

# **FOOD EXPENDITURE CRITERIA ANALYSIS, STATISTICS CENTER, WORLD BANK AND SAYOGYO PROFESSOR TO DETERMINE BENCHMARKING**

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## **ABSTRACT**

*Various criteria for measuring poverty lead to an interpretation that poverty is deliberately raised as a sustainable project. This is seen from the use of food expenditure criteria, statistical central agencies, world banks and others. As a result, confuses local government when there is assistance from the central government. The central government is guided by the poverty rate produced by the Central Bureau of Statistics, while the local government uses the National Family Planning Coordinating Board, and this uniformity also creates conflict with local communities. The research was conducted in Bogor District. Population is three villages, and than sample three is 122 samples. The Research shows that according to the World Bank's poor criteria are 87.5% and 23.3% are not poor, whereas according to the criteria of poor Food Expenditure 93.8% and 12.2% are not poor. Meanwhile, according to the criteria of poor Professor Sayogyo are 96.9% and 5.6% are not poor*

**Key words:** food expenditure, central bureau of statistics, world bank, sayogyo, benchmarking.

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## 1. INTRODUCTION

### 1.1. Background

In Indonesia the term new family is formulated by the government since the government issued of Law No. 10 of 1992 about Population and Family Development. Previous concepts were developed by some experts such as: (Sayogyo in Iskandar,2012) [5] measures the level of family welfare by using poverty line criteria based on the equivalent kilogram of rice. Poor families are households with income equivalent to 240-320 kg of rice per year for rural areas and 360-480 kg of rice per year for urban areas. The poverty line used by (the World Bank (WB), 2018) [14] is 2 USD per person per day. According to (Rusli et al in Sumarti 1999) [13] the poverty line indicates the adequacy of the minimum physical needs of household food of 2100 calories/persos/day, and the minimum physical requirement is not food with expenditure of Rp. 13,295/capita/ month for rural areas.

The Ministry of Social Affairs defines poor families are families who have no livelihoods or have low-income livelihoods, very low incomes, housing and environmental conditions unhealth,and low education. To measure the level of family welfare, (the National Family Planning Coordinating Board (NFPCB), 1998) [6] has developed 23 indicators that has described the level of fulfillment of basic family needs (religion function, economic function, reproductive function), psychological social (socialization and education function, love function) and development protection needed or protection, socio-cultural functions) and social awareness (the function of environmental counseling) (Sumarti,1999) [13] Thus, when talking about the poverty is also talking about welfare. Various criteria for measuring poverty levels result in "up and down" of the nation's poverty that can lead to various interpretations that poverty is deliberately raised as a sustainable project (Duniaesai.Com, 2006) [3] It is caused by the prevention program so far using the macro data of Susenas results by (Central Bureau of Statistics (CBS), 2017) [1] and micro data of Pre-prosperous Family registration and Family Prosperous I by {National Family Planning Coordinating Board (NFPCB) 1998) [6] To measure poverty, and according to (Central Bureau of Statistics (CBS) 2017) [1] uses a poverty line derived from basic caloric needs of at least 2100 kcal or approximately Rp.152.847 per capita per month. Poverty line for urban areas is Rp.175.324, and for rural areas is Rp.131.256. So according to (Iskandar, 2012) [5]. it can be confused the local government when there are funds from the central government. The central government uses the poverty rate generated by Central Bureau of Statistics (CBS), while the local government uses the National Family Planning Coordinating Board (NFPCB) criteria as the target. It is uniformity also caused conflict at the local community level. For example, in East Sumba District of East Nusa Tenggara province when distributing rice for poor families, the number of poor families according to Central Bureau of Statistics (CBS) is not the same as the number of poor families according to National Family Planning Coordinating Board (NFPCB), or the number of poor families according to Central Bureau of Statistics (CBS) is less than the amount poor families according to National Family Planning Coordinating Board (NFPCB). The uniformity also creates vertical conflicts as well as horizontal conflicts at the local community level. Vertical conflicts can lead to protests and demonstrations against the government, whereas horizontal conflicts can occur between citizens who are dissatisfied with families who are in fact unworthy of assistance, which should be given to the families in real terms according to chairman of the neighborhood, Village Head. So, the factors that the researchers to do some research to find a benchmark of poverty, and it is hoped that the government can use a single criterion to measure the poverty of the nation, and the government does not use various criteria from various ministries in this country.

