

Trends in Primary School Education Rates and Planning of Educational Participation Policies in the Musi Rawas District

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ABSTRACT

The purpose of this study is to determine the prediction of gross enrollment at the primary school level in Musi Rawas Regency, South Sumatra Province. Furthermore, to identify the programs and policies of the Musi Rawas district government to increase the gross enrollment rate at the primary school level based on the results of the APM prediction. The method used is descriptive quantitative, with secondary data analysis and supplemented by interview results. Data analysis uses the Parabolic Quadratic model trend with the equation $Y = a + bX + cX^2$. The results show that the trend of primary school APK in 2023-2032 tends to decrease by 37.25%. Then for the programs implemented by the Musi Rawas district government to increase the APK at the primary school level, such as compulsory education, PIP, edu tech, school and teacher activist programs, and education socialization, while for the policies, they include institutional operations, quality improvement and improving educators. The Musi Rawas district government, especially the Education and Culture Office, followed up on the results of the trend analysis by increasing the APK at the school education level.

Keywords: Trends, Enrollment Rate, Primary School Education, Policy Plan

INTRODUCTION

Every parent wants their children to be successful, highly educated, and expected to have a much better life than their parents

who are far from well educated (Alviana & Nanik Setyowati, 2023). One of the education plans promoted by the local government to equalize education for every citizen with the compulsory education program (Sofa et al., 2023). The government issued Minister of Education and Culture Regulation No. 5/2006 on the National Movement to Accelerate the Completion of 9-Year Compulsory Education and the Completion of Illiteracy. The steps of the national movement to accelerate compulsory education and overcome illiteracy by increasing the percentage of students at the primary school level is a population with an age range of 7 to 12 years with a target Gross Participation Rate (APK) of 95%.

The legal basis of the 1945 Constitution of the Republic of Indonesia article 31 paragraphs 1 and 2 regarding compulsory 9-year education, which first reads that all Indonesian citizens have the right to education. Secondly, the government is obliged to finance citizens who receive basic education. This means that all Indonesian citizens must go to school at least elementary and junior high school financed by the government. But in reality, there are still many children who drop out of school. The government did not stop there but issued Law No. 20 of 2003 which discusses national education for 12 years of compulsory education. The 12-year

compulsory education includes elementary, junior high, and high school levels (Sentana, 2014).

This research focuses on primary education. Primary school is the first formal level of education taken over 6 years and is usually 7-12 years old. After completing primary school, students are expected to continue to junior secondary school. However, the reality is that not all primary school age students can access education. This can be caused by many factors such as poor economic factors, geographical location that is difficult to reach, social culture of the community that is less supportive (Margiyanti & Maulia, 2023).

Looking at some of the factors that cause students not to be able to access education, shows that education in Indonesia is not evenly distributed. This is evidenced by the education participation rate, especially basic education in several regions, which is not optimal. The Ministry of Education and Culture's Center for Education and Culture Data and Statistics (PDSPK) for 2021/2022 states that the gross enrollment rate (APK) in Indonesia, especially South Sumatra Province at the SD / MI and equivalent levels is 105.44. When looking at the data on the APK of SD / MI/equivalent in Indonesia, it can be concluded that the education participation rate for the basic education level is good. However, there are some areas in Indonesia where the APK has not reached 100%.

The gross enrollment rate in South Sumatra Province in 2021/2022 at the primary school level is 105.44%, with 936,170 children aged 7-12 years, and 882,534 primary school students. The Ministry of Education and Culture Data and Statistics Center (PDSPK) in 2021 regarding APK in South Sumatra Province from 5 districts including Musi Rawas, North Musi Rawas, Lubuk Linggau City, Musi Banyuasin and Pagar Alam have different APK numbers. North Musi Rawas Regency has the highest APK reaching 106.11. Meanwhile, the lowest was in Musi Rawas Regency at 104.11.

The gross enrollment rate in Musi Rawas Regency according to the Central Bureau of Statistics in 2021/2022 for primary school reached 106.48%. If you look at the Presidential Instruction No. 5 of 2006, the Musi Rawas Regency Government has implemented the National Movement to Accelerate the Completion of Compulsory Education well, this is evidenced by the percentage of primary school APK in Musi Rawas Regency which has exceeded the government's expectation of 95%. However, the percentage of APK in Musi Rawas Regency when compared to other districts in South Sumatra is still one of the lowest.

