

Analysis Concept And Indicator Proverty in Medan City

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ABSTRACT

Medan government was added to the budget program amount for taking over the poor people a minimum of 10% of the total government budget. The results of the program reveals that the number of poor people in Medan city shows an increase, which is more than poor people still not covered by the government program. The research objectives are 1) analysis of available available concepts to decrease the poor people 2). To Analysis dominand concepts and indicators of proverty in Medan City. Data was collected by using Sampling area and Purposive Sampling where 294 houses of life that haved a Raskin program are objects of research from 21 subdistricts in Medan city. From descriptive analysis shows that 3 subdistricts were the potential for the program, as follows: Medan Belawan subdistrict, Labuhan subdistrict, and Marelán subdistrict. Three subdistricts are dominant with cultural poor, structural poor, absolute poor, and relatively poor. From the factor analysis found that cultural factors, social factors, social factors, asset factors, and social factors are dominant factors for Medan government to decrease the amount of poor people in Medan City. This research also found that a new factor of proverty program which is a local culture.

Keyword: *POEW Model,*

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1. INTRODUCTION

The increased economic growth in Medan City is directly proportional to the increasing number of poor people. Furthermore, after the issuance of Regional Regulation No. 5 of 2015 concerning poverty alleviation, Medan City Government increased the amount of budget for poverty reduction programs at least 10% of the total PAD, but the number of poor people continues to increase. This situation has caused polemics for the wider community, where many poor communities have not been netted in the Medan City poverty program. This polemic is very reasonable because the determination of the poor has different indicators in each Office, for example the Office of Social Affairs, Department of Labor, Department of Food Security, etc. Therefore, it needs to be asked "does the poverty indicator applied by the Medan City Government represent the overall poor population? Based on the above problems, it is necessary to study the concepts and indicators of poverty in Medan.

2. LITERATURE REVIEW

Poverty is - Literally a large Indonesian dictionary, poor that means no property. Poor also means not being able to compensate for the standard of living needs and low income and economic levels. In short poverty can be defined as a low standard of living that is the lack of material in a number or group of people compared to the standard of living in force in the society concerned. (Wikipedia, <http://id.Wikipedia.org/Wiki/Economics>, 12/03/09, 10.15 PM). BAPPENAS (1993), defines poverty as a situation of deprivation that occurs not because of the will of the poor, but because of circumstances that cannot be avoided by the power that is in it. The Central Statistics Agency, defines poverty as the inability to meet the minimum standard requirements for basic needs including food and non-food needs. Meanwhile, Friedmann said that poverty as a result of the unequal opportunity to accumulate a social power base (Friedmann, 1992: 123). In general poverty is defined as a lack of income to meet basic or basic living needs. Those who are said to be on the poverty line is if it is not enough to meet basic living needs.

Prof. Selo Soemardjan, a well-known Indonesian sociologist, said that what is meant by the definition of structural poverty is poverty that is suffered by a group of people, because the social structure of the community, cannot participate in using the sources of income that are actually available to them. According to Sarasutha and Noor in Supadi and Achmad Rozany (2008: 3-4) "conceptual poverty can be divided into three terms, namely subjective poverty, absolute poverty and relative poverty.

1. Subjective poverty, each person bases his own thinking by stating that his needs are not met adequately even though in absolute or relative terms the person is not actually classified as poor ". Subjective poverty occurs because individuals equalize wants (needs) with needs (needs).
2. The definition of absolute poverty is a condition in which a person or family has an income but is insufficient to meet their minimum daily needs efficiently.
3. The definition of relative poverty is related to the concept of relative deprivation in which the ability to meet the needs of a person or a family is in a position relative to other community members living in one area. This concept is closely related to income inequality.

