



Deprivation of Multidimensional Poverty in Pekalongan City

Azka Muthia^{1✉}, Ayu Lailal Barikha²

Statistician, BPS-Statistics of Pekalongan Municipality

Permalink/DOI: <https://doi.org/10.15294/efficient.v5i2.53153>

Received: December 2021 ; Accepted: March 2022 ; Published: June 2022

Abstract

Poverty is a challenge in development that needs to be solved by each region. However, the calculation of poverty is still oriented to a one-dimensional approach, namely the monetary approach, even though the problem of poverty is multidimensional. Multidimensional poverty includes various deprivations experienced by poor people in their daily lives. This study aims to determine the condition of poverty in a multidimensional manner and the main deprivation of poverty in Pekalongan City. This study uses data from the 2019-2021 National Socio-Economic Survey (Susenas) and the Alkire-Foster multidimensional poverty measurement method, as well as 12 indicators in 3 dimensions (education, health, and living standards). The results show that multidimensional poverty for 3 years in Pekalongan City is always higher than the poverty measurement carried out by BPS. This study also found the priority scale of poverty alleviation assistance needed in Pekalongan City based on its main deprivation, namely the assistance program to overcome the years of schooling in the education dimension, nutritional adequacy in the health dimension and asset ownership in the standard of living dimension.

Keywords: Multidimension Poverty, Deprivation, Index, Alkire-Foster method

Abstrak

Kemiskinan merupakan tantangan pembangunan yang perlu diselesaikan oleh setiap daerah. Namun penghitungan kemiskinan sampai saat ini masih berorientasi pada pendekatan satu dimensi yaitu pendekatan moneter padahal permasalahan kemiskinan bersifat multidimensi. Kemiskinan multidimensi mencakup berbagai deprivasi (kekurangan) yang dialami oleh orang miskin dalam kehidupan sehari-hari mereka. Penelitian ini bertujuan untuk mengetahui kondisi kemiskinan secara multidimensi dan deprivasi utama kemiskinan di Kota Pekalongan. Penelitian ini menggunakan data hasil Survei Sosial Ekonomi Nasional (Susenas) tahun 2019-2021 dan metode pengukuran kemiskinan multidimensi Alkire-Foster, serta 12 indikator dalam 3 dimensi (pendidikan, kesehatan, dan standar hidup). Hasil menunjukkan bahwa kemiskinan multidimensi selama 3 tahun di Kota Pekalongan selalu lebih tinggi dibandingkan pengukuran kemiskinan yang dilakukan oleh BPS. Penelitian ini juga menemukan skala prioritas bantuan pengentasan kemiskinan yang dibutuhkan di Kota Pekalongan berdasarkan deprivasi utamanya, yakni program bantuan untuk mengatasi lama sekolah dalam dimensi pendidikan, kecukupan gizi dalam dimensi kesehatan dan kepemilikan aset dalam dimensi standar hidup.

Kata Kunci: Kemiskinan Multidimensi, Deprivasi, Indeks, Metode Alkire-Foster

How to Cite: Muthia, A., & Barikha, A. (2022). Deprivation of Multidimensional Poverty in Pekalongan City. *Efficient: Indonesian Journal of Development Economics*, 5(2), 143-154. <https://doi.org/10.15294/efficient.v5i2.53153>

✉ Correspondence Address :
Address: Jl Podosugih, Pekalongan
E-mail : azka.muthia@bps.go.id

INTRODUCTION

Poverty is a challenge in development that is the target to solve in each region. The problem of poverty is not only related to economic problems but is more complex and related to other fields that are multi-dimensional. However, until now the measurement of poverty still refers to a one-dimensional income or monetary approach. This is because poverty is often seen as a lack of income or consumption (Yu, 2013).

Statistics-Indonesia (BPS) measures poverty through a monetary approach by using the concept of the ability to meet basic food and non-food needs as measured from the expenditure side. In fact, in measuring poverty, it is necessary to capture basic human needs such as health, education, and a decent standard of living. This is because poverty is not only related to lack of money, but includes problems of lack of access to education, access to health, and not achieving a minimum standard of decent living which cannot be explored in depth through monetary poverty measurements.

Multidimensional poverty includes various deprivations experienced by poor people in their daily lives. Multidimensional poverty measurement can include a series of indicators that will capture the complexity of the phenomena to inform appropriate policies to reduce poverty. In addition, the multidimensional poverty indicator is closely related to the indicators in the Sustainable Development Goals (SDGs).

The multidimensional poverty calculation can be used to accelerate the achievement of the SDGs, especially the first goal, ending poverty in all its forms everywhere. So far, a lot of assistance has been given to the poor people in

Pekalongan City to reduce the number of poverties. Some of the available assistance includes Program Keluarga Harapan (PKH), Bantuan Pangan non Tunai (BPNT), and Program Indonesia Pintar (PIP). However, all poverty alleviation programs have not achieved their objectives effectively. This fact is indicated that the high number of poor people or has not been able to drastically reduce the poverty rate in Pekalongan City.