Based on the explanation above, the education participation rate has not been maximized. To overcome the problem of not maximizing the education rate, there need to be efforts made by the government. Efforts can be made to maximize the education participation rate by making policy planning. The current data on children aged 7-12 years and children served is used to predict or forecast the condition of the APK in Musi Rawas district in the next 10 years based on the author's observations.

MATERIALS & METHODS

This research uses a descriptive quantitative approach, with a secondary data analysis method. Existing data was used to obtain information on child trends in trends of children served using APK data and children aged 7-12 years in Musi Rawas district. After obtaining this data, the next step is to use qualitative methods to explore in more depth the participation policy planning in Musi Rawas district.

Time and Place of Research

The research was conducted at the Education, Youth and Sports Office of Musi Rawas Regency. The research time was conducted for 3 months from September to November 2023.

Research Population

The population in this study is data on children served by elementary schools (7-12 years) from 2014-2022 in Musi Rawas Regency.

Data Collection Technique

1. Secondary Data

Secondary data is used to collect information using quantitative methods. The secondary data used is the achievement of APK at the primary and junior high school levels in South Sumatra Province, especially Musi Rawas Regency. The data is taken from the Central Statistics Agency (BPS) (<https://www.bps.go.id/>).

2. Interview

Interviews were used to collect qualitative data used to support the previous data. The interview was conducted with the resource person, the head of the primary school division at the Musi Rawas Education Office.

Data Analysis Technique

1. Trend Analysis

The data analysis technique in this study uses Trend Analysis. Trend Analysis is a statistical analysis method that aims to do forecasting in the future.

2. Parabolic Quadratic Model Type (Quadratic Model)

The data obtained by researchers tends to show the characteristics of a quadratic model. So researchers use quadratic model trend analysis. The parabolic quadratic model is a trend in which the variable value increases or decreases non-linearly or can be said to be parabolic when the data is made a scatter plot. The calculations for the quadratic trend model trend analysis are as follows.

$$Y = a + bX + cX^2$$

RESULT & DISCUSSION

The research results are based on the calculation of APK trend analysis in Musi Rawas Regency, South Sumatra Province. The researcher discusses the prediction of the age of children 7-12 years old, the number of children served, and the APK of primary schools as well as the policies and programs that have been enacted by the Government of South Sumatra in increasing the participation rate of primary school education.

Profile of Musi Rawas Regency

The results of BPS data show that the population of South Sumatra Province, especially Musi Rawas district based on population projections in 2022 is 402674, with 206100 men and 196574 women. The population of primary school age (7-12 years) is presented in Figure 2.

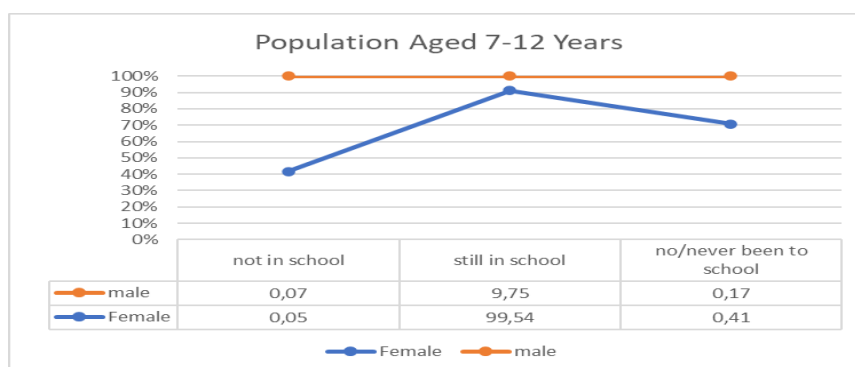


Figure 2. Diagram of primary school age population (7-12 years) source BPS 2022

Based on the graph, it is known that the population aged 7-12 years, males are 0.07 not in school, 99.75 are still in school, 0.17 are not or have never been in school.

Meanwhile, for those who are female, 0.05 are not in school, 99.54 are still in school, 0.41 are have never been in school. The number of primary/middle school students

in Musi Rawas district is 3377 students. The number of formal schools at the

primary school level in Musi Rawas district is shown in Figure 3.

