in the 2019-2021 period. In addition, the Education Office has prepared a scholarship package of almost Rp. 10 billion from the APBD with the aim of keeping children in school. The area with the worst APS in the 13-15 year age group in South Sumatra is Sijunjung Regency. Although the trend always increases from 2019-2021, in 2021 the APS in Sijunjung Regency is only 90.19%, which means that for every 100 children aged 13-15 years in the district, there are 10 children who are not in junior high school/equivalent level. This can be caused by the low level of efficiency of education/education governance in Sijunjung in accepting and graduating students (West Sumatra Education Office, 2019).

The value of the School Enrollment Rate (APS) for the population of the 16-18 year age group in West Sumatra in general always shows a much smaller value than the other two age groups in 2019-2021. This indicates that the population's school enrollment rate will decrease with age. The percentage of NER of the population of West Sumatra in the age group of 16-18 years in 2019, 2020, and 2021, respectively, was 83.63%, 83.68%, and 84.07%. This figure means that only about 80-85% of the population aged 16-18 years attend the SMA/SMK/MA level while the other 15-20% do not attend the school level. Furthermore, by looking at the condition of each district/city, the percentage of the School Participation Rate (APS) in the 16-18 year age group shows different values and trends of change.

Referring to table 1, the Mentawai Islands Regency is one of the regencies with the lowest average APS percentage compared to regencies/cities with values of 71.3%, 74.92%, and 74.91% in 2019-2021. Mentawai Regency, which is a 3T area (Outermost, Disadvantaged, and Frontier) makes most of its population live below the poverty line. Based on data from BPS, the percentage of poor people in this district in 2019-2021 was highest in West Sumatra, namely 14.43%, 14.35%, and 14.84%. This high level of poverty causes the percentage of APS population aged 16-18 years in the Mentawai Islands Regency to be quite low. This is reinforced by Karini's opinion (2018) that people with low economic levels will find it difficult to send their children to school because it requires relatively large costs and also (Lobo & Burke-Smalley, 2018). That is why many of the poor people in the Mentawai Islands Regency choose to work rather than continue their education to a higher level. Even so, the local government continues to improve the quality of education. One of them is by including the mission of "Realizing Healthy, Smart and Productive Human Resources" in the RPJMD document for the Mentawai Islands Regency for the period 2017-2022. On the other hand, table 1 also shows that the City of Padang is one of the three districts/cities with the highest percentage of APS. The percentage of APS in

the 16-18 year age group in Padang City in 2019-2021 was 92.86%, 93.1%, and 93.31%, respectively. The high percentage of APS in the 16-18 year age group in Padang City is influenced by several factors, one of which is the number of schools. The number of schools in Padang City is known to be the largest compared to 18 other districts/cities. In 2021, there will be 58 high school schools, 43 vocational schools, and 11 MA schools in Padang City (Badan Pusat Statistik (BPS), 2021). This opinion is supported by (Offiong et al., 2021) that the number of schools is positively correlated with the percentage of APS. The addition of the number of schools can increase the level of participation of the school-age population to attend school (Filmer, 2007). Even so, the Padang City government is still trying to improve the quality of education in its area. In the Padang City RPJMD document for the 2019-2024 period, the first mission related to education is stated to "Improve the Quality of Education to Produce Faithful, Creative, Innovative and Competitive Human Resources".

Table 1 School Participation Rate for Population Aged 7-18 Years By Regency/City and Age Group of Sumatra Province West Year 2019-2021