Absolute poverty according to BPS, is determined based on the inability of a person or group of people to meet their minimum basic needs such as food, clothing, health, housing and education. Minimum basic needs are translated as financial measures in terms of money and the minimum value of basic needs is known as the poverty line. Therefore, the population whose income is below the poverty line is classified as poor. The definition of absolute poverty is more widely used by the government in efforts to reduce poverty in various sectors of public services, for example in the fields of food, health, education and housing. To measure poverty and the criteria for the poor, the government, among others, uses the income or expenditure approach of the population to meet the minimum basic needs, the average per capita approach and the approach to the classification of prosperous families as used by the BKKBN. In 2004 BPS used the approach of minimum food expenditure equivalent to 2,100 kcal / day plus non-food expenditure (housing and facilities, clothing, health, education, transportation and other items). In 2008, BPS re-established 8 variables that were considered feasible and operational as indicators to determine poor households, namely: 1) per-capita floor area; 2) type of floor, 3) drinking water / availability of clean water, 4) type of toilet / toilet; 5) ownership of assets; 6) monthly income; 7) expenditure, specifically the percentage of expenditure for food; 8) consumption of side dishes. the per capita average approach and the family welfare classification approach as used by the BKKBN. In 2004 BPS used the approach of minimum food expenditure equivalent to 2,100 kcal / day plus non-food expenditure (housing and facilities, clothing, health, education, transportation and other items). In 2008, BPS re-established 8 variables that were considered appropriate and operational as indicators to determine poor households, namely: 1) per-capita floor area; 2) type of floor, 3) drinking water / availability of clean water, 4) type of toilet / toilet; 5) ownership of assets; 6) monthly income; 7) expenditure, specifically the percentage of expenditure for food; 8) consumption of side dishes. In 2004 BPS used the approach of minimum food expenditure equivalent to 2,100 kcal / day plus non-food expenditure (housing and facilities, clothing, health, education, transportation and other items). In 2008, BPS re-established 8 variables that were considered feasible and operational as indicators to determine poor households, namely: 1) per-capita floor area; 2) type of floor, 3) drinking water / availability of clean water, 4) type of toilet / toilet; 5) ownership of assets; 6) monthly income; 7) expenditure, specifically the percentage of expenditure for food; 8) consumption of side dishes. In 2004 BPS used the approach of minimum food expenditure equivalent to 2,100 kcal / day plus non-food expenditure (housing and facilities, clothing, health, education, transportation and other items). In 2008, BPS re-established 8 variables that were considered feasible and operational as indicators to determine poor households, namely: 1) per-capita floor area; 2) type of floor, 3) drinking water / availability of clean water, 4) type of toilet / toilet; 5) ownership of assets; 6) monthly income; 7) expenditure, specifically the percentage of expenditure for food; 8) consumption of side dishes. In 2004 BPS used the approach of minimum food expenditure equivalent to 2,100 kcal / day plus non-food expenditure (housing and facilities, clothing, health, education, transportation and other items). In 2008, BPS re-established 8 variables that were considered feasible and operational as indicators to determine poor households, namely: 1) per-capita floor area; 2) type of floor, 3) drinking water / availability of clean water, 4) type of toilet / toilet; 5) ownership of assets; 6) monthly income; 7) expenditure, specifically the percentage of expenditure for food; 8) consumption of side dishes. In 2008, BPS re-established 8 variables that were considered appropriate and operational as indicators to determine poor households, namely: 1) per-

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The definition of relative poverty according to BPS (2008) is "a poor condition due to the influence of development policies that have not been able to reach all levels of society resulting in an unequal distribution of income". BPS states that the minimum standards are set based on the living conditions of a country at a certain time and attention is focused on the poor population. The size of poverty is relatively dependent on the distribution of income or expenditure of the population. The definition of relative poverty as stated by BPS refers more to the income and expenditure gap between regions within a country or between countries in the world. BPS which sets the poverty line in the terminology of relative poverty. The poverty line for each province in Indonesia is not the same as the poverty line in other provinces. Likewise, the poverty line of each regency / city in the same province. For example, BPS (2008) sets a rural poverty line (capita / month) in West Java of Rp.155,367, while in urban areas Rp. 190,824. This difference occurs because the prices of minimum basic needs in rural areas are relatively smaller than in urban areas. The difference in the poverty line is also caused by differences in the types of minimum needs, for example: the rural poor usually have their own homes even though the conditions are less feasible while the urban poor generally live in rented or rented houses. 367, - while in urban areas Rp. 190,824. This difference occurs because the prices of minimum basic needs in rural areas are relatively smaller than in urban areas. The difference in the poverty line is also caused by differences in the types of minimum needs, for example: the rural poor usually have their own house even though the conditions are less feasible while the urban poor generally live in rented or rented houses. 367, - while in urban areas Rp. 190,824. This difference occurs because the prices of minimum basic needs in rural areas are relatively smaller than in urban areas. The difference in the poverty line is also caused by differences in the types of minimum needs, for example: the rural poor usually have their own homes even though the conditions are less feasible while the urban poor generally live in rented or rented houses.