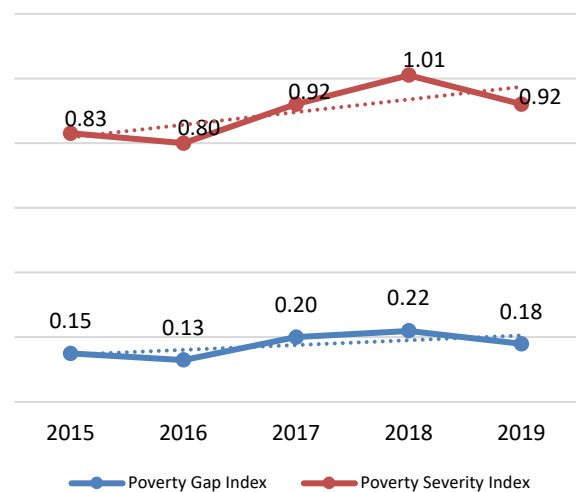


Figure 1. Poverty Gap Index and Poverty Severity Index in Pekalongan City 2015-2019

Source : BPS, 2021

BPS data shows that the percentage of poverty in Pekalongan City experienced a declining trend from 2015 (8.09 percent) to 2019 (6.60 percent) but the poverty gap index and poverty severity index showed an upward trend. This implementation that poverty reduction has not been matched by the improvement in the condition of the poor people and inequality among the poor people.

The poverty gap index is still high and has no significant decline, indicating that the condition of the poor people has not improved

and is approaching the poverty line. Meanwhile, the poverty severity index shows that inequality between the poor is still high. On the other hand, the Covid-19 pandemic, which is a problem in the health dimension, has also affected the increase in the percentage of poor people in Pekalongan City. This fact shows that poverty is not only influenced by the economic side but also related to other dimensions.

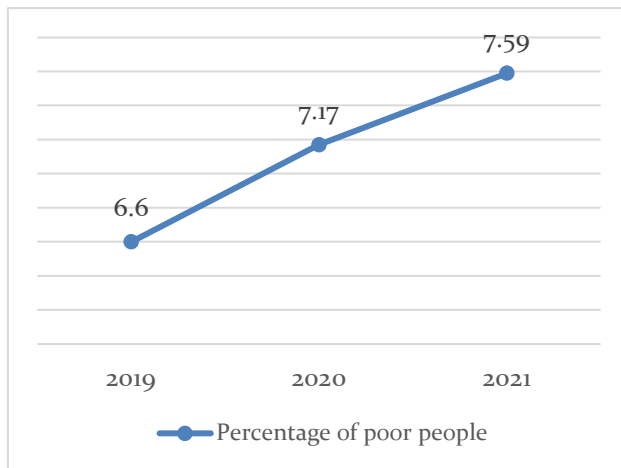


Figure 2. Percentage of poor people in Pekalongan City 2019-2021

Source : BPS, 2021

From this, it also can be seen that the dependence of the poor is still high because the poverty alleviation program is unsustainable, which makes the poor people just accept and don't try hard to out of poverty. Poverty alleviation programs are not effective when data on poor people are inaccurate and still partial, or the calculation uses a monetary approach and has not considered combining it with a non-monetary approach.

In Indonesia, the calculation of multidimensional poverty has become a necessity in the official document of the

National Long-Term Development Plan (RPJPN) 2005-2025 which states that the problem of poverty is multidimensional because it not only pertains to income but also to the vulnerability and susceptibility of the people or communities to becoming poor (Bappenas, 2007).

The Worldbank (2001) also explains that poverty is not only a form of material deprivation (which has so far been measured by an income and expenditure approach) but also includes low achievement in education and health. According to Bourguignon and Chakravarty (2003), poverty is a manifestation of low welfare, which depends on 2 variables, namely monetary and non-monetary.

The concept of poverty as a multidimensional phenomenon has been expressed by Sen (1976) who essentially states that poverty must be seen from various dimensions such as education, health, quality of life, democracy, and people's freedom of economic access. In addition, Asselin (2009) also mentions that it is necessary to look at the perspective of poverty in a multidimensional context.

Poverty consists of many forms of inequality in terms of the capabilities of individuals, households, and communities to meet basic needs related to the dimensions of income, education, health, food/nutrition, clean water, proper sanitation, employment, housing/living environment, access to productive assets, access to markets, and participation in society.

It is necessary to add non-monetary factors in addition to monetary factors, for example, one of which is enjoyment (enjoyment) for various other activities (Alkire and Santos, 2014; Ranis, 2004; Nolan and Whelan, 1996). There are

several methods used to measure multidimensional poverty, one of which is the Alkire-Foster method. The Alkire-Foster method is a method that is widely applied by researchers.