Kabupaten/Kota	School Participation Rate for Population Aged 7-18 Years By Regency/City and Age Group								
	7-12			13-15			16-18		
	2019	2020	2021	2019	2020	2021	2019	2020	2021
Kab. Kepulauan Mentawai	99.68	99.61	99.51	98.39	97.37	97.31	71.3	74.92	74.91
Kab. Pesisir Selatan	99.57	99.72	99.64	97.03	96.85	96.75	83	81.64	82.17
Kab. Solok	99.21	99.95	99.86	95.24	95.81	96.2	80.51	79.87	80.35
Kab. Sijunjung	99.6	99.99	99.68	89.7	89.98	90.19	72	71.71	71.03
Kab. Tanah Datar	99.66	99.61	99.62	95.88	97.18	97.02	92.8	92.87	92.74
Kab. Padang Pariaman	99.83	99.84	99.49	97.63	97.98	98.06	84.74	85.83	85.48
Kab. Agam	99.53	99.73	99.64	95.01	95.51	95.91	85.16	83.56	85.4
Kab. Lima Puluh Kota	99.27	99.12	99.99	97.04	96.83	97.19	76.75	76.25	76.69
Kab. Pasaman	99.22	98.95	98.94	95.92	95.97	95.66	74.1	74.87	76.68
Kab. Solok Selatan	99.1	99.42	99.08	97.27	97.64	97.52	76.33	76.5	76.94
Kab. Dharmasraya	99.45	99.27	99.06	96.05	95.85	95.92	70.85	70.87	72.13
Kab. Pasaman Barat	99.37	99.94	99.72	96.24	97.76	97.99	78.28	78.41	78.6
Kota Padang	99.83	99.33	99.65	96.15	96.79	96.88	92.86	93.1	93.31
Kota Solok	98.94	99.99	99.7	97.27	96.96	97.2	84.96	85.85	85.2
Kota Sawahlunto	99.66	99.58	99.94	97.95	97.26	97.67	81.79	82.41	82.99
Kota Padang Panjang	99.42	99.58	99.39	97.73	97.56	97.29	93.78	93.79	93.9

Number of Schools

Facilities and infrastructure for teaching and learning activities are the obligations of local governments in supporting the smooth running of the education system in accordance with national education standards (Adiwijaya, 2022; Badan Pusat Statistik (BPS), 2021; Ediyanto et al., 2017). The provision of educational facilities and infrastructure is regulated in Law no. 20 of 2003

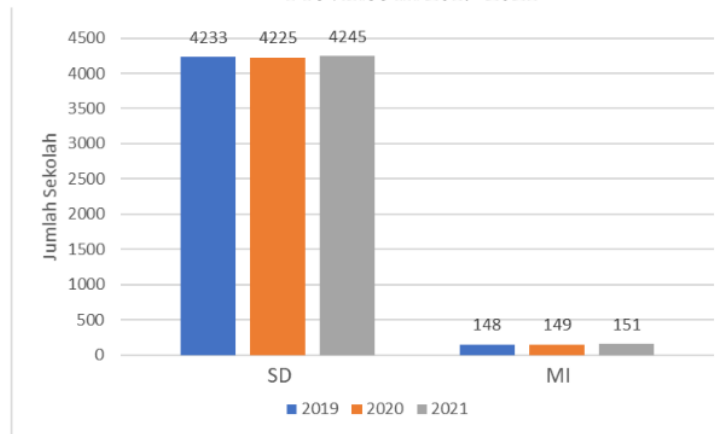
concerning the national education system (Inkiriwang et al., 2020). One of the assessments of the availability of educational facilities and infrastructure in West Sumatra can be seen based on the number of schools. The number of schools in West Sumatra is divided based on the level of education, namely Elementary School (SD)/Madrasah Ibtidaiyah (MI), Junior High School (SMP)/Madrasah Tsanawiyah (MTs), and Senior High School (SMA)/Vocational High School (SMK). / Madrasah Aliyah (MA).

Elementary School (SD) and Madrasah Ibtidaiyah (MI)

The basic education levels in the compulsory education program in PP No. 47 of 2008 are Elementary School (SD) and Madrasah Ibtidaiyah (MI). SD is a formal education unit that organizes general education at the basic education level, while MI is general education with the peculiarities of the Islamic religion at the basic education level and is under the guidance of the Minister of Religion (PP No. 47 of 2008) (Delly, 2010). Trends in the number of SD and MI schools in West Sumatra in 2019-2021 can be seen in Figure 1. Overall SD has a much larger number than MI. The trend of the number of primary schools in West Sumatra tends to fluctuate, while the trend of MI has increased. The decrease in the number of elementary school buildings occurred in 2020 as many as 8 school buildings. This decrease was influenced by a decrease in the percentage growth in the number of students at the elementary education level by -1.13% (Badan Pusat Statistik (BPS), 2021). This can be caused by the Covid-19 pandemic because many face-to-face learning activities are abolished and shifted to distance learning (Batubara, 2021). The implementation of distance learning cannot run well because not all students have technology that supports distance learning (Antoni, 2020)(Simamora et al., 2020). Therefore, the growth in the number of students has decreased and has an effect on the closure of several schools due to a shortage of students. In 2021 the number of elementary schools will increase again because there are several policies that regulate activities that can be carried out by the community during the Covid-19 pandemic, so that the government and the community have begun to adapt to these conditions.