Cultural poverty is caused by the factors of customs and culture of a particular area that shackles a person remains attached to the indicators of poverty ". BPS believes that these indicators should be reduced or even gradually eliminated by ignoring certain customary and cultural factors that prevent a person from making changes towards a better level of life. The definition of cultural poverty put forward by BPS refers to the attitude of a person or community caused by cultural factors, traditions and habits that tend to lead people towards apathy, "nrimo" or resignation to fate, wasteful and even not creative even if there is help from outsiders. Other than that,

"Structural poverty" is poverty that is suspected or diverted due to the unfavorable conditions of the structure or structure of life. Poverty in such structural conditions is not caused by natural factors or personal factors of the poor themselves but by social unjust arrangements. This unfair arrangement caused many people to fail to access the resources needed to develop themselves and to improve. In addition to poverty indicators set by the government, there are no indicators that are truly appropriate and appropriate to be used to describe poverty conditions that can be applied in general and standard to all communities, not only from aspects of economic life but also from other aspects, for example social aspects , law and politics. According to Emil Salim (1982), the determination of the minimum income threshold needed to meet basic needs (which is then referred to as the poverty line), can be influenced by three things, namely: 1) human perception of basic necessities needed, 2) human position in the environment around and 3) human objective needs to be able to live humanely. This opinion shows that indeed there is no standard that can be generalized to all groups of people to set a condition and situation as a problem of poverty. Therefore, poverty indicators that are still valid and used to establish a condition as a problem of poverty still use indicators

3. METHODOLOGY

Poverty is defined as a lack of income to meet basic or basic living needs. The poverty indicators consist of demographics, employment, housing, health, education, and expenditure of poor households.

1. Demographic indicators, consisting of: what are the needs of poor households, ranging from KTP / KK variables, birth certificates, marriage books, marital status.
2. Indicators of employment, consisting of: what needs are desired by poor households, ranging from the variable work activities, employment, employment status, business ownership, business capital.
3. Indicators of housing, consisting of: what are the needs of poor households, ranging from land tenure and building variables, floor area, floor type, wall type, roof type, source of water for drinking, source of water for bathing / washing, source lighting, electric power class, cooking fuel, toilet, number of bedrooms.
4. Health indicators, consisting of: what needs are desired by poor households, from the variable treatment of chronic diseases, handling of pregnancy / birth, family planning tools and disabilities.
5. Educational indicators, consisting of: what are the needs of poor households, ranging from the highest education variable, school participation, equipment for schools.
6. Indicators of household expenditure, consisting of: average household expenditure per capita which is how to describe poor households in Medan with food and non-food variables (education, health, clothing).
7. Structural indicators; poverty caused by government policy
8. Food security indicators; poverty caused by people not consuming healthy and balanced food.
9. Indicators of local wisdom that will be measured in this activity consist of: Social, cultural, and family.

In addition to secondary data, primary data is also needed in this study. Taking primary data, certainly can not be separated with the sampling technique used so that research can describe its population of fiber efficiently in its implementation.

- Sample area
Medan city area consists of 21 sub-districts, where in the 21 sub-districts area it is desirable to have selected sample representatives. Then purposively determined that the most kelurahan received Raskin / Rastra as the chosen sample area.
Furthermore, from 1 kelurahan selected in each sub-district, the number of Raskin / Rastra recipients was also very large, so that they had to be reduced to the environmental area. So from the chosen kelurahan earlier, it was seen that the environment was the biggest recipient of Raskin / Rastra. Next, the area that will be the sample of this research is chosen.
- Systematic Linear Sampling
From the area in the form of the environment selected as a sample, then 14 samples will be taken which will be selected by the Linear Systematic Sampling method by determining $N(-)$ as the Raskin / Rastra recipient population while it is $n = 14$. This is due to time constraints, budget and officers, then the sample to be selected is determined for the entire city of Medan as many as 294 selected households.
- Purposive Sampling
From the population of Raskin / Rastra recipients per environment, we know that there are Raskin / Rastra recipients who are not on target, so we ask the head of the environment to issue Raskin / Rastra recipients who are not on target so that they are not selected as samples. So that from the population per environment we call N , after removing Raskin / Literature recipients who are not on target, we call population (N).

