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IDENTIFICATION OF POVERTY PREDICTORS IN EX-RESIDENCY OF BANYUMAS IN TERMS OF HUMAN RESOURCES ASPECT

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ABSTRACT

Poverty rate in the areas of the Ex-Residency of Banyumas varies greatly. Cilacap Regency and Banyumas Regency had a lower poverty rate than that of Banjarnegara Regency and Purbalingga Regency. The poverty rate between regencies/cities in Ex-Residency of Banyumas varies due to the different characteristics of each regency. This study aimed to identify the predictors to determine whether the regencies are in the category of high or low poverty rate in ex-Residency of Banyumas. The predictors used in this study represented aspects of human resources. The predictors included population growth, education level, and health level. The analytical method used in this studywas discriminant analysis. Discriminant analysis was used to identify predictors of poverty in ex-Residency of Banyumas. This study classified four areas in the research areas where Banyumas Regency, Cilacap Regency, and Banjarnegara Regency were included in the classification of the regency group with low poverty rates, while Purbalingga Regency was included in the regency group with high poverty rate. Furthermore, the determinant analysis obtained the results that population growth and health level were the predictors to determine whether the regencies are in the category of high or low poverty rate in ex-Residency of Banyumas. In addition, population growth was the best predictor of poverty in terms of human resources. Based on the research findings, the implications of this research are 1) the central government and local governments in the areas of Ex-Residency of Banyumas should always seek to suppress population growth rate through the Family Planning Program (KB), 2) the central government and local governments in the areas of Ex-Residency of Banyumas should also continuously strive to increase the number and quality of health facilities available to the community.

Keywords: *education level; health level; human resources; population growth; poverty*

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INTRODUCTION

Multidimensional poverty can be seen from various aspects, including primary and secondary aspects. Primary aspects are poor assets, socio-political organization, low

knowledge and skills. Meanwhile, the secondary aspects are poor in social networks, financial resources and information, and access to health (Kuncoro, 2010). In developing countries such as Indonesia and developed countries such as the United States, poverty is an issue that has not been completely resolved.

Poverty is the inability of individuals to meet the minimum basic needs for a decent life, the income below the minimum amount needed to meet the basic needs is termed poverty line or poverty threshold. Poverty has many dimensions other than the income dimension (Todaro & Smith, 2003). Other dimensions of poverty can be seen from the opportunity to obtain health care and long life, the opportunity to have knowledge and skills, and so on. The bottom line is, poverty is closely related to a narrow window of opportunity for an individual in making choices in life. In this case, poverty has a relationship with food security.

Poverty in developing countries is the outcome of the interaction between six characteristics: first, developing countries have relatively low level of national income and relatively slow economic growth rate. Second, third world countries have relatively low per capita income and slow economic growth, even economic stagnation. Third, there is unequal income distribution. Fourth, the majority of the population in third world countries live under the pressure of absolute poverty. Fifth, there are poor and limited health facilities and services, malnutrition and disease outbreaks, so that infant mortality rates in third world countries are ten times higher than those in developed countries. Sixth, educational facilities in developing countries and contents of the curriculum are irrelevant or inadequate. In addition, the failure rate of education completion is relatively high, while the literacy rate remains low (Todaro & Smith, 2003).

Poverty remains an issue in regencies/cities in Central Java Province. The poverty rate between regencies/cities in Central Java Province varies due to the different characteristics of each regency/city. In addition, the government implemented poverty reduction policies for each district/city in Central Java Province, including the regencies in Ex-Residency of Banyumas.

Poverty rate in the areas of the Ex-Residency of Banyumas varies greatly. In 2019, Cilacap Regency and Banyumas Regency had a lower poverty rate than that of Banjarnegara Regency and Purbalingga Regency. Poverty rates of Cilacap Regency and Banyumas Regency were 10.73 percent and 12.53 percent, respectively, while the poverty rates of Banjarnegara Regency and Purbalingga Regency were 14.76 percent and 15.03 percent, respectively.