In contrast to SD, the number of MI schools has an increasing trend from 2019-2021. Some MI educations apply learning in the form of Islamic boarding schools. The implementation of learning at Islamic boarding schools is not too affected by Covid-19 because the activities in and out of students and educators are not too massive so they can still be controlled by each school. This allows the addition of the number of MI in West Sumatra.

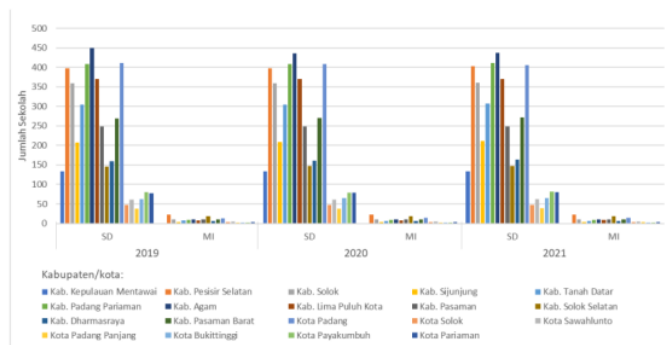
Figure 1 Graph of Number of Elementary and MI Schools in West Sumatra Province in 2019-2021



Source: West Sumatra in Numbers 2020, 2021, and 2022 (processed, 2022)

The distribution of the number of SD and MI schools in West Sumatra can be seen in Figure 2. The graph shows that Agam Regency has the highest number of primary schools, while Padang Panjang City has the fewest. This number can be influenced by the area and topography of each region. The area of Agam Regency is equal to 5.29% of the total area of West Sumatra province and 44% of the area of Agam Regency is an area with a flat topography. In addition to the physical condition of the area, Agam Regency also has the second largest population after Padang City. Therefore, the number of primary schools in this region is relatively large. This is inversely proportional to the city of Padang Panjang which has the least number of elementary schools. The small number of elementary schools in the city of Padang Panjang is accompanied by a small population. The number of MI in West Sumatra Province in Figure 2 shows that Pesisir Selatan Regency has the highest number of MI compared to other districts/cities in West Sumatra. Pesisir Selatan Regency is one of the areas in West Sumatra that has a strong belief in Islam. The location of the area which is on the coast causes this area to be one of the first stops by Islamic preachers. These events affect the current state of education in Pesisir Selatan Regency which has the most MI schools in West Sumatra.

Figure 2 Graph of Number of Elementary and MI Schools by Regency/City in West Sumatra Province in 2019, 2020, 2021.

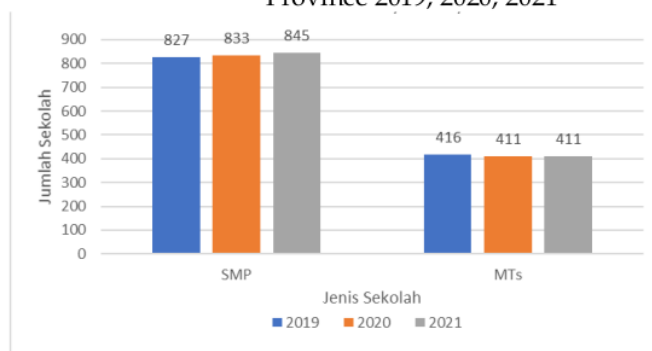


Source: West Sumatra in Numbers 2020, 2021, and 2022 (processed, 2022)

4 Junior High School and Madrasah Tsanawiyah (MTs)

Junior secondary education is a further education that needs to be taken by a student aged 13-15 years after elementary school. Junior High School is included in basic education other than Elementary School which is the government's target for the 9-year compulsory education program which was later changed to the 12-year compulsory education program. To support the quality and maximum 12-year compulsory education program in West Sumatra, efforts are needed to make the 9-year compulsory education program a success. The success of this program can be seen from the Gross Enrollment Rate (APK) and School Participation Rate (APS) in West Sumatra Province. Based on data from the Central Statistics Agency of West Sumatra, the APS value for the population aged 13-15 years in 2019 reached 96.23%, in 2020 it was 96.6%, and in 2021 it was 96.63%. This shows that not 100% of the population aged 13-15 years in West Sumatra can access SMP/MTs education. One of the factors that influence the educational participation is the number of schools (Nafari & Rezaei, 2022).