In 2007, Alkire and Foster created the Alkire-Foster Method. The Alkire Foster method was built by referring to the conceptual framework found by Sen (1976), namely identification and aggregation. For the aggregation step, Alkire and Foster adopted an adjusted Foster-Greer-Thorbecke (FGT) measure. The two basic stages in the Alkire-Foster method are then translated into 12 multidimensional poverty measurement steps (Alkire and Foster, 2009).

In 2010, OPHI and UNDP initiated a multidimensional-based poverty measurement that can be used as input for determining poverty alleviation policies, namely Multidimensional Poverty Index (MPI). The concept of multidimensional poverty refers to Amartya Sen (Anand and Sen, 2000), namely poverty that is measured in a broad and complex manner.

MPI is in line with sustainable development goals, each indicator of which is part of the target for achieving Sustainable Development Goals (SDGs) (Alkire et al., 2011a). The initiation of UNDP and OPHI in compiling the MPI is a starting point and an open problem for the improvement of multidimensional poverty measurement which is more comprehensive, complete, evidence base measurement, and scientific.

The publication of the Human Development Report 2010 implied that UNDP and OPHI formulated a multidimensional poverty measurement (MPI) covering the dimensions of health, education, and a decent

standard of living (Alkire et al., 2014, 2011b; Alkire, 2016; Alkire and Santos, 2013). The indicators that describe the dimensions of multidimensional poverty are in line with the indicators and dimensions in the HDI, an index that can describe the quality of human life and ultimately can help reduce poverty globally and up to date.

However, although studies on multidimensional poverty have developed and are starting to be used as official poverty figures in several countries, studies on multidimensional poverty in Indonesia are still limited especially at the districts/cities level. Several researchers who have been recorded to have done so are Wardhana (2010), Alkire-Foster (2011), Ballon and Apablaza (2012), Hanandita and Tampubolon (2015), Indriani and Setiyono (2018), and Sumargo, B and Simanjuntak, N (2019).

Although a number of previous similar research results have been available, these studies tend to be carried out on a national or provincial level with different dimensions. In fact, it is not enough to analyze government performance only at the national or provincial level, but a more specific scope of research is needed, namely at the district/city level (Isard and Burton, 1983).

Based on this background, it is necessary to calculate poverty with a multidimensional approach so that strategies to reduce poverty can be carried out optimally, especially for districts/cities because the characteristics of each region are different. Therefore, this study was conducted to determine the poverty index in a multidimensional manner and to find out the main deprivation that affects poverty in Pekalongan City so that it can provide the right policies in development.

RESEARCH METHODS

This research was descriptive quantitative research. The study used raw data from the National Socio-Economic Survey (Susenas) Kor and the Consumption Module. This research data was taken from Statistics Indonesia (BPS) from 2019 to 2021. The limitations of this study include 3 dimensions and 12 indicators to calculate multidimensional poverty in Pekalongan City.

The three dimensions consist of education, health, and standard of living while the 12 indicators consist of the years of the schooling, school participation, immunization, calories, protein, morbidity, cooking fuel, access to electricity, access to water, Housing: Walls/Floor/Roof, and sanitation. The method used to calculate multidimensional poverty indicators is the Alkire-Foster method. The stages in performing calculations using this method are as follows (Alkire et al., 2015):

First select the unit of analysis. The unit of analysis commonly used is the individual or household. Second, choose dimensions. The selection of dimensions can be done based on survey data or research on the needs felt by many people, the results of consensus, such as declarations of Human Rights (HAM), SDGs, as well as national or regional policies.

Third, selecting indicators. Indicators are selected for each dimension according to the rules of accuracy (using as many indicators as needed so that the analysis can form the basis of policy) and parsimony (using as few indicators as possible to ensure ease of analysis for policy purposes and transparency). Then, set the deprivation cut-off point. The cut-off point is set for each indicator. This stage forms a cut-off point, which is the first cut-off point in this

methodology that can identify a person experiencing deprivation or not for each indicator.

After set the deprivation cut-off point, determine the weights for each dimension and variable: The weights used can be in the form of equal weights or different weights (unequal weighted). Sixth calculate the deprivation score (c_i) experienced by each unit of analysis, which is formulated as follows:

$$c_i = \sum_{i=1}^d w_i I_i \dots\dots\dots(1)$$

With $I_i = 1$ if the unit of analysis is identified as poor and $I_i = 0$ to other variables, and w_i is the weight of variable i with $\sum_{i=1}^d w_i = 1$. After get weights for each dimension and variable, set the second intersection point (k): Determine the number of deprived indicators (k) to identify a person experiencing multidimensional poverty or not according to the cut-off point determined by the Alkire Foster method, namely $1/3$.

