



Multidimensional Characteristics of Poverty Kabupaten Pasuruan

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ABSTRACT

The poverty rate for Pasuruan Regency in 2021 according to BPS data is 9.70%, this poverty rate is still above the East Java Province poverty rate of 11.4% and the National poverty rate of 10.14%. Multidimensional poverty in Pasuruan Regency is 32% out of 68%, there is no multidimensional poverty. The point of this investigate is to analyze the components that cause multidimensional destitution in Pasuruan Rule in 2023. The test populace within the think about was 396 destitute families in Pasuruan Rule in 2023 with a degree of blunder (α) of 5%. The testing strategy is corresponding irregular testing. Information collection strategies are carried out through surveys, perception and documentation. The examination methods connected are Alkire-Foster Investigation and Figure Investigation. The investigate comes about appear that 33% sub-districts that are included in multidimensional destitution. The factors that most influence the multidimensional poverty of Pasuruan Regency in 2023 include cooking fuel and lighting sources.

INTRODUCTION

Pasuruan Regency has a land area of 1474.02 Ha which is composed of 24 sub-districts, 341 sub-districts, and villages. The district area is in the form of lowlands with an average height of 0 - 100 meters above sea level with soil types namely alluvial, and sol, lit sol, Mediterranean and nonce. The slope of the Regency includes a slope of 0 - 8% covering an area of 87,820.12 Ha; slope 8 - 15% area 23,219.03 Ha; slope 15 - 25% area 14,711.27 Ha; and a slope of more than 45% covering an area of 4,988.71 Ha. Land use in 2022 is divided into developed land of 14,042.62 Ha (9.2%) and undeveloped land of 134,475.9 Ha (90.6%). The area of protected rice fields (LSD) in 2022 will be 31,753.65 Ha as stated in the Decree of the Minister of Agrarian Affairs and Spatial Planning/Head of the National Defense Agency of the Republic of Indonesia No.1589/SK-HK.02.01/XII/2021 concerning Determination of Maps of Protected Rice Fields in Districts/Cities in the Provinces of West Sumatra, West Java, Banten, Special Region of Yogyakarta, Central Java, Bali, East Java and West Nusa Tenggara. The population of Pasuruan Regency in 2022 will be 1,619,035 people with a population density of 33.04 people/ha. The highest population density is in Repose District at 3,967 People/Ha while the lowest population density is in To sari District at 410 People/Ha. The district's economic growth rate in 2022 will be 4.32% with the economic structure dominated by the processing industry sector worth 60.42% and construction worth 11.08%.

The poverty rate for Pasuruan Regency in 2021 according to BPS data is 9.70%, this poverty rate is still above the East Java Province poverty rate of 11.4% and the National poverty rate of 10.14%. The number of poor people in 2022 will be 148,620 people or 9.1%. The results of previous research stated that Pasuruan Regency is one of the areas that has high development inequality in the Gatekertasusila area (Prihatini, 2023).

Guided by Article 34 of the 1945 Constitution, the state's responsibility includes protecting the poor and neglected children and this is confirmed in Presidential Decree No. 166 of 2014 concerning the Acceleration of Poverty Alleviation, so that all districts/cities try to accelerate poverty alleviation efforts in their areas. Therefore, the Pasuruan Regency government needs to take steps to overcome poverty in the Pasuruan Regency area. According to previous research, the obstacle to poverty alleviation in Pasuruan Regency is that there are still overlapping programs (Chikmawati, 2016).

Multidimensional poverty is income-based measures considered insufficient. Poor people face other problems besides lack of money, for example poor health, unsatisfactory living standards, low education, poor quality of work, impotence, threats of violence and living in dangerous environments (Ramadhina, 2023). Poverty is not only related to problems of low consumption and income, but also low levels of education and health and the inability to participate in human development (AlChasanah & Ekaria, 2022). Multidimensional poverty is inversely proportional to the Human Development Index (HDI), the higher the HDI, the lower the Multidimensional Poverty Index (Fuady et al., 2021).

A multidimensional approach to measuring poverty has emerged in order to understand the problem of poverty as a whole. This approach not only reveals whether people or who are poor, but also why those people are poor (Aidha; et al., 2021). The Multidimensional Poverty Index (MPI) is composed of the dimensions of education, health and living standards as in Table 1.