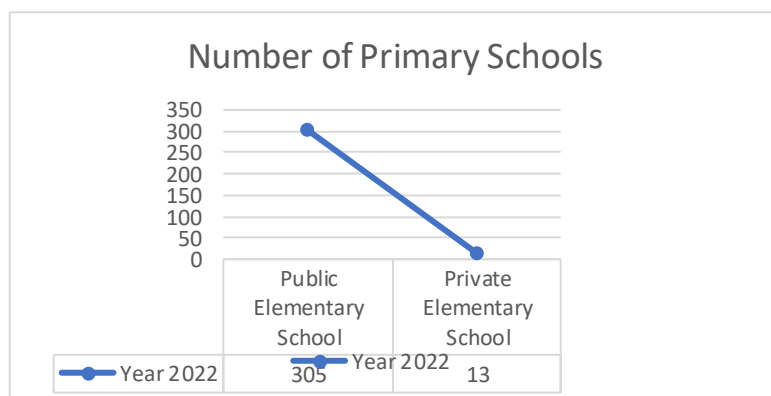


Figure 3. Diagram of the number of primary schools Source of data: BPS, 2022

Based on Figure 3 of the graph, it can be seen that there are 365 primary schools in Musi Rawas district in 2022, with details of 350 public primary schools and 13 private schools.

Trends in Education Participation Rates at the Primary School Level in Musi Rawas District

Based on BPS data on children aged 7-12 years (primary school), it is then processed with Microsoft Excel to produce data on

children served. Furthermore, the results of both trends are obtained and then processed again with the help of the Minitab software application to produce a trend plot analysis. The results of the trend plot analysis of children aged 7-12 years with linear, quadratic, and growth curve models from Minitab are then compared with the results of each MAPE, MAD, and MSD. The following analysis results of the three models are presented in Table 1.

Table 1. Results of Trend Plot Analysis of Liner, Quadratic and Growth Curve Models of 7-12 Years Old Children Data

	Model	MAPE	MAD	MSD
Tren Linier	$Y_t = 43341 + 65 \times t$	2	976	1462565
Tren Kuadratik	$Y_t = 41015 + 1334 \times t - 126,9 \times t^2$	2	715	911582
Tren Eksponensial	$Y_t = 43303,3 \times (1,00159^t)$	2	984	1463459

Source: Data Processing (using Minitab)

After analyzing with Minitab from the three models, it was found that the smallest error was in the quadratic model. So the researchers predicted with a quadratic model. The following data processing

results of the quadratic model trend plot analysis for ages 7-12 years in Musi Rawas Regency from 2023 to 2032 can be seen in Figure 4.

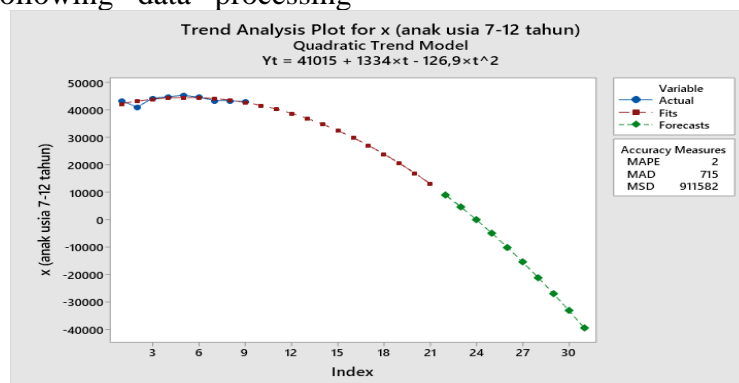


Figure 4. Trend Plot of the Quadratic Model for Children 7-12 Years Old

The results of the trend plot analysis of the quadratic model for 7–12-year-olds in Musi Rawas District from 2023 can be seen from the green graph that is predicted every year. The author also presents in Table 2.