Then, applying the k -intercept to obtain the second poverty line: The unit of analysis i was identified as having multidimensional poverty when $c_i \geq k$. if $c_i < k$, then the unit of analysis does not experience multidimensional poverty, and all information is replaced with zero. The next step is calculating the value of Multidimensional poverty headcount (H) by dividing the number of multidimensionally poor people by the total population:

$$H = \frac{q}{n} \dots\dots\dots(2)$$

Where H is the proportion of multidimensionally poor people to the total population, q is the number of multidimensionally poor people, and n is the

total population. After get the multidimensional poverty headcount, calculate the average poverty gap/multidimensional poverty intensity (A): The intensity of multidimensional poverty is the average number of deprivations experienced by poor people which is calculated by the proportion of deprivations experienced by each person.

$$A = \frac{\sum_{i=1}^q c_i(k)}{q} \dots\dots\dots(3)$$

Where $c_i(k)$ is the deprivation score of poor individuals and q is the number of poor people. The last, calculating the adjusted Multidimensional poverty/multidimensional poverty index (M_o): This indicator is calculated by multiplying the multidimensional poverty headcount (H) and the average poverty gap (A).

$$M_o = H \times A \dots\dots\dots(4)$$

In particular, the Alkire-Foster method introduces an intuitive approach to identifying the poor by applying dual cutoff/thresholds, denoted by z and k (Alkire and Foster, 2011). Deprivation cutoff z , is the first poverty line for each indicator that shows individuals who are deprived of an indicator in a dimension. The second poverty line is the poverty cutoff k , which is an interdimensional poverty line that shows how much deprivation a person has to be categorized as experiencing multidimensional poverty.

The Alkire-Foster method produces multidimensional poverty measures, namely: Multidimensional Poverty Headcount (H), average deprivation shared among the poor (A), and M_o . H is the incidence of multidimensional poverty, which can be interpreted as the percentage of the population experiencing

multidimensional poverty. A indicates the intensity of poverty, namely: the average number of deprivations experienced by the poor. A is measured by adding up the proportion of the total deprivation experienced by the poor and then divided by the total number of poor people.

M_o is the aggregate size produced by the Alkire-Foster method. If $= 0$ then the Adjusted Multidimensional Poverty Headcount Ratio (M_o) is obtained. M_o is the forerunner of the birth of the MPI (Multidimensional Poverty Index) or the Multidimensional Poverty Index. M_o is obtained from the product of H and A. This index is agreed upon by UNDP and OPHI as the latest index of multidimensional poverty. Since 2010, UNDP and OPHI have agreed on a new poverty measurement index developed by Alkire and Santos (2010), called MPI (Multidimensional Poverty Index).

In its calculation, MPI uses one of the measures in the Alkire-Foster method, namely M_o . According to Alkire and Santos (2014) there are several reasons that underlie the selection of M_o as a component of the MPI, some of which are robust, can be described by groups in the population so that it is possible to make comparisons of poverty between groups within a population, and can broken down by dimensions or indicators of the causes of multidimensional poverty.

The data used in measuring poverty using MPI is household level data. By using the household as the unit of analysis, if one member of the household experiences deprivation, it will have an impact on all members of the household. A household is said to be multidimensionally poor if the weight of the indicator experienced is equal to or more than one-third of the total dimension weight or 33.33

percent. The reason for choosing the second cutoff of 33.33 percent according to Alkire and Santos (2014) is because it has a normative basis of truth, has a wide distribution of poverty measurement results, and is able to capture acute poverty.

This acute poverty is interpreted by Alkire and Santos (2014) as a person's inability to meet

international minimum standards in accordance with the indicators stated in the Millennium Development Goals (MDGs) and carry out meaningful functions in society. In this study, there is a modification of the indicators that are adapted to the conditions in Pekalongan City, the elaboration of dimensions, indicators, and cut-off can be seen in table 1.

Table 1. Dimensions, indicators, deprivation cut-off, and weights in calculating multidimensional poverty

Dimension	Indicator	Cut-off of deprivation	Weight
Education	Years of schooling	Member of the household has not completed nine years of School	1/6
	School attendance	Any school-aged child (7-15 years old) is not attending school up to the age at which he/she would complete class eight	1/6
Health	Calorie	calorie consumption in the household is less than the Nutrition Adequacy Rate (2013)	1/12
	Protein	Protein consumption in the household is less than the Nutritional Adequacy Ratio (2013)	1/12
	Immunization	No children under five are immunized	1/12
	Morbidity	Eligible household members have experienced health complaints and interfere with activities	1/12
Living Standards	Cooking fuel	used firewood or charcoal	1/18
	Sanitation	No sanitation improved	1/18
	Access of water	Do not have access to clean water improved	1/18
	Access to electricity	No access to electricity	1/18
	Housing: Wall/Floor/Roof	Type of floor: bamboo/soil or type of wall: bamboo or type of roof: thatch/ijuk/leaves/rumbia	1/18
	Asset	Do not have more than one of these assets: refrigerator, landline telephone, motorcycle, car, flat-screen television of at least 30 inches	1/18

Source : Alkire dan Santos (2010;2014), modified

By applying the Alkire-Foster method developed by Alkire and Santos (2010; 2014), this study uses a nested weight system, unit analysis, indicator selection, dimensions, first cutoff

point, and second cutoff point as done by UNDP in calculating MPI. The nested weight system means that each dimension has the same weight and in the same dimension, each indicator has

an equal weight. However, for different dimensions, the weights between indicators can be different (Alkire and Santos, 2010).