Figure 3 Graph of Number of Middle Schools and MTs in West Sumatra Province 2019, 2020, 2021



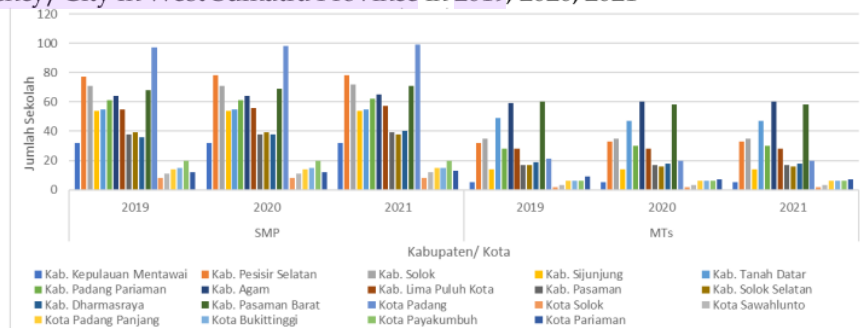
Source: West Sumatra in Numbers 2020, 2021, and 2022 (processed, 2022)

Based on Figure 3, the graph of the number of Junior High Schools (SMP) in West Sumatra Province experienced a significant increase, namely 6 schools

in 2020 and 12 schools in 2021. Meanwhile, the number of Madrasah Tsanawiyah (MTs) decreased in 2019 by 5 schools and remained at in 2020 and 2021. The number of SMP is more than the number of MTs with a difference of more than 400 schools. The increase in the number of junior high schools is one of the government's efforts to improve the quality of education in West Sumatra. R & Yulhendri, (2020) stated that the more classrooms and school facilities in junior high schools, the more opportunities for people in the area to continue their education to junior high school. The decrease in the number of MTs can be caused by a decrease in student interest in entering MTs, a shortage of students, poor school management, and so on.

Figure 4 shows that the district/city with the highest number of junior high schools in West Sumatra is Padang City, while the lowest is Solok City, which only has 2 schools. The city of Padang has the highest number of junior high schools because this city is the capital of the province of West Sumatra and has a large population so that many educational facilities are needed. Solok City has the least number of SMP and MTs due to the small area of Solok City with a small population aged 13-15 years, so it only requires few school facilities. The highest number of MTs is in Agam Regency. This can be influenced by the social conditions of the people in the region which are still thick with Islamic nuances.

Figure 4 Graph of Number of Junior High Schools and MTs by Regency/City in West Sumatra Province in 2019, 2020, 2021



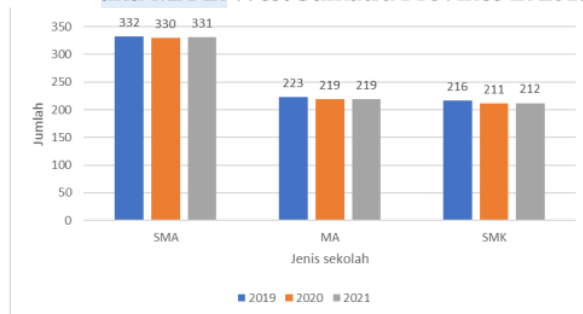
Source: West Sumatra in Numbers 2020, 2021, and 2022 (processed, 2022)

High School (SMA), Vocational High School (SMK), and Madrasah Aliyah (MA)

The need for higher education is increasing along with the development of globalization. Since 2015, the Government of Indonesia has increased the duration of the Compulsory Education (WAR) program to 12 years. The purpose of this increase is not only to increase the duration of educational assistance, but also to increase the probability of children, especially those from lower-middle families, to receive a minimum education up to high school or equivalent (SMK and MA). One of the government's efforts to increase the school enrollment rate (APS) is to add educational facilities in the form of

schools (Rahmatin & Soejoto, 2017). Based on Figure 5, the highest number of schools is SMA. Meanwhile, the number of SMK and MA is much less with a difference of approximately one hundred schools from SMA. This difference in numbers is due to the interests and views of the people of West Sumatra who view SMA as better than SMK or MA. The number of schools, both SMA, SMK, and MA during 2019-2021 has decreased. This decline can be caused by several things, namely the decrease in children's interest in school, economic limitations, as well as the addition of local (classes) and teachers in several schools (Irianto, 2017).