## 1.2. Research Purposes

The objectives of this study are as follows:

1. To find out the influence of socio-economic characteristics on poverty
2. Explain the sensitivity and specificity of various criteria for measuring poverty
3. Analyze the influence between BPS criteria and World Bank criteria, Food Expenditure criteria and Professor Sayogy criteria

## 2. DATA USED AND BENCHMARKING DETERMINATION

The research was conducted in Bogor District, Sukajaya Sub-district, Sipayung Village, Sukajaya Village and Harkat Jaya Village. The research was conducted in January 2017. According to (Sugiyono,2009) [12]. Sampling in the research is a cluster of two phases that separated the population according to certain stages randomly. So the sampling technique is Probability Sampling which is sampling techniques that provide equal opportunity for each level of the region of a population to be selected to be sampled. Sampling according to (Palte scheme,1978) [7] as follows: Population one is one Distric, and than sample one is one Distric. Population two is one Subdistric, and than sample two is one Subdistric.

**Table 1.**Determination of Sensitivity Index and Specificity of Poverty Indicator

Measuring Tool I	Measure Tool II		Amount
	Poor	Not Poor	
Poor	1	2	1 + 2
Not Poor	3	4	3 + 4
Amount	1 + 3	2 + 4	N

Information:

- 1 = true true poor,
- 2 = false positives,
- 3 = false negative,
- 4 = negative is true not poor.

$$N = 1 + 2 + 3 + 4,$$

$$\text{Sensitivity} = 1/(1 + 3),$$

$$\text{Specificity} = 4/(2 + 4)$$

(1)

The Chi Square formula as follows:

$$X^2 = \sum \frac{(O - E)^2}{E}$$

Information:

X<sup>2</sup> = Chi Squares

O = Observation frequency

E = Frequency of expectation

(2)

Population three is three villages, and than sample three is 122 samples. Data analysis refers to the above statement, namely: First Goal. The socio-economic characteristics affect poverty is used statistical descriptive analysis (Sugiyono, 2009) [12]. Second Goal.To test whether the data obtained from respondents have reliability and validity used two indicators of testing is the test of the sensitivity and specificity. The type of testing described bellow may be used by the authors to determine the sensitivity and specificity of a benchmark Central Bureau of Statistics (CBS) and compare it with other tests such as World Bank (WB) testing, Food Expenditure (FE) testing and Professor Sayogy testing, so a cross tabulation needs to be done in detecting poor or prosperous , which will feature specificity, sensitivity and

misclassification. To analyze the level of family welfare with the four methods of measuring and measuring the accuracy of the measurement method in measuring the exact sensitivity and specificity value with positive test results or negative test results and being declared the family is either poor or the family is not poor, and to facilitate understanding of the two indexes, described how to calculate or how to analyze it. Third Goal. To analyze the influence of Central Bureau of Statistics (CBS) criteria with World Bank (WB) criteria, Food Expenditure (FE) criteria and Professor Sayogyo criteria used Chi Square analysis (Slamet, 1993) [11]. Complete can be seen in Table 1.