Households or individuals who are deprived at the first cutoff point are given a score of 1, and those who are not deprived are given a score of 0. Then, by adopting the research of Alkire and Robles (2015), the second cutoff of 1/3 or about 33.33 percent is used. A household or individual can be categorized as a household or individual experiencing multidimensional poverty if the total weight per individual or household is greater than or equal to 33.33 percent. Furthermore, although the main variable in this study is multidimensional poverty, monetary poverty is still included, as a comparison to multidimensional poverty.

RESULTS AND DISCUSSION

Based on the poverty threshold of Pekalongan city produced by BPS, the percentage of poor people from 2019 to 2021 is under multidimensional poverty. The monetary measurement of poverty actually cannot be compared with the multidimensional measurement of poverty. This is because the measurement methods used are different. However, if explored further, the poverty measurement carried out by BPS can actually describe multidimensional poverty.

This is because the poverty line used as the cut-off point in determining a poor or non-poor household is the sum of the food poverty line and the non-food poverty line. The food poverty line is obtained from the calculation of the minimum need for food which is equal to 2,100 kcal per capita per day and the non-food poverty line is obtained from the calculation of the minimum needs for housing, clothing, education, and health. This is in line with the

Alkire Foster method which calculates the multidimensional poverty rate.

Table 2. Comparison of Multidimensional Poverty Index with poverty rate (BPS) and Poverty threshold

	Year		
	2019	2020	2021
MPI	34,20%	17,70%	19,50%
BPS	6,60%	7,17%	7,59%
Poverty Threshold	425.026	460.789	480.415

Source : BPS, 2021

The difference between these two methods lies in the calculations carried out, namely BPS looks at the expenditures made to meet the needs of a multidimensional household, while the Alkire Foster method looks at the ability of households to access education, health, and living standards. Therefore, it can be concluded that the poverty line includes multidimensional aspects which are converted into IDR, so it is not wrong to say that the calculation of the poverty rate carried out by BPS is sufficient to describe multidimensional poverty in Indonesia.

Table 3. Headcount, Average Poverty Gap, and MPI Pekalongan City 2019-2021

	Year		
	2019	2020	2021
H	34,20%	17,70%	19,50%
A	42,62%	39,55%	42,07%
Mo	14,57%	7,00%	8,20%

Source : BPS, 2021

However, this cannot provide complete information about what causes a person to be poor other than not having sufficient income to meet the basic needs of life. Based on the

analysis in table 3, the percentage of the population experiencing multidimensional poverty (H) in Pekalongan City has fluctuated over the last three years. The percentage of poor people in Pekalongan City in 2019 was 34,20 percent, then fell quite sharply in 2020 by 17,70 and again increased in 2021 which was 19,50 percent.

Table 4. Share Indicators of Education to MPI

No	Indicator	Years		
		2019	2020	2021
1	Years of Schooling	53,23	34,74	30,88
2	School Attendance	0,23	0,23	0,19

Source : BPS, 2021

When viewed in general, multidimensional poverty in Pekalongan City is getting better from 2019 to 2021. This is evidenced by the percentage value of poverty which has decreased by almost half compared to 2019. This significant decrease shows that the handling of poverty in Pekalongan City is getting better and not only looking at the monetary aspect but also looking at other aspects in a multidimensional way.

This is in line with the commitment of the Pekalongan City government in Regional Regulation Number 14 of 2016 which states that every poor person has the right to have easy access to facilities for food needs, health services, education services, the need for clean water, and good sanitation, household needs, work and get a good and healthy living environment.

Meanwhile, the increase that occurred in 2021 may be due to the impact of the Covid-19 pandemic that has hit and has not subsided in Pekalongan City. Although the percentage of the population experiencing multidimensional

poverty fluctuates, the Average Poverty Gap (A) tends to be stable over the last three years, it means the average population of Pekalongan City who is multidimensional poor experiences a deficiency of 3 to 5 indicators of multidimensional poverty.

Table 5. Share Indicators of Health to MPI

No	Indicator	Years		
		2019	2020	2021
1	Calorie	64,12	37,53	59,94
2	Protein	41,67	46,82	43,49
3	Immunization	5,48	5,98	4,96
4	Morbidity	16,68	12,89	8,38

Source : BPS, 2021

In 2019, the multidimensional poverty index (Mo) of Pekalongan City was 14,57 percent. That means that 14,57 percent of the population of Pekalongan City who is poor, and multidimensional, experience deprivation of 4 to 5 indicators. 7 percent of the population of Pekalongan City who is multidimensional poor experience deprivation of 3 to 4 indicators in 2020, and 8.20 percent of the population of Pekalongan City experience deprivation of 4 to 5 indicators in 2021.