Table 2. Results of trend plot analysis of the quadratic model for ages 7-12

Year	Children 7-12 years old
2023	8947,9
2024	4572,0
2025	-5787,8
2026	-4941,3
2027	-10078,6
2028	-15469,7
2029	-21114,5
2030	-27013,1
2031	-33165,5
2032	-39571,6

Source: Data Processing (using Microsoft Excel & Minitab)

Based on the prediction of children aged 0-12 years every year is unstable, 2 years decreased in 2025 and 2026 and experienced a slight increase in the following year until 2032. This is influenced by economic factors and low education. Then for the results of the trend plot analysis of the number of children served by elementary school with the liner, quadratic and growth curve models from Minitab then compared the results of each MAPE, MAD and MSD. The following analysis results of the three models are presented in Table 3.

Table 3. Results of Trend Plot Analysis of Liner, Quadratic and Growth Curve Models of Number of Children Served in Primary Schools

	Model	MAPE	MAD	MSD
Tren Linier	$Y_t = 51496 - 493 \times t$	4	2011	6325484
Tren Kuadratik	$Y_t = 46781 + 2079 \times t - 257 \times t^2$	3	1610	4061579
Tren Ekspensial	$Y_t = 51470,1 \times (0,99002^t)$	4	1999	6373141

Source: Data Processing (using Minitab)

After analyzing with Minitab from the three models, it was found that the smallest error result was again in the quadratic model. The following data processing results of the

quadratic model trend plot analysis of the number of children served in Musi Rawas Regency from 2023 to 2032 can be seen in Figure 5.

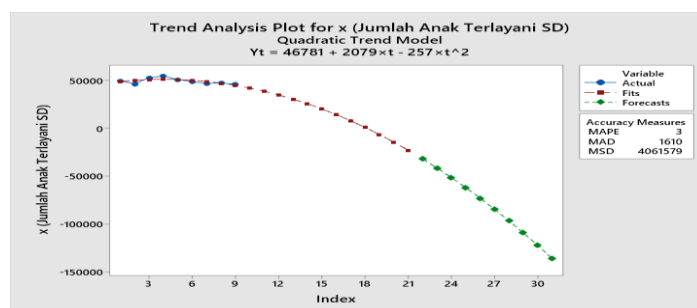


Figure 5: Trend Plot of Quadratic Model of Number of Children Served

The results of the quadratic model trend analysis of children served in Musi Rawas district can be seen in Figure 5 and are presented in Table 4.

Table 4. Trend Plot Analysis Results of Quadratic Model of Number of Children Served

Year	Children Served
2023	-31959
2024	-41454
2025	-51463
2026	-61986
2027	-73024
2028	-84577
2029	-96643
2030	-109225
2031	-122320
2032	-135930

Source: Data Processing (using Microsoft Excel & Minitab)

Based on predictive data related to children served each year, it is known that each year the children served are predicted to go up and down or can be said to be unstable. This is influenced by economic factors. As is the case with research conducted by Edy et al., (2020) which states that the majority of poor people in Musi Rawas Regency are productive age with a larger number of family members, namely 3-4 and primary school is a low level of education.

After analyzing the data using the quadratic model, a trend line can be drawn for children aged 7-12 years and children

served in Musi Rawas District. A comparison of the trends in the number of children served by primary schools and the

number of children aged 7-12 years can be seen in Figure 6.

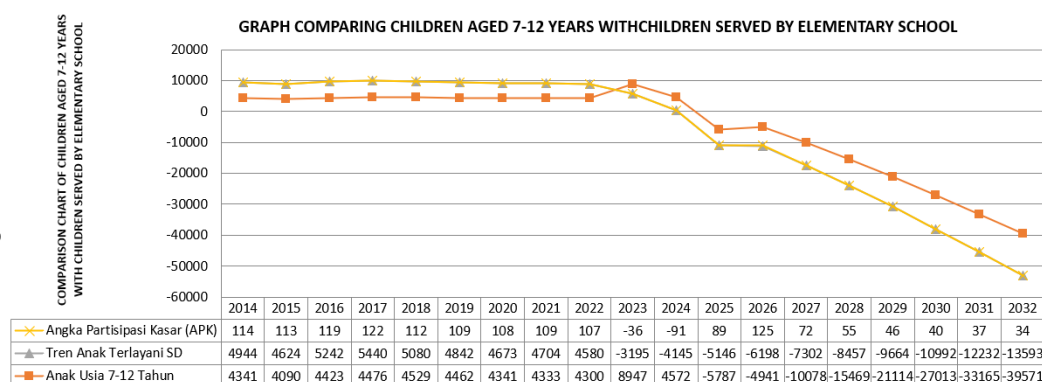


Figure 6. Comparison Chart of Trends in Children Served, Number of Children 7-12 Years in Musi Rawas District