Figure 5 Graph of the Number of High Schools, Vocational High Schools, and MA in West Sumatra Province in 2019, 2020, 2021



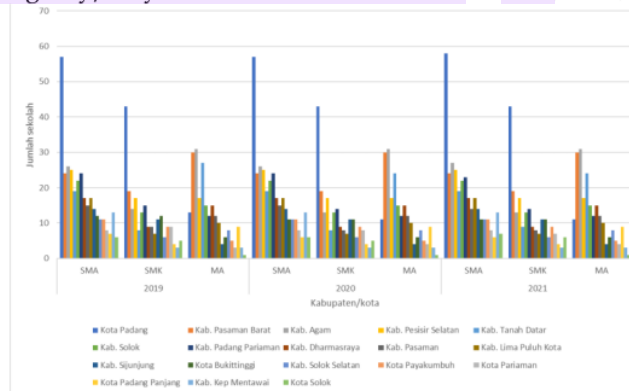
Source: West Sumatra in Numbers 2020, 2021, and 2022 (processed, 2022)

In addition to the distribution of educational facilities in each region, the increase in the number of schools has an effect on the psychological condition of children (Rones & Hoagwood, 2000). According to psychologist Alzheta Masyikouri, the ideal distance from home to school is 5 km. The number of schools that are evenly distributed affects the level of children's participation in education. The problem of education in West Sumatra lies in the unequal distribution of schools and teachers between cities and districts (West Sumatra Education Office, 2015). Based on Figure 6, the number of SMA, SMK, and MA schools in Padang City is much higher than the other eighteen districts/cities. This correlates with the city of Padang as the capital of West Sumatra with a high population density and a better level of economy compared to other districts. Meanwhile, the lowest number of SMA, SMK and MA schools are Mentawai Islands and Solok City. Inadequate road infrastructure in the Mentawai Islands is a factor in the low number of schools in this district (Sujarwo et al., 2018). Meanwhile, Solok City has a low number of schools due to its very small area compared to other districts/cities. According to the West Sumatra Education Office (2015) in the 2016-2021 Strategic Plan, the implementation of the 12-year Compulsory Education Program has not been maximized because the 9-Year Compulsory Education Program has not been completed. This is evidenced by the school participation rate for children aged 16-18 years which is only 86% compared to the school participation rates for

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children 7-12 years and 13-15 years of 99% and 96% years, respectively. Children aged 16-18 years have not been able to receive high school education and equivalent schools because the capacity of school facilities and infrastructure has not been able to accommodate the expected number of students, such as the lack of local learning, teachers, and schools. This inequality affects the school enrollment rate (APS).

Figure 6 Graph of Number of High Schools, Vocational High Schools, and MA by Regency / City in West Sumatra Province in 2019, 2020, 2021



Source: West Sumatra in Numbers 2020, 2021, and 2022 (processed, 2022)

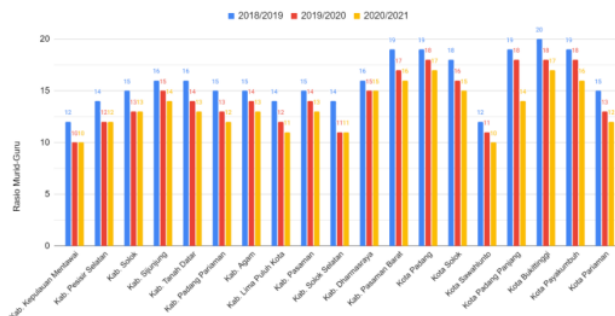
Student-Teacher Ratio Elementary School (SD)