In-depth, we will discuss the main deprivation of poverty that occurred in Pekalongan City. This can be studied because multidimensional poverty not only measures the inability of the population to meet their food and non-food needs, but also looks at other more complex aspects so that the main indicators of deprivation in Pekalongan City can be seen will be viewed per dimension.

Table 4. shows that the years of schooling indicator gives the largest contribution to the education dimension. From 2019 to 2021, the

population who did not complete a minimum of junior high school education or its equivalent decreased from 53.23 percent in 2019 to 30.88 percent in 2021. This shows that the 9-year compulsory education program in Pekalongan City has been running quite well.

Table 6. Share Indicators of living Standart to MPI

No	Indicator	Years		
		2019	2020	2021
1	Cooking Fuel	0,62	1,09	1,13
2	Sanitation	10,29	10,76	4,66
3	Access of water	28,07	24,14	29,47
4	Access to electricity	0	0	0
5	Housing	2,63	2,24	3,46
6	Asset	93,35	92,45	88,91

Source : BPS, 202

Meanwhile, only less than 1 percent of the population of Pekalongan City aged 7-15 years did not or have never attended school during 2019-2021. However, when viewed in total, Years of schooling deprivation is quite high. From this, we can see that although there is a decrease in the percentage of the population who did not finish school until the junior secondary level.

This is also reinforced by data BPS (2021) that mean years of schooling in Pekalongan City in 2021 is 9,18 years. (Sachs, 2005) explained that effective poverty alleviation is poverty alleviation carried out by developing human capital, especially education and health. The years of schooling reflects a low level of education which results in limited self-development capabilities and narrow employment opportunities that can be entered so that poverty remains high.

The poor have limited access to education so the quality of their human resources is low. Therefore, the years of Schooling are closely

related to the Human Development Index (HDI). Because the quality of human resources is measured by Human Development Index (HDI). This can be a reference to when the decline in MPI will increase the HDI of Pekalongan City and make Pekalongan City more advanced.

With a good education, people will have the knowledge and skills so will have the choice to get a job and be more productive. Thus, education can reduce poverty and improve the quality of life and welfare. Table 5 shows that calorie and protein indicators make the biggest contribution to the health dimension.

The percentage of the population of Pekalongan City who experienced calorie and protein deprivation from 2019 to 2021 experienced fluctuations. This figure increases from 2020 to 2021. The increasing percentage of the population experiencing calorie and protein deprivation in 2021 shows an indication of a decline in the purchasing power of the people of Pekalongan City.

The percentage of the population who did not immunize and who experienced morbidity tended to decrease in the last three years. This shows that the development of the health sector in Pekalongan City is considered quite successful in increasing the level of public health. The increase in the development of the health sector in Pekalongan City can also be seen through the addition of the number of doctors in 2020 as many as 214 doctors (BPS, 2020).

An increase in the number of health workers will increase the number of people served when accessing health facilities. Table 6 shows that asset indicators make the largest contribution to the standard of living dimension. The percentage of the population of Pekalongan City who does not have more than assets including cars, motorcycles, refrigerators,

televisions, and telephones has decreased from 2019 to 2021.

According to Indriyani and Setiono (2018), the shift in fulfilling primary needs to secondary needs and tertiary needs shows a high level of better welfare. The clean water indicator also contributes significantly to deprivation in the standard of living dimension. The percentage of the population of Pekalongan City who does not have access to proper drinking water has decreased from 2019 to 2020, but this figure will increase again in 2021.

From 2019 to 2021 the percentage of the population of Pekalongan City who does not have proper sanitation has decreased from 10.29 percent in 2019 to 4.66 percent in 2021. This illustrates the increasing level of welfare of the residents of Pekalongan City in the health sector. The percentage of each indicator in multidimension Poverty can be seen in appendix 1.

CONCLUSION

Multidimensional poverty in Pekalongan City in 2019-2021 fluctuated but tended to decline. Poverty which is measured by considering various dimensions (multidimensional) in Pekalongan City actually gives a different picture from monetary poverty calculated by Statistics Indonesia (BPS).

The percentage of the multidimensional poor population which is greater than the percentage of the poor in monetary terms indicates that there are people who are not identified as poor in monetary terms but who have experienced deprivation in various dimensions of monetary poverty.

People who are categorized as multidimensional poor in Pekalongan City

experience many deprivations in the years of schooling indicator in the health dimension, nutrition indicators (calories and protein) in the health dimension, and assets in the standard of living dimension.

The lack of coverage of the multidimensionally deprived population shows that it is time for multidimensional calculations to be used as the basis for calculating poverty because it is based on the fulfillment of multidimensional basic rights to achieve community welfare.