High poverty is an indicator of a decline in level of welfare, which also means a decrease in the level or changes in people's consumption patterns (Sukiyono et al., 2016).In simple terms, poverty is defined as a condition in which people are unable to meet their basic needs for food (Hermanto, 1995).

Several researchers have conducted studies related to poverty (Sengul & Tuncer, 2005), (Nahib, 2013), (Amin & Rahman, 2019), (Umar, 2013), (Kumar, 2019), (Michalek & Majadova, 2019). In a study in Turkey, 47 percent of households belonged to the poor category and seven percent of households were categorized as very poor in Turkey. The results also indicated that the food needs of very poor households are more responsive to income and prices than those of poor households (Sengul & Tuncer, 2005).

The study results in Lebak Regency indicated that 63 percent of villages in Lebak Regency are included in moderate poverty category. Population living in poverty also affects food security. Based on the spatial pattern of food security, 55 percent of villages in Lebak Regency are included in moderate food security category (Nahib, 2013).

In Makassar City, distribution of the poor and the characteristics of urban poor vary spatially between sub-districts in Makassar City. Income and expenditure levels of the poor are particularly low. Expenditure for consumption, especially food is the largest proportion and almost all of the income is allocated for the food consumption(Umar, 2013).

A study correlated poverty with energy and employment opportunities in Bangladesh. The results of this study indicated that access to energy encourages job creation, increases productivity and economic growth and increases income for the poor (Amin & Rahman, 2019).

A study examined the impact of international remittances on poverty reduction in Bangladesh. The results of this study indicated that the poverty rate of households receiving remittances is lower than the poverty rate of households that do not receive remittances. This indicated that international remittances play a role in poverty reduction efforts in Bangladesh (Kumar, 2019).

In the European region, identical findings were obtained. The study aimed to identify the characteristics of poverty in Slovakia. The results indicated that different economic, social, demographic and cultural conditions determine the characteristics of poverty in each region (Michalek & Majadova, 2019).

Previous studies have only been limited to mapping poverty and its characteristics. This study aimed to identify predictors of poverty in Ex-Residency of Banyumas in terms of human resource aspects. This is **a state of the art or novelty** of this study.

This study aimed to identify the predictors to determine whether the regencies are in the category of high or low poverty rates in Ex-Residency of Banyumas. The predictors to be studied represented aspects of human resources. The predictors included population growth, education, and health.

METHODS

The research method used in this study was a quantitative research method, where the data collected in this study was analyzed quantitatively. This study used secondary data. Secondary data was obtained from the Central Statistics Agency. This included data on poverty rates, population growth, school participation rates, number of health facilities, and population of Banyumas Regency, Purbalingga Regency, Cilacap Regency, and Banjarnegara Regency for 2011-2019 period.

The analytical method used in this study was discriminant analysis. Discriminant analysis was used to identify predictors of poverty in Ex-Residency of Banyumas in terms of human resource aspects. In this case, it was to identify the predictors that make a regency, including a regency with a high or low poverty rate in Ex-Residency of Banyumas. This analysis was a statistical technique to classify individuals or objects into separate groups based on a number of independent variables (Kuncoro, 2001).In the discriminant analysis, groups were separated, including regencies with high and low poverty rates. The classification of these groups was based on the comparison results of poverty rate of each regency in Central Java Province.with the poverty rate.

Furthermore, an assessment of the role of a set of predictors was carried out to identify predictors that make regencies with high or low poverty rates. Poverty-related predictors included population growth, education level, and health. The discriminant function is based on the following equation:

$D_i = d_{1i}PG + d_{2i}EDUCATION + d_{3i}HEALTH + e_i$.....(1)

where:

PG_i = population growth

$EDUCATION_i$ = education level, represented by school participation rate

$HEALTH_i$ = health level, represented by the proportion of total health facilities to total population

Discriminant function (D_i) is applied to estimate the role of a set of predictors. The predictors include predictors related to poverty.