The ratio of the number of students to elementary school teachers is calculated with the aim of knowing the number of available teaching staff who can serve a number of students at the elementary school education level. Referring to the graph of Figure 7, each district/city in West Sumatra Province generally has a different ratio of students to elementary school teachers. Even so, all regencies/cities in this province show the same trend of changing the ratio of elementary school students, which is always decreasing in the 2018/2019 to 2020/2021 school year. When viewed in more detail, the ratio of students to teachers in each district/city as a whole is below 20. This student-teacher ratio of 20 means that one teacher will be responsible for at most 20 elementary school students. This condition is of course considered ideal because it has met national education standards. PP No. 74 of 2008 states that the ratio of 1:20 is the ideal ratio for a teacher holding an educator certificate (Adeyemi, 2008). Although in general all districts/cities have been classified as having an ideal student-teacher ratio, there are differences between the student-teacher ratio scores between districts/cities. The city of Padang is identified as having an average student-teacher ratio that is sufficient compared to other districts/cities. In the 2018/2019 academic year, the ratio of elementary school teachers in Padang City was 19 or one teacher was responsible for 19 students. This number continues to decline until in the 2020/2021 school year only 17

elementary school students have to be taught by one teacher. The high value of the student teacher ratio in the city of Padang is influenced by the large number of elementary school teachers who cannot keep up with the very large number of elementary students. The city of Padang is recorded to have 5,525 elementary school teachers and 91,491 elementary school students in the 2020/2021 school year (Badan Pusat Statistik (BPS), 2021). This number represents the highest number of teachers and students compared to other districts/cities. Despite having a large number of teachers, the large number of elementary school students is the reason why the value of the student-teacher ratio in Padang City for the three-year period 2018/2019 to 2020/2021 is quite high despite showing a declining trend.

Different conditions are shown by the student-teacher ratio in Sawahlunto City. Based on the graph of Figure 7, the average value of the student-teacher ratio in Sawahlunto City is relatively small with a downward trend of change from the period 2018/2019 to 2020/2021. One elementary school teacher must teach 12 elementary school students in the 2018/2019 school year and this has decreased to only 10 elementary school students in the 2020/2022 school year. The low student teacher ratio value in Sawahlunto City is caused by the concentration of teachers in urban areas. As is well known, Sawahlunto City is one of the urban areas with high economic growth in West Sumatra. The teaching staff of teachers are usually only distributed in urban areas because of their easier accessibility. This statement is in accordance with Suryana's opinion (2020) that the accumulation of teachers in urban areas is one of the causes of the inefficiency of the student to teacher ratio in an area.

Figure 7 Elementary School Student-Teacher Ratio by District/City in West Sumatra Province for the 2018/2019, 2019/2020, and 2020/2021 Academic Years



Source: West Sumatra in Numbers 2020, 2021, and 2022 (processed, 2022)

Junior High School (SMP)

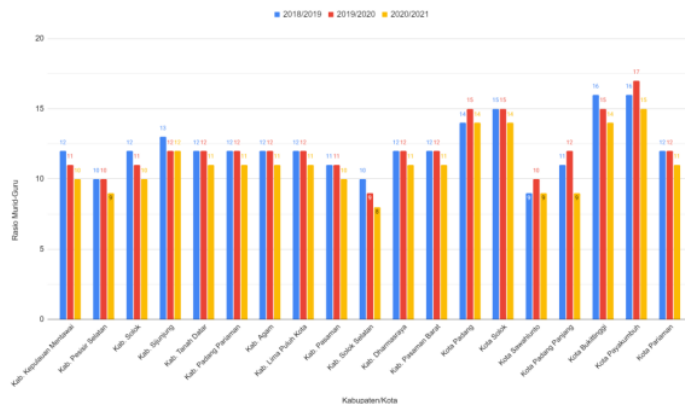
The ratio of the number of teachers to the number of students for Junior High Schools (SMP) shows the number of students who are charged or can be served by a teacher. The student-teacher ratio can be used as an indicator to measure the quality of teaching in an area. A large student-teacher ratio