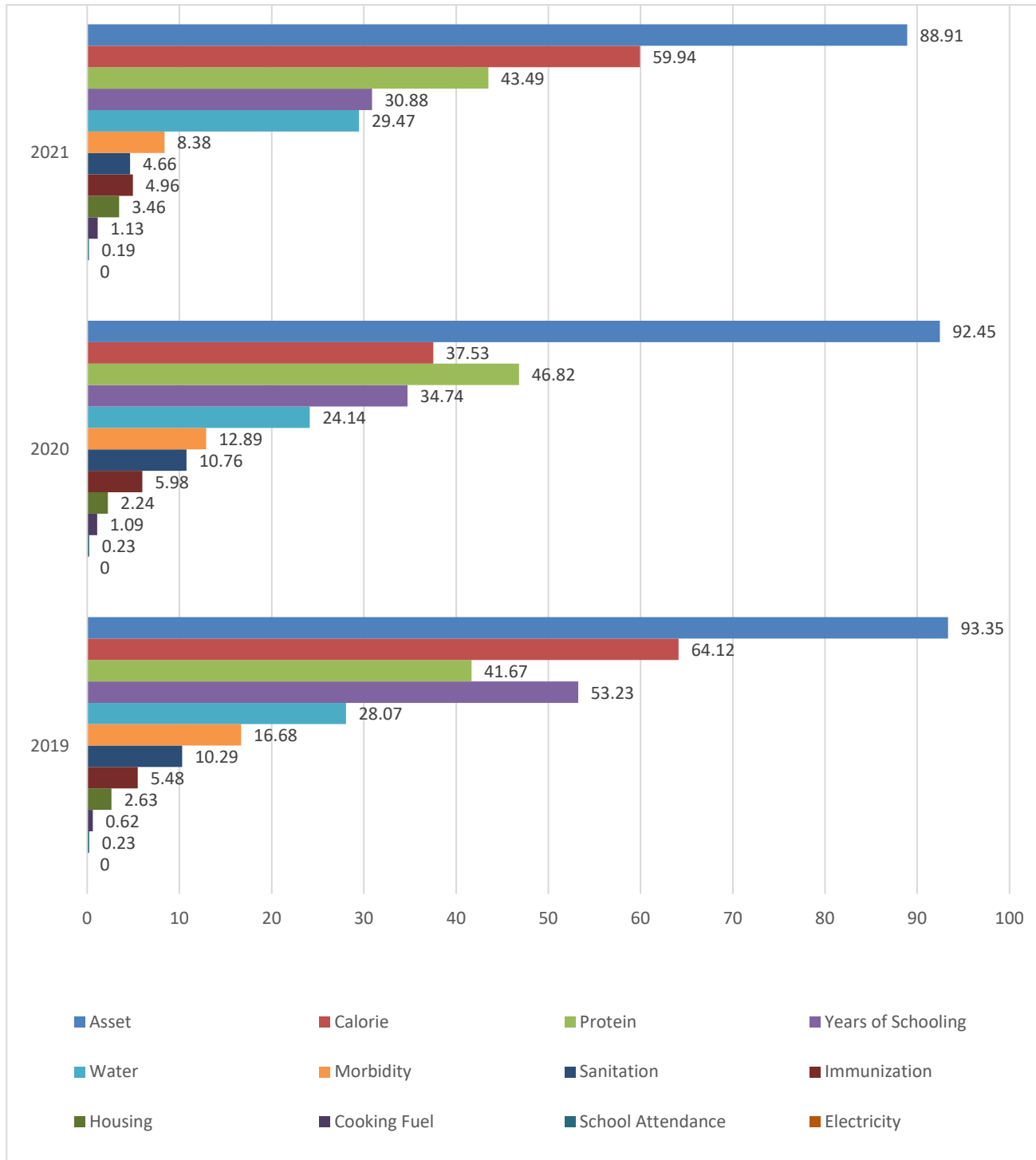
In addition, there is a need for a re-evaluation of the implementation of poverty programs that have been implemented by the Pekalongan City Government. This is because these programs are actually programs that aim to improve household welfare and fulfill basic rights in health, education, and quality of life.

REFERENCES

- Andriaswati, E., & Utami, S. (2022). Determinants of Poverty Rates in Papua Province in 2011 - 2019. *Efficient: Indonesian Journal of Development Economics*, 5(1), 1453-1467.
- Anand, S., & Sen, A. (2000). Human development and economic sustainability. *World development*, 28(12), 2029-2049.
- Alkire, S. (2016). The process of developing multidimensional poverty measures [PowerPoint Slides]. *UNECE workshop on harmonisation of poverty statistics Geneva*, 11 July 2016. [https://www.unece.org/fileadmin/DAM/stats/documents/ece/ces/ge.15/2016/Wshp/Session B. Lead Presentation - Ophi.pdf](https://www.unece.org/fileadmin/DAM/stats/documents/ece/ces/ge.15/2016/Wshp/Session%20B.Lead%20Presentation%20-%20Ophi.pdf).
- Alkire, S. and Foster, J. (2009). *Counting and Multidimensional Poverty*. OPHI Working Paper No 32.
- Alkire, S., and Robles, G. (2015). *Multidimensional Poverty Index-2015: Brief Methodological Note and Results. The Oxford Poverty and Human Development Initiative (OPHI)*.