### 3. RESULTS AND DISCUSSION

#### 3.1. Characteristics of Socio-Economic of Poor Family

##### 3.1.1. Education

The results showed that 16.4% of elementary school graduates were poor while 48.4% were not poor. In general, 26.2% who are educated or not are not poor and 73.8% are not poor. In detail can be seen in Table 2

**Table 2. Samples Distribution Based on Education and Poverty Level**

Education	Poverty Level			
	Poor		Not Poor	
	n	%	n	%
No school	1	0,8	3	2,5
Not Graduated Elementary School	7	5,7	9	7,4
Graduated Elementary School	20	16,4	59	48,4
Graduated First Graduate School	1	0,8	13	10,7
Graduated from Senior High School	3	2,5	6	4,9
Graduated College	0	0,0	2	16,4
Total	32	26,2	90	73,8

##### 3.1.2. Work

Before discussing the work let's know about terms include: private, traders, and entrepreneurs. Private is a free worker. Free employment is a self-employed but not profit-oriented person, and his undertakings are not institutionalized like barbers, traditional farmers and etc. Traders are some workers who are together in one place and among them are coordinators who are usually the main capital suppliers. Entrepreneurs are people who have entrepreneurial traits such as: the courage to take risks, virtues and exemplary in handling the business with a stand on the will and ability itself (Priyono and Soerata, 2005) [8]. The results showed that 8.2% working as civil servants / soldiers were poor, while 12.1% were not poor. In general 26.2% of those with job are poor, while 73.8% are not poor. In detail can be seen in Table 3

**Table 3. Samples Distribution Based on Work and Poverty Level**

Work	Poverty Level			
	Poor		Not Poor	
	n	%	n	%
Farmers	0	0,0	2	16,4
Fishermen	1	0,8	11	9,0
Traders	7	5,7	22	18,0
Breeders	8	6,6	29	23,8
Civil servants/ Soldiers	10	8,2	15	12,1
Entrepreneurs	6	4,9	11	9,0
Total	32	26,2	90	73,8

### 3.2. Family Poverty Level

#### 3.2.1. CrossTabulation Analysis of Family Poverty Rate

Table 3 of the cross tabulation above can be seen between the Central Bureau of Statistics (CBS) and World Bank (WB) indicating that the samples that are on the Central Bureau of Statistics (CBS) are more not poor, but the samples in the World Bank (WB) are poorer. While between Central Bureau of Statistics (CBS) and World Bank (WB) criteria there are 21 samples which by Central Bureau of Statistics (CBS) criteria and World Bank (WB) criteria altogether say are not poor. While the Central Bureau of Statistics criteria and Food Expenditure indicate that the sample that is in the criterion of Central Bureau of Statistics (CBS) is not more poor while the sample that is in the criteria of Expenditure of Food (EF) is more poor, but between Central Bureau of Statistics (CBS) and Food Expenditure (FE) criteria there are 11 samples which by Central Bureau of Statistics (CBS) criteria and Food Expenditure (FE) criteria both say not poor. Meanwhile, between Central Bureau of Statistics (CBS) and Professor Sayogy criteria indicate that the samples are in the criteria of Central Bureau of Statistics are more not poor, but the samples are on the criteria of Professor Sayogy more poor. Between Central Bureau of Statistics (CBS) criteria and Food Expenditure (FE) there are 5 samples which by Central Bureau of Statistics (CBS) criteria and criteria of Professor Sayogy both said not poor.

#### 3.2.2. Chi Square Analysis and Central Bureau of Statistics (CBS) and World Bank (WB)

Chi-Square Tests

	Value	df	Asymp. Sig. (2-sided)	Exact Sig. (2-sided)	Exact Sig. (1-sided)
Pearson Chi-Square	1.700 <sup>a</sup>	1	.192		
Continuity Correction <sup>b</sup>	1.101	1	.294		
Likelihood Ratio	1.841	1	.175		
Fisher's Exact Test				.307	.146
Linear-by-Linear Association	1.687	1	.194		
N of Valid Cases <sup>b</sup>	122				

a. 1 cells (25.0%) have expected count less than 5. The minimum expected count is 3.41.

b. Computed only for a 2x2 table

#### Basic Decision Making

Based on Chi Square count then

Chi Square<sub>count</sub> = 1.700

95% confidence level

Degrees free = [(Central Bureau of Statistics criteria -1) x (World Bank-1 criterion)]