Table 1. Multidimensional Poverty Index (IKM)

No.	Dimension	Indicator	Definition
1	Health Dimensions	a. Child death b. toddler nutritional intake	a. Child deaths reflect limited access to health services, for example due to malnutrition and illness. The following review includes children of various ages b. Children aged 0-5 years are considered malnourished if the z score for height for age (stunting) and body weight for age (underweight) is less than negative 2 standard deviations from the average score (mean) for adults over 20 years. A 1 year old child is declared malnourished if his BMI is below 18.5 m/kg.
2	Educational Dimensions	a. Access to PAUD b. School sustainability	a. access to early childhood education, namely ages 3-6 years, does not have access to early childhood education services, such as PAUD, other levels equivalent to PAUD, Kindergarten or equivalent, play groups and other preschool education levels. b. Continuing school for elementary and middle school age students who cannot complete a study program until high

No.	Dimension	Indicator	Definition
			school, MA, vocational school or equivalent
3	Dimensions of living standards	<ul style="list-style-type: none"> a. Source of Information b. Cooking fuel c. sanitation d. Clean water source e. Condition of roof, floor, walls f. Home assets 	<ul style="list-style-type: none"> a. The lighting source uses PLN b. The cooking fuel source uses 3 Kg LPG gas c. Good sanitation that is ventilated and not shared with other households d. Clean water supply comes from PDAM e. The condition of the roof is tile, the floor is tiled and the walls are walled f. Home assets do not have more than 1 electronic item such as a TV, refrigerator and AC.

Somber : (Aidha et al., 2021) (Gopal et al., 2021) (Salam et al., 2021)

Many researches related to multidimensional poverty have been carried out from different perceptions such as multidimensional poverty and food security (Ainistikmaliaa et al, 2022), multidimensional poverty and the Human Development Index (Fuady et al, 2021), and multidimensional village poverty (Rimajuwikah et al, 2020). The difference with research is the analytical method, research variables and scope.

The focus of the research is to determine the characteristics of multidimensional poverty in Pasuruan Regency in 2023. The regional administrative boundaries of Pasuruan Regency (Figure 1) include the northern boundary with Pasuruan City, the Madura Strait and Sidoarjo Regency; eastern boundary with Probolinggo Regency; the western boundary is with Batu City and Malang Regency, and the southern boundary is with Mojokerto Regency.

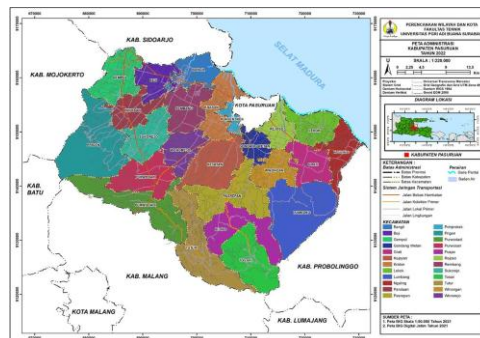


Figure 1. Administrative map of Pasuruan Regency

Data collection methods were carried out using questionnaires, observation and documentation. Questionnaires were used to obtain data on children's nutritional intake, number of child deaths, PAUD access, school sustainability, cooking fuel, lighting sources, number of users of clean water sources, number of sanitation users, and asset ownership. Observations are used to see the condition of cooking fuel, lighting sources, sanitation, clean water and house conditions. Documentation is used to obtain photos of the condition of cooking fuel, clean water, sanitation and house conditions.

The questionnaire population is heads of poor families in Pasuruan Regency in 2023 amounting to 45,402 families. The total sample was 396 families with a degree of error (α) of 5%. The sampling technique is proportional random samples with proportions as in Table 2.