- Alkire, S., Roche, J. M., Santos, M. E., & Seth, S. (2011a, December). *Multidimensional Poverty Index 2011*. Oxford Poverty & Human Development Initiative (OPHI). <https://www.ophi.org.uk/wp-content/uploads/OPHI-MPI-Brief-2011.pdf>.
- Alkire, S., Roche, J. M., Santos, M. E., & Seth, S. (2011b). *Multidimensional Poverty Index 2011: Brief methodological note*. OPHI Research Briefing, 05. Oxford Poverty & Human Development Initiative (OPHI) - Oxford Department of International Development - Queen Elizabeth House (QEH), University of Oxford. <https://ora.ox.ac.uk/objects/uuid:83f56598-28ed-47d7-9984-92fd4d1786b3>.
- Alkire, S., dan Santos, M. E. (2010). Acute Multidimensional Poverty: A New Index for Developing Countries. *In Human Development Research Paper 2010/2011*. UNDP.
- Alkire, S., & Santos, M. E. (2013). A multidimensional approach: Poverty measurement & beyond. *Social Indicators Research*, 112(2), 239–257. doi: <https://doi.org/10.1007/s11205-013-0257-3>.
- Alkire, S., and Santos, M. E. (2014). Measuring Acute Poverty in the Developing World: Robustness and Scope of the Multidimensional Poverty Index. *World Development*, 59, 251–274.
- Asselin, L. M. (2009). *Analysis of multidimensional poverty: Theory and case studies*. Springer Science & Business Media.
- Badan Pusat Statistik. (2020). [Pekalongan Kota dalam Angka Tahun 2020]. Pekalongan: Badan Pusat Statistik.
- Badan Pusat Statistik. (2021). [Data dan Informasi Kemiskinan Jawa Tengah 2016-2020]. Semarang: Badan Pusat Statistik.
- Ballon, P., and Apablaza, M. (2012). *Multidimensional Poverty Dynamics in Indonesia*. Research in Progress. Oxford Poverty and Human Development Initiative.
- Bappenas. (2007). *Long-Term National Development Plan of 2005-2025*. Jakarta: State Ministry of National Development Planning
- Bourguignon, F., and Chakravarty, S. R. (2003). The Measurement of Multidimensional Poverty. *Journal of Economic Inequality*, 1, 25-49.
- Chain, P. (1997). Same or different? A comparison of the beliefs Australian and Chinese University students hold about learning. 1 - 16. *Researching Education in New Times*, Melbourne: <http://www.swin.edu.au/aare/97pap>.
- Hanandita, W., & Tampubolon, G. (2016). Multidimensional poverty in Indonesia: Trend over the last decade (2003–2013). *Social Indicators Research*, 128(2), 559–587.
- Indriani, L. (2018). [Analisis Kemiskinan Multidimensi di Provinsi Jawa Tengah 2011-2013]. *Jurnal Aplikasi Statistika & Komputasi Statistik*, 10(2), 13-24. doi:10.34123/jurnalasks.v10i2.72
- Isard, Walter and Barton, Bruce (1983). *Importance of Regional Analysis for National Economic Growth Policies*. Monograph 83-01.
- Nolan, B., & Whelan, C. (1996). The Relationship between income and deprivation: A dynamic perspective. *Revue Economique*, 47(3), 709–717. doi: <https://doi.org/10.2307/3502573>
- Ranis, G. (2004). *The evolution of development thinking: Theory and policy*. Center Discussion Papers, 886. Economic Growth Center - Yale University.
- Sachs, Jeffrey D. 2005. *The End of Poverty*. New York: Penguin Press.
- Sen, A. K. (1976). Poverty: An Ordinal Approach to Measurement. *Econometrica: Journal of the Econometric Society*, 219-231, 44 No 2. *Proceedings of AARE conference, Swisburne University*. Available at: <http://www.swin.edu.au/aare/97pap/CHAN97058.html>.
- Sumargo, B., Simanjuntak, N.M.M. 2019. [Deprivasi Utama Kemiskinan Multidimensi Antarprovinsi di Indonesia]. *Jurnal Ekonomi dan Pembangunan Indonesia*, 19(2), 160–172, p-ISSN 1411-5212; e-ISSN 2406-9280
- Wardhana, D. (2010). *Multidimensional Poverty Dynamics in Indonesia (1993–2007)*. Thesis. Unpublished. University of Nottingham
- Worldbank. (2001). *World Development Report 2000/2001*. Washington, D.C.: Worldbank.
- Worldbank. (2015). [Pengentasan Kemiskinan di Indonesia]. <http://www.worldbank.org/in/country/indonesia/brief/reducing-extreme-poverty-in-indonesia>
- Yu, J. (2013). Multidimensional Poverty in China: Findings Based on the CHNS. *Social Indicators Research*, 112, 315-336

APPENDIX



Appendix 1. Percentage each indicator in Multidimension Poverty Pekalongan City 2019-2021

Source : BPS, 2021