= [(2-1) x 2-1] = 1

Chi Square<sub>table</sub> (0.05; 1) = 3.841

Because the probability (Asymp Sig) is 0.192 < 0.05 then Ho is rejected, it means there is a relationship between Central Bureau of Statistics (CBS) criteria and World Bank (WB) criteria, or it can be interpreted that Central Bureau of Statistics (CBS) criteria will affect the criteria of the World Bank (WB). In detail can be seen in Table 4

**Table 4.** Sample Distribution Based on World Bank Criteria, Food Spending, Professor Sayogyo with Central Bureau of Statistics Criteria as Benchmark

Poverty Criteria	Status of Poverty	Central Bureau of Statistics Poverty Criteria		Total
		Poor	Not Poor	
		World Bank	Poor	
	Not Poor	4	21	25
	Total	32	90	122
Food Expenditure	Poor	30	79	109
	Not Poor	2	11	13
	Total	32	90	122
Profesor Sayogyo	Poor	31	85	116
	Not Poor	1	5	6
	Total	32	90	122

**3.2.3. Chi Square Analysis between Central Bureau of Statistics (CBS) and Food Expenditure (FE)**

Chi-Square Tests

	Value	df	Asymp. Sig. (2-sided)	Exact Sig. (2-sided)	Exact Sig. (1-sided)
Pearson Chi-Square	.884 <sup>a</sup>	1	.347	.510	.283
Continuity Correction <sup>b</sup>	.368	1	.544		
Likelihood Ratio	.977	1	.323		
Fisher's Exact Test					
Linear-by-Linear Association	.877	1	.349		
N of Valid Cases <sup>b</sup>	122				

a. 1 cells (25.0%) have expected count less than 5. The minimum expected count is 3.41.

b. Computed only for a 2x2 table

**Basic Decision Making**

Based on Chi Square count then

Chi Square<sub>count</sub> = 0,884

95% confidence level.

Free degree = [(Central Bureau of Statistics criteria - 1) x (Food Expenditure-1 criterion)]  
= [(2-1) x 2-1] = 1

Chi Square<sub>table</sub> (0.05; 1) = 3.841

Because the probability (Asymp Sig) 0.347 < 0.05 then Ho is rejected, it means there is a relationship between Central Bureau of Statistics (CBS) criteria with Food Expenditure (FE) criteria, or it can be interpreted that Central Bureau of Statistics (CBS) criteria will affect the criteria of Food Expenditure (FE).

**3.2.4. Chi Square Analysis between Central Bureau of Statistics (CBS) and Professor Sayogyo.**

Chi-Square Tests

	Value	df	Asymp. Sig. (2-sided)	Exact Sig. (2-sided)	Exact Sig. (1-sided)
Pearson Chi-Square	.298 <sup>a</sup>	1	.585		
Continuity Correction <sup>b</sup>	.005	1	.944		
Likelihood Ratio	.327	1	.568		
Fisher's Exact Test				1.000	.502
Linear-by-Linear Association	.296	1	.587		
N of Valid Cases <sup>b</sup>	122				

a. 2 cells (50.0%) have expected count less than 5. The minimum expected count is 1.57.

b. Computed only for a 2x2 table

Basic Decision Making

Based on Chi Square count then

Chi Square<sub>count</sub> = 298

95% confidence level.

Degrees free = [(Central Bureau of Statistics criteria -1) x (criteria of Professor Sayogyo-1)]=[(2-1) x 2-1)] = 1

Chi Square<sub>table</sub> (0.05; 1) = 3.841

Because the probability (Asymp Sig) 0,585<0,05 then Ho is rejected, it means there is a relationship between Central Bureau of Statistics (CBS) criteria with Profesor Sayogyo criteria, or it can be interpreted that Central Bureau of Statistics (CBS) criterion will influence Professor Sayogyo criteria.