Figure 6 illustrates that the trend line for primary school children served starting in 2023 tends to decrease every year. The trend line shown starting in 2015 is negative. Furthermore, the trend line from 2023 to 2032 shows a decrease in the number of children served by primary schools in Musi Rawas. The decreasing number of children served by primary schools indirectly illustrates that the government and society have not succeeded in building and developing education at the primary school level. For comparison, Figure 5 shows that the trend line for children aged 7-12 years starting from 2023 shows a decline in each year.

Figure 6 shows the estimation (prediction) for the next 10 years. The trend line in Figure 6 shows that the estimated number of children served by primary schools and the estimated number of children aged 7-12 years in Musi Rawas District have decreased every year. After knowing the

trend value of the number of children served by primary schools and the number of children aged 7-12 years in Musi Rawas District, these two data are used as material to determine the trend in the education participation rate at the primary school level.

The education participation rate that will be generated from the two data that have been obtained from the results of this study is the Gross Participation Rate (APK). So the primary school APK is the percentage of the number of children attending the institution or the number of children who have been served by primary school compared to the number of children aged 7-12 years. Based on the research that has been carried out, the results of predicting the number of children who have been served by elementary schools and predicting the number of children aged 7-12 years in Musi Rawas produce APK trends presented in Table 5.

Table 5. Trends in Primary School Enrollment Rates in Musi Rawas District (Processed)

Year	Children aged 7-12 years	Trends in Children Served SD	Primary school gross enrollment rate (%)
2014	4341	4944	113,89
2015	4090	4624	113,05
2016	4423	5242	118,51
2017	4476	5440	121,53
2018	4529	5080	112,16
2019	4462	4842	108,51
2020	4341	4673	107,64
2021	4333	4704	108,56
2022	4300	4580	106,51
2023	8947	-3195	-35,71
2024	4572	-4145	-90,66
2025	-5787	-5146	88,92

2026	-4941	-6198	125,44
2027	-10078	-7302	72,45
2028	-15469	-8457	54,67
2029	-21114	-9664	45,77
2030	-27013	-10922	40,43
2031	-33165	-12232	36,88
2032	-39571	-13593	34,35

Source: Data Processing (using Microsoft Excel and Minitab)

In the table above, it can be seen that the APK trend at the primary school level in Musi Rawas Regency from 2023 to 2032 is decreasing when viewed and compared to the APK from 2014 to 2022, so that the prediction of primary school APK in Musi Rawas Regency tends to decrease. So it can be said that the primary school APK in Musi Rawas Regency has not yet reached perfect (100%). Similarly, Khodijah (2014) conducted research on APK at the high school level, the results showed that the achievement of APK at the first advanced school level in South Sumatra, at the district/city level which includes South OKU, Banyuasin and Palembang, has not been maximized due to many factors such as culture, school capacity, socioeconomic status and environment. The low APK indicates that the participation rate of children in Musi Rawas district has not been maximized.

The trend of APK at the primary school level in Musi Rawas district can be known from the calculation of trend analysis with a quadratic model, then by using the method of the smallest number of quadrants it can be seen that the prediction results of the Gross Participation Rate at the primary school level in Musi Rawas district from 2023 to 2032 are unstable, resulting in a decrease of 37.25%. Therefore, the government must strive to increase the APK so that it is not below the national achievement.

Tilaar & Nugroho (2008) state the use of the Gross Enrollment Rate to determine the number of school-age children who have attended school according to the level in an agency. This means that the high and low gross enrollment rate can be used to show how many children are served at the appropriate level of education. Conversely,

if the gross enrollment rate is low, it shows that children who are served according to the level are still lacking or not maximized. The decrease or increase in the gross enrollment rate is certainly inseparable from the role of the district, provincial and local governments in efforts to increase the enrollment rate of primary school education.