indicates that one teacher must be responsible for many students, which means that the greater the student-teacher ratio, the smaller the student's access to teachers (Badan Pusat Statistik (BPS), 2021). Referring to Figure 8 the ratio of students to teachers in Junior High School (SMP) in West Sumatra Province by Regency/City shows different figures. The Mentawai Islands Regency, Solok Regency, and South Solok Regency show a downward trend in the student-teacher ratio in the 2018/2019 to 2020/2021 school year. Almost all regencies/cities in West Sumatra also experienced a decline in the student-teacher ratio for the junior high school level in the 2019/2020 school year. This could be due to an increase in the number of teachers or educators for the junior high school level in each district/city so that the student-teacher ratio decreased. For the City of Padang, City of Sawahlunto, and City of Payakumbuh, there was an increase in the student-teacher ratio in the 2019/2020 school year which could be due to the increase in the number of junior high school students which was not matched by the increase in the number of educators.

The highest student-teacher ratio recorded occurred in the 2019/2020 school year in Payakumbuh City reaching 17:1 or one teacher teaching 17 students. The increase in the ratio compared to the previous year was due to a significant increase in the number of students in junior high schools. According to (Badan Pusat Statistik (BPS), 2021) the number of students in Payakumbuh City in 2019 reached 9,266 people with 541 teachers. This number of students increased when compared to 2018 which was only 8,741 people. The lowest student-teacher ratio is in South Solok Regency in the 2020/2021 school year, which is only 8:1 or one teacher teaches 8 students. This is because the number of teachers in the district is quite large, reaching 683 people, which is not comparable to the number of students who are only 5,540 people.

According to Government Regulation No. 74 of 2008 (Peraturan Pemerintah No 74 Tahun 2008 Tentang Guru, 2008), the ideal ratio of teachers holding educator certificates for junior high school level is 1:20 or one teacher will teach 20 students. When compared with the Government Regulation, the ratio of students to teachers in West Sumatra is quite good. However, the educational problem that is being faced by the Province of West Sumatra is the number and quality of educators that are still uneven. This causes only a few districts/cities to stand out while others do not. Therefore, the government needs to create a program that can equalize the quality of human resources and the number of existing teachers. The trick is to make teacher training and certification to make the quality of educators evenly distributed in all regions.

Figure 8 Junior High School Student-Teacher Ratio (SMP) by Regency/City in West Sumatra Province Academic Years 2018/2019, 2019/2020, and 2020/2021



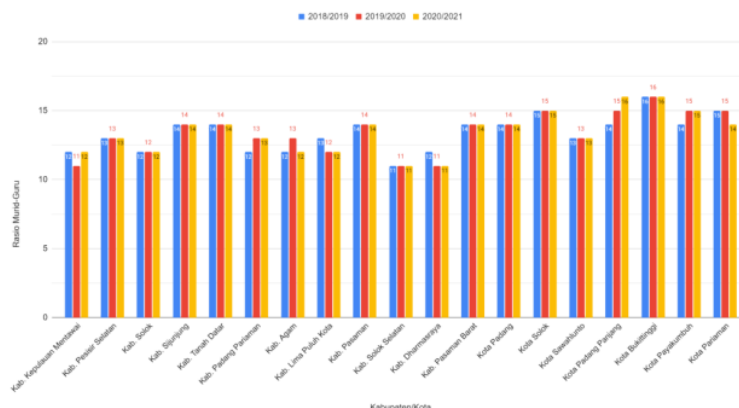
Source: (Badan Pusat Statistik (BPS), 2022)(processed, 2022)

High School (SMA)

The student-teacher ratio describes the workload of one teacher against several students. According to Article 17 of Government Regulation Number 74 of 2008 concerning Teachers, it is stated that ideally one teacher is responsible for 20 high school students. The more students there are, the better the quality of education should be, because the attention of teachers is increasingly divided. However, the student-teacher ratio is not an absolute determinant of the success of teaching and learning activities (Carneiro, 2008).