**3.3. Accuracy of Poverty Measurement Criteria**

According to (Iskandar, 2012) [5], sensitivity and specificity tests were conducted to assess various indicators of poverty. Sensiitifitas (Se) is the ability to find poor households, whereas spesifisitas (Sp) is the ability to find non-poor households. Chi Square analysis shows that there is a real relationship (p <0.05) between World Bank (WB) poverty criteria, Food Expenditure (FE), and Professor Sayogyo. A very high percentage of misclassification (quasi positives) occurred on Professor Sayogyo's criteria of 96.9%, while misclassification on Central Bureau of Statistics (CBS) criteria was 94.4%. According to the criteria Professor Sayogyo categorizes the household is poor, it turns out according to Central Bureau of Statistics (CBS) criteria is not poor. A fairly high percentage of misclassification occurred in Food Expenditure (FE) criteria of 93.8%, and misclassification in Central Bureau of Statistics (CBS) criteria was 87.8%. According to the criteria of Food Spending categorize households as poor, it turns out that according to Central Bureau of Statistics (CBS) criteria is not poor. The low percentage of misclassification occurred at the World Bank's (WB) criteria of 87.5%, and the misclassification in the Central Bureau of Statistics (CBS) criteria was 76.7%.

According to the World Bank (WB) criteria to categorize the household as poor, but according to Central Bureau of Statistics (CBS) criteria is not poor

### **Poverty according to the Central Bureau of Statistics**

Using of Central Bureau of Statistics (CBS) poverty criteria is only able to identify 23.0% poor outcomes, and the remaining 77.0% are non-poor families. The low percentage of poor families is caused by too low the poverty line that is used when compared to income, so household expenditure is much higher, and the poverty line is far below expenditure. Based on the limit of food and non-food sufficiency, Central Bureau of Statistics (CBS), 2017) [2] determines the poverty line with income below Rp.600.000 / month. The weakness of Central Bureau of Statistics (CBS) criteria are: (1) Census block sampling technique for urban areas conducted by Susenas is not general and unable to represent the whole household. This is evidenced by the results of research indicating that the allocation of expenditure is much higher when compared the income, (2) the length of time of interview and the limitation of the respondent's memory, the lack of stratification and the reluctance of respondent to answer correctly inhibits the achievement of expected data quality, (3) Different references, 1 week for food, a month and a year for non-food consumption arise many problems, and (4) Some of the variables expressed in respondents do not reflect real household expenditures, eg households owning their own houses should be estimated and considered as an expense. Another example, if the household receives rice aid, then the price of rice is considered to be an expense, if they attend a consumed food party. It is estimated as expenditure. Another weakness has not linked the existence of facilities and infrastructure of the region with the number of residents so that the existence of such infrastructure can reach them, they can not be described (Rusli and Said in Sumarti, 1999) [13] The advantages of Central Bureau of Statistics (CBS) criteria are easily done manually by the local authorities, even using a simple statistical analysis tool such as the sum of scores.

### **Poverty based on Food Expenditure**

Based on the indicator of poverty according to food expenditure criteria is 25.0% including the poor category, and remaining is 65.0% belong to non-poor families. According to (Raharto and Romdiati, 2000) [10] individuals who have high income levels will buy food at a more expensive price and allocate for larger non-food expenditure. But, in low-income families, most of their revenues are allocated to food needed and buy food at lower prices. Therefore, the large proportion of spending on food is a reliable indicator of poverty. According to (Rambe, 2005) [9] some of the disadvantages of the Food Expenditure (FE) criteria are: (1) estimating the number and type of consumption of proper food (consumption basket), especially in the event of changes in food consumption patterns and great price fluctuations. However, the use of the consumption basket approach to calculate the number of poor people is actually controversial in terms of nutrition, since the money value of the calories consumed from the cheapest food available in the market will be much lower than the same calorie price of food with a balanced nutritional composition consisting of grains, fish, meat and vegetables (Irawan and Sutanto, 1999) [4], (2) The poverty line through the Food Expenditure (FE) approach is very sensitive to price factors, the determination of minimum basic needs standards, type of commodity package, non-food component imputation and regional disparity and characteristics. The complexity to calculate of the poverty line of consumption illustrates calculating the number of poor people is not as simple as imagined. By extending the dimension of poverty to other dimensions beyond the dimension of consumption, it will further add to the complexity of counting the number of people living in poverty. Therefore, there must first be a social agreement to determine what dimensions will be included in the calculation. In addition to the dimensions of consumption, other

dimensions such as education, health, future security, social welfare and others need to be accommodated in the calculation of poverty levels.