4. ANALYSIS TOOL

In conducting poverty alleviation programs, Pemko Medan must know the basic concepts of why households are said to be poor. Various concepts have been applied, starting from the 14 criteria, basic needs, etc. that have been applied seemingly have not been answered from the perspective of poor households themselves. Therefore, this study tries to put together a concept called "the poor" which is in addition to what has been created by the Government. The poverty indicators consist of demographics, employment, housing, health, education, and expenditure of poor households.

- A. Demographic indicators, consisting of: what needs are desired by poor households, ranging from the variable KTP / KK, birth certificate, marriage book, marital status.
- B. Indicators of employment, consisting of: what needs are desired by poor households, ranging from the variable work activities, employment, employment status, business ownership, business capital.
- C. Housing indicators, consisting of: what are the needs of poor households, ranging from land and building tenure variables, floor area, floor type, wall type, roof type, water source for drinking, water source for bathing / washing, lighting source, electrical power classes, cooking fuel, bowel movements, number of bedrooms.
- D. Health indicators, consisting of: what needs are desired by poor households, ranging from the variable treatment of chronic diseases, handling of pregnancy / birth, family planning tools and disabilities.
- E. Educational indicators, consisting of: what are the needs of poor households, ranging from the highest education variable, school participation, equipment for schools.
- F. Indicators of household expenditure, consisting of: average household expenditure per capita which is how the picture of poor households in Medan with food and non-food variables (education, health, clothing).

Indicators of local wisdom that will be measured in this activity consist of:

1. Aspects of local skills, namely expertise and ability or intelligence of the local community to apply and utilize knowledge (psychomotor aspects) that are hereditary to increase income, indicators are the preservation of local skills and the utilization of the results of skills in increasing income.
2. Aspects of local social processes, namely klocal wisdom that can be viewed as social capital because it is built on the existence of shared values or norms, in the form of cooperation networks and on the basis of trust between members and community leaders / adat. The indicators are mutual cooperation activities and compliance with community / adat leaders.

5. FACTOR ANALYSIS RESULTS

Factor analysis was conducted based on the number of respondents obtained from each district. The city of Medan has 21 sub-districts and 14 sub-districts were sampled each. Then the Poverty Concept and Indicator Study activity in Medan City had 294 respondents. For each questionnaire has 24 question indicator items which will be analyzed using factor analysis.

The basic form of this model:

$$X_{ik} = \lambda_{i1}f_{1k} + \lambda_{i2}f_{2k} + \dots + \lambda_{im}f_{mk} + e_{ik}$$

Where :

x_{ik}: value of the *i*-th variable for observation (loading factor)

f_{jk}: value of the *j*-th factor for *k*-th observation (also called Scores factor)

λ_{ij}: the relationship of the *i*-th variable to the *j*-th factor, where there are *m* factors and *p* variables, $m < p$

6. KMO AND BARTLETT'S TEST

KMO and Bartlett's Test is useful to show the feasibility test of factor analysis. KMO is a comparison index between the observation correlation coefficient and its partial correlation coefficient. KMO value is considered sufficient if more than 0.5 and shows the suitability of the use of factor analysis and is suitable for use in factor analysis.

Table 1. KMO and Bartlett's Test

Kaiser-Meyer-Olkin Measure of Sampling Adequacy.		649
Bartlett's Test of	Approx. Chi-Square	1238,121
Sphericity	df	276
	Sig.	.000

Source: Analysis Results, 2019

The analysis shows that the KMO MSA (Keizer Meyer Olkin Measure of Sampling Adequacy) value in the table is 0.649. These results indicate that the instrument is valid because the KMO MSA value has a value above 0.5. Then Bartlett's Test of Sphericity shows a value of 276 with a significance of 0,000 so that it can be concluded that the instrument is valid.