Table 2 Number of Population and Samples

No	District	Total Population (KK)	Number of Samples (KK)
1	Bangil	1.128	10
2	Beji	674	6
3	Gempol	1.443	13
4	Gondang Wetan	2.580	23
5	Grati	3.414	30
6	Kejayan	2.901	25
7	Kraton	3.336	29
8	Lekok	6.124	53
9	Lumbang	898	8
10	Nguling	1.709	15
11	Pandaan	1.792	16
12	Pasrepan	2.767	24
13	Pohjentrek	1.517	13
14	Prigen	1.039	9
15	Purwodadi	2.220	19
16	Purwosari	1.646	14
17	Puspo	959	8
18	Rejoso	1.807	16
19	Rembang	1.950	17
20	Sukorejo	862	8
21	Tosari	222	2
22	Tutur	632	6
23	Winongan	1.958	17
25	Wonorejo	1.824	16
	Total	45.402	396

Alkire-Foster analysis is used to identify sub-districts that are deprived of multidimensional poverty. The analysis stages according to (Aidha et al., 2021) are as follows:

1. Calculation of the number of people living in poverty and deprivation for each parameter
2. Calculation of the multidimensional weight of deprivation of the poor for each parameter
3. Calculation of IKM (multidimensional poverty index) for each parameter: $IKM = H \times A$

Where:

1. H (multidimensional poverty rate) is the proportion of the number of multidimensional poor people in the total population.
2. A (multidimensional poverty intensity) is the average proportion of weighted parameters in which poor people are deprived.
3. Calculation of the IKM for each dimension as the sum of the IKM parameters of that dimension
4. Calculation of the proportion of SMEs for each dimension in the total SMEs.

Factor analysis is used to identify the causal factors of multidimensional poverty. The stages of factor analysis are: (Raharjo, 2019)

1. KMO test and Bartlett's Test, MSA test, Apply SPSS 22 application.
2. Test the Total Variance Explained and Matrix Component Rotation. In the context of KMO testing, if the value exceeds the figure of 0.50.
3. The Bartlett's Test shows a significance value of less than 0.05, the testing process will continue.
4. MSA test with a value that exceeds 0.50.
5. The Total Variance Explained test is intended to reveal the factors that arise from the variables being analyzed.
6. Component rotation serves to find factors that stand out and have a significant impact.

METHODOLOGY

Examine the factors that contribute to Pasuruan Rule's multifaceted poverty in 2023. The test population in this study consisted of 396 impoverished families in Pasuruan Rule in 2023, with a 5% degree of error (α). Corresponding irregular testing is the approach taken in testing. Perception, recordkeeping, and surveys are used as information gathering techniques. Figure Investigation and Alkire-Foster Investigation are the linked examination techniques.

RESEARCH RESULT AND DISCUSSIONS

Condition and Distribution of the Multidimensional Poverty Index (IKM)

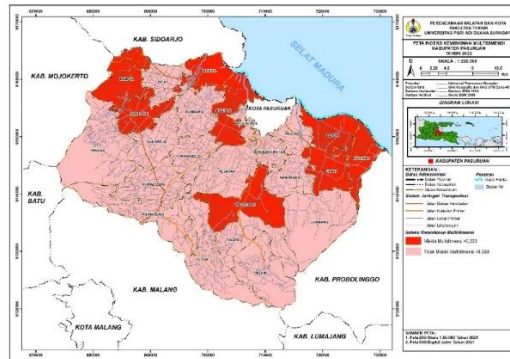
If the IKM value is <0.333 then it is called Not Multidimensional Poor (TMM) (Aidha; et al., 2021). The sub-districts included in TMM include Winongan District at 0.321, Wonorejo District at 0.316, Beji District at 0.308, Lumbang District at 0.304, Gondang Wetan District at 0.300, Rejoso District at 0.300, Tosari District at 0.288, Purwosari District at 0.286, Rembang is worth 0.283, Purwodadi District is 0.269, Prigen District is 0.262, Puspo District is 0.262, Kejayan District is 0.237, Sukorejo District is 0.235, Tukur District is 0.234, and Pohjentrek District is 0.218.

If the Multidimensional Poverty Index (IKM) value is > 0.333 , it is called Multidimensional Poor (MM) (Aidha et al., 2021). Subdistricts that are classified as Multidimensional Poor include Grati District at 0.493, Nguling District at 0.409, Pasrepan District at 0.402, Gempol District at 0.402, Kraton District at 0.399, Lekok District at 0.368, Pandaan District at 0.352, and Bangil District at 0.341. The distribution of multidimensional poverty conditions in Pasuruan Regency is described in Table 3 and Figure 2.