### **Poverty According to The World Bank**

Using the World Bank's (WB) poverty criteria is only able to identify 23.0% poor outcomes, and 77.0% are non-poor families. The low percentage of poor families is caused by an exorbitant USD value of 2 USD / person / day, or Rp 27,114 / person / day (1 USD = Rp.13.557) (World Bank (WB) on January 18, 2018) [14], if we compared with the income earned to poor families, because household expenditures are so much larger, so the poverty line is below expenditure. The weaknesses of the World Bank's (WB) criteria are: (1) not general in nature because they are unable to represent the whole poor household. Because there are households living in urban areas will rely on income in the form of rupiah so easy to calculate because of dependence on rupiah. In contrast, there are households living in rural areas whose expenditure is to buy soap, sugar, etc. whereas daily meals do not have to be counted with money but with their own produce such as rice, corn, green beans, bananas, etc., (2) World Bank (WB) criteria are unable to identify the income of a beggar with a civil servant, so on a beggar with six family members can be categorized as not poor if they are begging all on a daily basis with an average income of Rp 25,000 / person / day. Then the monthly income is as follows:  $6 \times 30 \times \text{Rp.}50.000 = \text{Rp.}9.000.000$ . So if converted to World Bank (WB) criteria with an income of Rp 50,000 / person per day then the family is not categorized as a non-poor family. Conversely a Civil Servant class III / b with the number of members of 6 people all not working with a salary of Rp. 3,000,000 then:  $\text{Rp.}3.000.000 : 6 : 30 \text{ days} = \text{Rp.}17.777$ . So if converted to World Bank criteria with income of Rp 17,777 / person per day then the family is categorized as poor family. Hence, the government is currently seeking all civil servants to receive remuneration allowances or to increase the additional income scheme, so that a civil servant is not categorized as a poor family.

### **Poverty According to Professor Sayogyo**

(1) There is a different food sovereignty from one region to other that is not taken into account by Professor Sayogyo. So if (Sayogyo in Iskandar 2012) [5] generalizes all the same areas are 320 kg / person / year for rural areas that would not be the same because there are certain areas, for example in East Indonesia an average consuming corn and sago as staple food, while in western Indonesia consuming rice as a staple food. The exchange rate will vary because the price of corn and sago different from rice. So it is clear that a month and a year for non-rice consumption creates a difference in quality, quantity and price, (2) Sayogyo is also less predicting the development of domestic rice production, where some regions such as Papua in East Indonesia's rice price and others have been equated with prices which applies in urban areas of Western Indonesia, so if Sayogyo says 480 kg / person / year is not possible because the price of rice in urban areas and in rural areas today is 2017-2018 the exchange rate is the same that is an average of Rp 8.000 / kg, and then, to know the Sensitivity and Specificity of World Bank (WB) Size, Professor Sayogyo, Food Expenditure (FE) with Central Bureau of Statistics (CBS) criteria as Benchmark. To determine the high sensitivity and specificity of poverty, it can be explained in Figure 1 below. In detail can be seen in Table 5 The research shows that 79% are poor and 21% are not poor according to World Bank (WB) criteria, and as many as 26% are poor according to Food Expenditure (FE) criteria and 74% are not poor, whereas according to Professor Sayogyo's 95% poor and non-poor criteria 5%. The research shows that 77% are non-poor and 23% are poor according to Central Bureau of Statistics (CBS) criteria, In connection with the up and down of poverty figures

emerged various criticisms of the empowerment model that has been done. They can be seen in picture 1 below.