Table 2. Communalities

No	Indicator	Extraction Value
1	House 1	.632
2	House 2	.546
3	House 3	.589
4	House 4	.364
5	House 5	.481
6	Social Economy 1	.619
7	Socio-Economic 2	.441
8	Socio-Economic 3	.222
9	Social Economy 4	.6771
10	Asset 1	.537
11	Asset 2	.749
12	Asset 3	.688
13	Culture 1	.500
14	Culture 2	.568
15	Culture 3	.650

16	Culture 4	659
17	Government Policy 1	706
18	Government Policy 2	.543
19	Social 1	.518
20	Social 2	.637
21	Family 1	.638
22	Family 2	.610
23	Food Security 1	603
24	Food Security 2	498

Source: Analysis Results, 2019

From table IV.25 shows 24 indicators tested in factor analysis. If the extraction value is greater than 0.5, it indicates that the indicator meets the communality requirements. If the indicator with an Extraction value is less than 0.5 then the indicator does not meet the communality requirements and must be excluded from testing. In this case, indicators that do not meet the requirements for communality are indicators for houses 4, houses 5, sosek 2, and food security 2.

Table 3. Dominant Factors Affecting Poverty

NO.	Factor	Dominant Factors	Eigenvalues (%)
1	Factor 1	Housing	13,594%
2	Factor 2	Social economy	8.603%
3	Factor 3	Assets	7,551%
4	Factor 4	Culture	7.237%
5	Factor 5	Government policy	6.532%
6	Factor 6	Social	5.543%
7	Factor 7	Family	4.570%
8	Factor 8	Food security	4.494%

Source: Results of analysis, 2019

This table explains that from the 24 indicators inputted, the results of the factor analysis grouped into 8 factors based on eigenvalue > 1, namely:

1. Factor 1 is able to explain variations of 13.594%
2. Factor 2 is able to explain variations of 8.603%
3. Factor 3 is able to explain variations of 7,551%
4. Factor 4 is able to explain variations of 7.237%
5. Factor 5 is able to explain variations of 6.532%
6. Factor 6 is able to explain variations of 5.543%
7. Factor 7 is able to explain variations of 4.570%
8. Factor 8 is able to explain variations of 4.494%

The eight factors as a whole can explain the variation of 58.124%.

Table 4. Component Matrix

No.	Factor	Group Indicators
1	Factor 1	Culture 1, culture 4, family 1
2	Factor 2	Culture 3, social 2
3	Factor 3	-
4	Factor 4	House 1, asset 2
5	Factor 5	House 2, house 3
6	Factor 6	asset 3
7	Factor 7	Sosek 1
8	Factor 8	sosek 4

Source: Results of analysis, 2019

Based on the component matrix table which has not been rotated, it is clear that grouping on factor 1 is an indicator of culture 1, culture 4, and family 1. Indicators grouping on factor 2 are cultural indicators 3, social 2. While indicators that cluster on factor 3 do not exist. The indicators that cluster on factor 4 are houses 1, assets 2. The indicators that are clustered in factor 5 are houses 2, houses 3. The indicators that are clustered in factor 6 are assets 3. While those that are grouped on factor 7 are sosek 1. The indicators that are grouped on factor 8 is and sosek 4. If you pay attention, there are still factors that do not have indicators such as factor 3. So to solve the problem the rotation method is used.

Table 5. Rotated Component Matrix

No.	Factor	Group Indicators
1	Factor 1	Culture 1, culture 4
2	Factor 2	Culture 3, social 1, social 2
3	Factor 3	House 2, house 3
4	Factor 4	Government policy 1, family 1
5	Factor 5	House 1, asset 2
6	Factor 6	Socio-Economic 2, asset 1, asset 3
7	Factor 7	Food security 1
8	Factor 8	Sosek 1, sosek 4

Source: Results of analysis, 2019

Based on the rotated component matrix table, it is clear that those who group in factor 1 are cultural indicators 1, culture 4. While those that group on factor 2 are cultural indicators 3, social 1, social 2. The indicators that cluster on factor 3 are houses 2, houses 3. While the indicators that are grouped in factor 4 are government policies 1, and families 1. The indicators that are grouped in factor 5 are houses 1, assets 2. The indicators that are grouped in factor 6 are sosek 2, assets 1, and assets 3. While those that are grouped on factor 7 is food security 1. The indicators that cluster on factor 8 are sosek 1 and sosek 4.