Table 3 Distribution of Multidimensional Poverty Conditions in Pasuruan Regency Year 2023

No	District	H	A	IKM	Information
1	Bangil	0,619	0,551	0,341	MM
2	Beji	0,625	0,494	0,308	TMM
3	Gempol	0,812	0,495	0,402	MM
4	Gondang Wetan	0,464	0,646	0,300	TMM
5	Grati	0,939	0,525	0,493	MM
6	Kejayan	0,349	0,681	0,237	TMM
7	Kraton	0,782	0,510	0,399	MM
8	Lekok	0,547	0,672	0,368	MM
9	Lumbang	0,476	0,638	0,304	TMM
10	Nguling	0,617	0,663	0,409	MM
11	Pandaan	0,622	0,567	0,352	MM
12	Pasrepan	0,862	0,553	0,477	MM
13	Pohjentrek	0,225	0,967	0,218	TMM
14	Prigen	0,320	0,819	0,262	TMM
15	Purwodadi	0,380	0,707	0,269	TMM
16	Purwosari	0,333	0,858	0,286	TMM
17	Puspo	0,315	0,832	0,262	TMM
18	Rejoso	0,378	0,793	0,300	TMM
19	Rembang	0,365	0,773	0,283	TMM
20	Sukorejo	0,238	0,989	0,235	TMM
21	Tosari	0,400	0,722	0,288	TMM
22	Tukur	0,222	1,054	0,234	TMM
23	Winongan	0,500	0,642	0,321	TMM
24	Wonorejo	0,547	0,577	0,316	TMM
Kabupaten Pasuruan		0,497	0,697	0,346	-

Figure 2. Multidimensional Distribution Map of Poverty Conditions



The IKM value for Grati District is 0.493, caused by the health dimension (nutritional intake of toddlers), the education dimension (PAUD access), and the standard of living dimension (cooking fuel, clean water, sanitation, house condition and house assets). The condition of cooking fuel using wood in Karanglo Village, Grati District is in Figure 3.

Figure 3. Condition of Cooking Ingredients in Karanglo Kayu Village, Grati District in 2023



The Pasrepan District IKM value of 0.402 is influenced by the health dimension (nutritional intake of toddlers), the education dimension (PAUD access and school sustainability), and the standard of living dimension (cooking fuel, clean water, lighting sources, house conditions, and sanitation and house assets). The condition of houses using wooden walls and earthen floors in Gail Village, Pasrepan District is in Figure 4.

Figure 4. Condition of houses in Galih Village, Pasrepan District in 2023



Nguling District's 0.409 is influenced by the health dimension (nutritional intake of toddlers), the education dimension (PAUD access and school sustainability), and the standard of living dimension (cooking fuel, sanitation, house condition and house assets). The sanitary conditions of public MCKs using public MCKs and helicopter MCKs in Sumberanyar Village, Nguling District are in Figure 5.

Figure 5. Sanitation Conditions in Sumberanyar Village, Nguling District in 2023



Gempol District is 0.402 influenced by the health dimension (nutrition intake of toddlers), the education dimension (PAUD access), and the standard of living dimension (cooking fuel, clean water, sanitation, house condition and house assets). The condition of clean water comes from dug wells and drilled wells in Worosunyo Village, Gempol District in Figure 6.

Figure 6. Condition of the Dug Well in Worosunyo Village, Gempol District in 2023



Kraton sub district is 0.399 influenced by the health dimension (nutritional intake of toddlers), the education dimension (PAUD access and school sustainability), and the standard of living dimension (cooking fuel, clean water, lighting sources, house conditions, and sanitation and house assets). The condition of PAUD facilities in Kraton Village, Kraton District is in Figure 7.

Figure 7. Condition of PAUD Facilities in Kraton Village, Kraton District in 2023



Lekok District is 0.368 influenced by the health dimension (nutritional intake of toddlers), the education dimension (PAUD access and school sustainability), and the standard of living dimension (cooking fuel, clean water, sanitation, house condition and house assets). The condition of PAUD facilities in Rowogempol Village, Lekok District is in Figure 8.



Figure 8. Condition of PAUD Facilities in Rowogempol Village, Lekok District in 2023

Pandaan District is 0.352 influenced by the health dimension (nutritional intake of toddlers), the education dimension (PAUD access and school sustainability), and the standard of living dimension (cooking fuel, sanitation, house condition and house assets). Condition of houses in Sumberejo Village, Pandaan District in Figure 9.