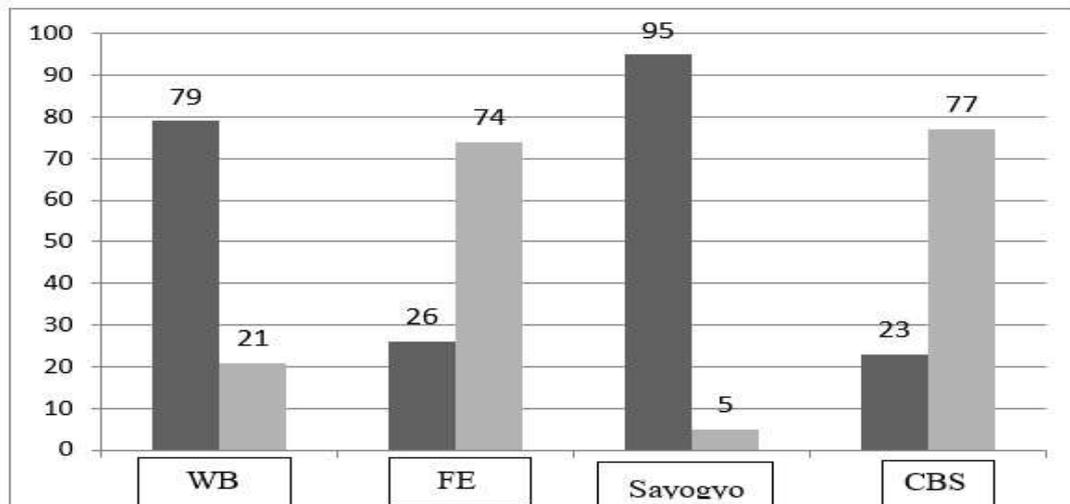


Figure 1: Graph of Poverty Levels of Various Criteria

■ = Poor □ = Not Poor

Table 5. Poverty Rate by World Bank Measure, Food Expenditure, Professor Sayogyo by Central Bureau of Statistics Criteria as Benchmark

Indicator	Status of Poverty	Central Bureau of Statistics Poverty Criteria						Chi Square
		Poor		Not Poor		Total		
		n	%	n	%	n	%	
World Bank	Poor	28	87,5	69	76,7	97	79,0	0,192
	Not Poor	4	12,5	21	23,3	25	21,0	
	<b>Total</b>	32	100	90	100	122	100	
Food Expenditure	Poor	30	93,8	79	87,8	32	26,2	0,347
	Not Poor	2	6,2	11	12,2	90	73,8	
	<b>Total</b>	32	100	90	100	122	100	
Professor Sayogyo	Poor	31	96,9	85	94,4	116	95,1	0,585
	Not Poor	1	3,1	5	5,6	6	4,9	
	<b>Total</b>	32	100	90	100	122	100	

#### 4. CONCLUSION

The conclusions in this study are as follows: (a) The study shows that 16.4% of elementary school graduates are poor and 48.4% are not poor. 8.2% work as a poor civil servant / soldier and 12.1% are not poor. Meanwhile, 26.2% who have job are poor, and 73.8% are not poor; (b) The Research shows that according to the World Bank's (WB) poor criteria are 87.5% and 23.3% are not poor, whereas according to the criteria of poor Food Expenditure (FE) 93.8% and 12.2% are not poor. Meanwhile, according to the criteria of poor Professor Sayogyo are 96.9% and 5.6% are not poor; (c) The Research shows that there is a correlation between Central Bureau of Statistics (CBS) criteria with World Bank (WB), Food Expenditure (FE), and Professor Sayogyo; (d) The Research shows that there are differences of previous researchers with research conducted by the researcher, which is located on the minimum physical requirement, while the researcher uses the indicator of food and non-food expenditure, based on the family having income of 320 kg of rice / year / person, others use poverty indicators based on lack of livelihoods, the researchers used Central Bureau of Statistics (CBS) and World Bank (WB) criteria to determine the poverty line. (e) Based on the weakness of various efforts then the solution is done through a "Participatory" approach.

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