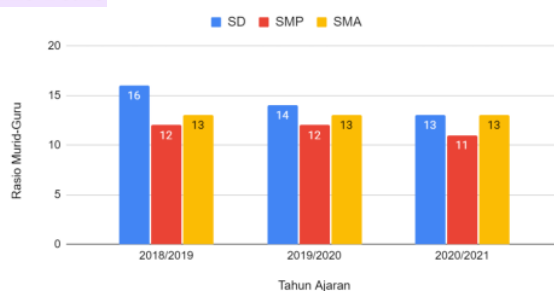
The lowest student-teacher ratio is found in Bukittinggi City, which is 1:16, while the highest ratio is found in Dharmasraya City and South Solok Regency (Figure 9). Areas experiencing teacher shortages are caused by teacher pensions, uneven distribution of subject teachers, and a lack of interest for teachers to be placed in disadvantaged areas. What needs to be done is the distribution of teachers evenly, the implementation of training, and the distribution of certification to teachers in disadvantaged areas. It is necessary to guarantee teacher welfare, especially for teachers assigned to remote areas (Chang et al., 2013). Meanwhile, when viewed as a whole, referring to Figure 10, the student-teacher ratio of SMA in West Sumatra Province is classified as very good. This is because the teacher-student ratio of each district/city does not exceed 20 students, which is only 1:13 students. Thus, when viewed in terms of the quantity of teacher availability, the quality of education in West Sumatra Province is relatively high.

Figure 9 High School Student-Teacher Ratio (SMA) by Regency/City in West Sumatra Province Academic Years 2018/2019, 2019/2020, and 2020/2021



Source: West Sumatra in Numbers 2019, 2020, and 2021 (processed, 2022)

Figure 10 Graph of Student-Teacher Ratio for Elementary, Middle, and High Schools in West Sumatra Province for the 2018/2019, 2019/2020, and 2020/2021 Academic Years



Source: West Sumatra in Numbers 2019, 2020, and 2021 (processed, 2022)

CONCLUSION

The School Participation Rate (APS) aged 7-12 West Sumatra in 2019 was 99.52%, increasing to 99.61% in 2020 and will not change until 2021. The APS value at the district/city level is entirely above 99%. So it can be said that almost all children aged 7-12 years in West Sumatra have gone to school with an elementary/equivalent level of education. The APS for the 13-15 year age group in West Sumatra in 2019-2021 has increased every year in the range of 96%. This shows that for every 100 children aged 13-15 years, there are 4 children who do not attend junior high school/equivalent. The percentage of NER of the population of West Sumatra in the age group of 16-18 years in 2019, 2020, and 2021, respectively, was 83.63%, 83.68%, and 84.07%. Only about 80-85% of the population aged 16-18 years attend the SMA/SMK/MA level while the other 15-20% do not attend the school level. APS decreases with age.

Number Overall SD has a much higher number than MI. The trend of the number of primary schools in West Sumatra tends to fluctuate, while the trend

of MI has increased. The decline in the number of elementary school buildings occurred in 2020 which was influenced by a decrease in the percentage growth in the number of students by -1.13% due to the Covid-19 pandemic. The number of Junior High Schools (SMP) in West Sumatra Province experienced a significant increase, namely 6 schools in 2020 and 12 schools in 2021. Meanwhile, the number of Madrasah Tsanawiyah (MTs) decreased in 2019 by 5 schools and remained in 2020 and 2021. The number of SMP is more than the number of MTs with a difference of more than 400 schools. The increase in the number of junior high schools is one of the government's efforts to improve the quality of education in West Sumatra. The number of senior secondary schools in West Sumatra is dominated by SMA, followed by MA, then SMK. The difference in the number is due to the interests and views of the people of West Sumatra who view SMA as better than SMK or MA. The number of schools, both SMA, SMK and MA during 2019 - 2020 has decreased. This decrease can be caused by the decrease in children's interest in school, economic limitations, as well as the addition of local (classes) and teachers in several schools.

The trend of changing the ratio of elementary school students in West Sumatra is experiencing

decline in the 2018/2019 academic year to 2020/2021. Overall, the primary school teacher-student ratio is below 20, so it is considered an ideal condition. The student-teacher ratio of SMP in West Sumatra varies for each district/city. The highest student-teacher ratio recorded occurred in the 2019/2020 school year in Payakumbuh City reaching 17:1 or one teacher teaching 17 students. The ratio of students to middle school teachers in West Sumatra is good, but the number and quality of teaching staff are still uneven. The ratio of high school students by district/city in West Sumatra Province is classified as very good. This is because the overall teacher-student ratio does not exceed 20 students, which is only 1:13 students.

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