RESULTS

Discriminant analysis was used to identify poverty predictors in Ex-Residency of Banyumas in terms of human resources. In this case, it was to identify the predictors to determine whether the regencies are in the category of high or low poverty rates in Ex-Residency of Banyumas.

The classification of regency groups with high and low poverty rates was based on the comparison results between the poverty rate of each district and the poverty rate of Central Java Province. The classification results are presented in Table 1.

Table 1. Classification of Regency Groups with High and Low Poverty Rates

Regency	***Average Povery Rate Period 2011-2019 (in Percentage)***	***Classification***
Banyumas	17.14	1
Purbalingga	19.18	0
Cilacap	14.11	1
Banjarnegara	17.67	1

Source : Secondary data processed (2022)
Description :
The average poverty rate of Central Java Province for the period 2011-2019 = 19.17%
0= classification of regencies with high poverty rates
1= classification of regencies with low poverty rates

Based on the classification results, it can be seen that Banyumas Regency, Cilacap Regency, and Banjarnegara Regency were included in the classification of regencies with low poverty rates. Purbalingga Regency was included in the classification of the regency group with high poverty rates.

After classifying the regency group with high poverty rates and the regency group with low poverty rates, the next stage was to carry out discriminant analysis. The results of discriminant analysis are shown in Table 2, Table 3, Table 4, and Table 5. Table 2 shows the results of test of equality of group means, Table 3 shows a summary of the classification of discriminant model, Table 4 shows the results of structure matrix, and Table 5 shows the results of discriminant function analysis using three explanatory variables (coefficient of discriminant function).

Table 2. Test of Equality of Group Means

	Wilks' Lambda
Population growth (PG)	0.573*
	(0.000)
Education level (EDUCATION)	0.940
	(0.151)
Health level (HEALTH)	0.721*
	(0.001)

Source : Secondary data processed (2022)
*Description : *Significant on α = 1%*

Test of equality of group means provided the Wilks' Lambda value for each predictor. By looking at the significance level, it can be concluded that population growth (PG) and health level (HEALTH) were significant, meaning that they were included in the predictors to determine whether the regencies are in the category of high or low poverty ratesinEx-Residency of Banyumas.

Table 3. Summary of the Classification of Discriminant Model

	Dt	***Predicted Group Membership***		***Total***
		0	***1***	
Original Count	*0*	26	9	27
	1	0	1	9
%	*0*	96.3	3.7	100.0
%	*1*	0.0	100.0	100.0

Source : Secondary data processed (2022)
Description:
** 97.2% of original grouped cases correctly classified*
*** 0 = classification of regencies with high poverty rates*
1 =classification of regencies with low poverty rates

Based on Table 3, in general, the discriminant model is able to correctly allocate more than 97.2% of cases. Group membership was correctly predicted at 96.3% for regency group with high poverty rate and 100% for regency group with low poverty rate.

Table 4. Structure Matrix

	Function 1
Population Growth	0.546
Health Level	-0.393

Source: Secondary data processed (2022)

Based on Table 4, it can be seen that population growth is the best predictor of poverty in Ex-Residency of Banyumas in terms of human resources. The predictor of health level is second only to the predictor of population growth.

Table 5. Coefficient of Discriminant Function

Predictor	***Coefficient****
Population Growth (PG)	6.82
Health Level (HEALTH)	-23.46

Source: Secondary data processed (2021)
Description:
* *Chi-square = 40.77; significanton α = 1%*
The significant Chi-squarevalue at α=1% indicates statistically significant discriminant function, meaning that mean score of the two groups is significantly different.