Table 6. Component Transformation Matrix

No.	Factor	Group Indicators	Correlation Value
1	Factor 1	Culture 1, culture 4	.706
2	Factor 2	Culture 3, social 1, social 2	0.729
3	Factor 3	House 2, house 3	0.119
4	Factor 4	Government policy 1, family 1	.156
5	Factor 5	House 1, asset 2	.209
6	Factor 6	Socio-Economic 2, asset 1, asset 3	0.745
7	Factor 7	Food security 1	-0,448
8	Factor 8	Sosek 1, sosek 4	.663

Source: Results of analysis, 2019

This table shows that in component 1 the correlation value is $0.706 > 0.5$. Component 2 correlation value $0.729 > 0.5$. Component 3 has a correlation value of $-0.119 < 0.5$. Component 4 has a correlation value of $0.156 < 0.5$. Component 5 has a correlation value of $0.209 < 0.5$. Component 6 has a correlation value of $0.745 > 0.5$. Component 7 has a correlation value of $-0.448 < 0.5$. Component 8 has a correlation value of $0.663 > 0.5$. Of the eight components that have a correlation value above 0.5 are component 1, component 2, component 6, and component 8. Thus factor 1, factor 2, factor 6, and factor 8 can be said to be appropriate to summarize the other eight factors. From the rotation results it can be concluded that the 24 indicators can form new factors into 8 factors, namely:

- Factor 1 includes indicators / housing factors
- Factor 2 includes indicators / socioeconomic factors
- Factor 3 includes the indicator / asset factor
- Factor 4 includes indicators / cultural factors
- Factor 5 includes indicators / factors of government policy
- Factor 6 includes indicators / social factors
- Factor 7 includes indicators / family factors
- Factor 8 includes indicators / factors of food security

While the results of the component transformation matrix can be concluded that there are 4 important factors that can summarize the other eight factors. These important factors are:

- Factor 1 includes indicators / cultural factors
- Factor 2 includes indicators / social factors
- Factor 6 includes the indicator / Asset factor
- Factor 8 includes indicators / socioeconomic factors

7. CONCLUSION

From the results of the component transformation matrix, it can be concluded that there are 4 dominant factors as poverty

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factors in Medan City, these important factors are:

1. Factor 1 covers Culture variables / factors
2. Factor 2 includes social variables / factors
3. Factor 6 includes the variable / Asset factor
4. Factor 8 includes variables / socioeconomic factors

From the results of the analysis of the factors above it can be proven that the Cultural factors, Social factors, Asset factors and Social Economic factors are the dominant factors causing poverty in Medan City. From these four factors, there are two new factors which are local wisdom factors, such as: Cultural factors and Social factors. Whereas Asset factors and Socioeconomic factors have become factors measured by BPS.

REFERENCES

- Mardimin, John. 1996. Critical Development Process in Indonesia. Canisius Publisher. Yogyakarta.
- Arif Noer Hakim. 2009. Theory and Approach to the Poverty Problem, 20 August.
- BAPPENAS. 2004. Poor Community Indicator, Jakarta
- BPS. 2011. Statistik Indonesia, Statistics Indonesia, Jakarta
- CPM. 2008. Statistics Indonesia, Statistics Indonesia, Jakarta
- Ikhsan, M. 1999. The Disaggregation of Indonesian Poverty: Policy and Analysis. Ph.D. Dissertation. University of Illinois, Urbana
- Ravallion Martin and Shaohua Chen. 2008. The Developing World Is Poorer Than We Thought, *But No Less Successful in the Fight against Poverty*. The World Bank Development Research Group August 2008 Research Paper No. 2004/4
- Supardi and AR Nurmanaf. 2006. Rural Household Income and Expenditures and Relation to Poverty Rate, Socio-Economic Journal of Agriculture and Agribusiness Volume 6, No.3 November 2006.
- Dercon Alkare. 2009. Counting and Multidimensional Poverty Measurement. Journal of Public Economics. 95 (7-8): 476-487.