Policies and Programs Implemented by the Musi Rawas District Government in Increasing Primary School Enrolment Rates

Policy is a set of rules made by an organization to regulate the actions of people involved in the organization (Tanjung et al., 2023). The city or district, provincial and central governments of Musi Rawas Regency have an important role in this study in increasing the education participation rate at the primary school level by forming policies and programs to increase the education participation rate of Musi Rawas Regency. Arnis, (2020) emphasized that education has the authority to supervise, provide public services, and introduce participation in education.

Through the education office of the Musi Rawas district government, the aim is to increase the gross enrollment rate at the primary school level by conducting several programs and activities such as the following:

- a. Compulsory education program. According to BKKB (2022), South Sumatra Province has the ninth highest number of early marriages in Indonesia. Musi Rawas Regency is one of the district levels with high cases of early marriage. This is the same as revealed by Sukmaniar et al., (2018) that self-marriage is a major factor in school dropout rates. Therefore, the Musi

Rawas education office promotes the compulsory education movement program to increase educational participation.

- b. Indonesia Pintar Program. Musi Rawas Regency organizes the Indonesia Pintar Program (PIP) with the aim of reaching out to out-of-school children (ATS) to get education services by attracting children who have dropped out of school so that they can go back to school.
- c. Innovative Program "EduTech 2023". The program includes teacher training, digital infrastructure development. That way it will make children interested in school.
- d. School and teacher mobilizer program. This program was also carried out by the Musi Rawas district government and fully supported by the education office with the aim of improving teacher competence in education units.
- e. Education infrastructure development program. The Musi Rawas district government promoted this program with the aim of improving educational accessibility.
- f. Education socialization program. The education socialization organized by Musi Rawas district aims to provide information on the importance of education in the hope of changing people's mindsets about education.

Looking at the results of the trend in education participation rates at the primary school level, the Musi Rawas district government plans to validate the data and continue programs that are effective in increasing APK. The Musi Rawas district government will maximize the PIP program so that children who drop out of school can return to school again with technology-based learning with quality teachers so that learning becomes fun and a comfortable learning environment is good for the elementary level so as to produce quality students.

Policy Planning that can be carried out by the Musi Rawas Regency Government

Taufiqurokhman (2008) emphasizes that planning is a way of thinking related to economic issues that are oriented towards the future, by linking collective decisions and goals in order to pursue programs and policies. The policy plans and programs carried out by the Musi Rawas Regency Government are as follows:

1. Planning policies or programs to maintain enrollment at the primary school level as follows:
 - a. Policies or programs for the procurement of teaching aids and other educational equipment in elementary schools, science laboratories, practicum equipment.
 - b. Policies or programs to improve the quality of teachers.
 - c. Policies or programs to regulate the number of teachers that are adjusted to the needs in the field, accompanied by high competence and quality.

The Musi Rawas district government in increasing the participation of primary and junior secondary education has made a policy of duplicating teaching aids because one of the factors causing the low APK is that students feel bored. Nurfadhillah et al., (2021) stated that teaching aids help students understand the material faster, arouse student interest, increase activity and creativity, and improve learning efficiency.

2. Planning Policies or activity programs to increase education participation at the primary school level are as follows:
 - a. Construction of school units where needed to accelerate equity with the aim of reducing the number of school dropouts.
 - b. Socialization of programs and policies to accelerate the increase in education participation.
 - c. Approach the community in accordance with local values and culture to raise awareness of the importance of education.

Musi Rawas Regency, which is predicted to have a declining APK in the future, will first analyze the causes. If the cause is economic, then the existing programs and policies will

be more socialized so that the community understands that the government already has policies and programs to strive for their children to go to school. then what strategy to do is to hold socialization so that the community is aware of the importance of education.

CONCLUSION

Based on the research results regarding the trend of primary school enrollment rates in Musi Rawas Regency, the author provides the first conclusion The trend of APK at the primary school education level is predicted from 2023-2030 in Musi Rawas Regency to experience an unstable trend (down and up). Secondly, the programs implemented by the Musi Rawas district government to increase the primary school APK are compulsory education, PIP, edu tech, school and teacher mobilization programs, education socialization, while the policies include institutional operations, quality improvement and educator improvement. Third, conduct socialization activities to the community about the factors that can influence the enrolment rate of primary school education.

Declaration by Authors

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