Figure 9. Condition of houses in Sumberejo Village, Pandaan District in 2023



Bangil District is 0.341 influenced by the health dimension (nutritional intake of toddlers), the education dimension (PAUD access and school sustainability), and the standard of living dimension (sanitation, house condition and house assets)

Multidimensional poverty is a complex problem, one approach to improving the economy of village communities is to optimize Village-Owned Enterprises (BUMD) (Fitasari, 2023). Research results (Arissyiah & Hendrati, 2023) (Ashari & Athoillah, 2023) (Deo et al., 2023) show that if poverty increases, economic growth conditions are weak and inflation is high and unstable.

Factors Causing Multidimensional Poverty

Factor analysis was used to identify factors causing multidimensional poverty in Pasuruan Regency in 2023. Variables used included nutritional intake of children under five (X1), child mortality (X2), school sustainability (X3), PAUD access (X4), cooking fuel (X5), source of lighting (X6), source of clean water (X7), sanitation (X8), condition of roof, floor, walls (X9), and nutritional intake of toddlers (X10). The normality testing process found that the child death and asset ownership variables were invalid. The KMO MSA score is $0.503 > 0.50$ and the Bartlett's test of sphericity score Sig. $0.000 < 0.05$ is used for 8 variables, the next stage is the rotation of the matrix components, the results of the analysis of factors causing multidimensional poverty in Pasuruan Regency in 2023 are obtained.

Table 4. Matrix Component Rotation

Indicator	Component			
	1	2	3	4
Toddler nutritional intake	-.598	.161	.192	-.218
Access to PAUD	.670	.144	.261	-.289

Indicator	Component			
	1	2	3	4
School sustainability	.699	-.005	-.079	.114
Cooking fuel	.138	.010	.128	.880
Source of Information	.045	-.140	.794	-.043
Clean water source	-.130	.180	.601	.154
Sanitation	.143	.704	.156	-.242
Condition of roof, floor, walls	.187	-.771	.129	-.245
Extraction Method: Principal Component Analysis. Rotation Method: Varimax with Kaiser Normalization.				
a. Rotation converged in 6 iterations.				

The results of matrix component rotation (Table 4) show that there are 5 main factors causing multidimensional poverty, namely:

Cooking fuel with a value of 0.880, the cooking fuel used by the people of Pasuruan Regency based on BPS data apart from 3 Kg LPG GAS in the form of city gas, kerosene and firewood.

1. Lighting source with a value of 0.794, based on previous research on factors that influence lighting sources, namely household income, electricity prices and purchasing ability (Widodo & Mashuri, 2012).
2. Sanitation with a value of 0.704, factors that influence ownership of sanitation facilities are income, availability of clean water and the level of knowledge of the head of the family (Suryani & Listari, 2022)....
3. School sustainability with a value of 0.699, according to (Nurmalasari et al., 2019) social economic aspects in the form of education level, income and social status can be factors in school sustainability.
4. Access to PAUD with a value of 0.670, based on BPS data for Pasuruan Regency in 2022, is available in all regions with a service level of 81%.

CONCLUSION AND RECOMMENDATIONS

Based on the results of the analysis, it can be concluded that 8 sub-districts in Pasuruan Regency are included in multidimensional poverty, including Nguling District, Grati District, Pasrepan District, Kraton District, Gempol District, Lekok District, Pandaan District, and Bangil District. The factors that most influence the multidimensional poverty of Pasuruan Regency in 2023 include cooking fuel, lighting sources, and availability of sanitation, school sustainability, and PAUD access.

Suggestions for local governments in reducing multidimensional poverty are the need for distribution of 3 Kg LPG gas subsidies, especially in Kraton District, Lekok District and Pasrepan District; need to increase the electricity distribution network, especially in the Kraton District and Pasrepan District; implementing a community-based sanitation program to support the government's 100-0-100 program; increase school enrollment rates by building PAUD education facilities. Suggestions for the community are to build sanitation facilities and improve the quality of houses independently or independently. Suggestions for academics, there is a need for further research on community-based multidimensional poverty alleviation models in Pasuruan Regency.

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