** *The predictor of education level (EDUCATION) is insignificant, so that it is not included in the predictor to determine whether the regencies are in the category of high or low poverty rates in Ex-Residency of Banyumas.*

Based on Table 5, it can be seen that an increase in population growth increases the probability of regencies to be included in the regency group with high poverty rates. On the other hand, an increase in the health level increases the probability of regencies to be included in the regency group with low poverty rates.

DISCUSSION

The analysis results indicating that an increase in population growth increases the probability of regencies to be included in the regency group with a high poverty rate are in line with the statement of Nelson and Leibstein that population growth has a relationship with the level of community welfare. High population growth in developing countries causes the level of community welfare to not experience significant improvement and to experience a decline in welfare as well as to increase the number of poor people in the long run (Sukirno, 2000).

Malthus theory (Todaro & Smith, 2003) stated that high population growth in a country may lead to chronic poverty. Malthus stated that the number of population in a country increases rapidly according to geometric progression, while due to constant production factors, the food supply increases arithmetically. The growth of food supply cannot keep up with the population growth rate, so that per capita income (per capita food production) tends to continue to decline to such a low level that the population must survive in conditions slightly above the subsistence level. This condition pushes people closer to the poverty line due to intense competition in meeting their needs.

In the study in Bali, it was found that the effect of population growth, unemployment, and education level on the poverty rate of the regencies/cities in Bali Province. The results indicated that population growth has a positive effect on poverty rates. In addition, population growth is the most influential variable on the poverty rate of regencies/cities in Bali Province (Trisnu & Sudiana, 2019).

The results of other study also indicated that population growth contributes to an increase in poverty. This study examined the contribution of population growth, agricultural land use, and inflation to poverty in Purbalingga Regency (Sulaeman, 2020).

The results of other analysis indicated that an increase in health level increases the probability of regencies to be included in the regency group with low poverty rates. Public health is an important factor in poverty reduction policies. Access to health facilities is an important factor for economic development (Arsyad, 2009).

Samuelson and Nordhaus study on the relationship between health level and poverty rate stated that the cause of the poor population is due to low health level, nutrition and slow improvement in the quality of education. Therefore, the government must make efforts to improve health and nutrition, eradicate diseases, improve the quality of education, eradicate illiteracy, and improve the skills of the population. These efforts aim to improve the quality of human resources (Samuelson & Nordhaus, 2007).

Sisca & Abubakar (2013) study on the effect of employment opportunities, education, and health on poverty in Aceh Province. The results of this study indicated that health level has a negative effect on poverty rate.

The central government and local governments in the areas of Ex-Residency of Banyumas should always seek to suppress population growth rate through the Family Planning Program (KB). This effort can be carried out through educational efforts both for the younger generation at schools and the Family Welfare Program (PKK) members. Education for the younger generation at schools needs to be carried out in an effort to prevent early marriage. Education for PKK members needs to be carried out in an effort to reduce the risk of high-frequency births (having many children without family planning).

The central government and local governments in the areas of Ex-Residency of Banyumas should also continuously strive to increase the number and quality of health facilities available to the community. All community members are expected to have access to health facilities. Presidential Regulation of the Republic of Indonesia Number 12 of 2013 concerning Health Insurance states that the central government and local governments are responsible for the availability of health facilities and the provision of health services. In relation to the regulation, the government can provide opportunities for the private sector to participate in fulfilling the availability of health facilities and providing health services.

CONCLUSION

The results of the study indicated that population growth and health levelwere the predictors to determine whether the regencies in the areas of Ex-Residency of Banyumas are in the category of high or low poverty rates. In addition, population growth was the best predictor of poverty in Ex-Residency of Banyumas in terms of human resources.The predictor of health level is second only to the predictor of population growth. The central government and local governments in the areas of Ex-Residency of Banyumas should always seek to suppress population growth rate through the Family Planning Program (KB). In addition, the central government and local governments in the areas of Ex-Residency of Banyumas should also continuously strive to increase the number and quality of health facilities available to the community. All community members are expected to have access to health facilities.

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