Why People are Poor and Insecure: Identifying Determinants of Poverty for Peace and Security

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Introduction

Poverty is defined by the United Nations as the lack of basic capacity to effectively participate in society.[1] This could mean various things ranging from hunger, lack of income, illiteracy, to lack of access to credit. The 1995 Copenhagen Declaration described absolute poverty as "severe deprivation of basic needs." In the Philippines, Republic Act 8425, otherwise known as the Social Reform and Poverty Alleviation Act, considers an individual poor when a person cannot consistently provide for his or her basic human needs. In economic terms, poverty occurs when a family's income falls below the threshold as determined by the government.

Despite the slight variations in definitions, one could observe a central theme: poverty is consistently associated with deprivation. Since poverty is multidimensional, it highlights the various forms of inequality (e.g., income, assets, and access to services) which may gravely impact on the level of social cohesion in society. Poverty is also linked to government's inadequacy to provide basic services to the people, which include peace and security. Poverty is therefore a critical economic issue with inherent link to internal security.

Effective and efficient poverty reduction programs depend on understanding the causes of poverty at the family level. Accordingly, this study employs information for policy on how certain socio-economic, demographic, and geographical markers influence the probability of a Filipino household being poor. Econometric analysis of the determinants of poverty is conducted by examining how predetermined variables affect the likelihood of households which are living below the poverty threshold. The costs of food and non-food necessities are combined to draw regional poverty lines. Policy implications are then explored to address the issues revealed by the study.

Related Literature on Poverty Incidence

While the literature on poverty measurement is abundant, there are few studies dealing with finding the determinants or causes of poverty.[2]

Among others, Albert et al's study in 2004 created a poverty profile for the Philippines using the Family and Income Expenditure Survey (FIES) for the year 2000. To note, a poverty profile summarizes the information on poverty in a locale and identifies the characteristics of the poor.[3] The study revealed that poverty incidence was higher in rural areas, agricultural households, and large families—especially in the Autonomous Region of Muslim Mindanao (ARMM) and in the Bicol Region. The study also conducted multivariate analysis of the determinants of per capita income. It was found out that in the rural areas, the number of children as well as the gender (i.e. being male) and educational attainment of household head were directly related to the reduction of per capita income of a family.

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Albert et al's study, however, did not account for geographical variations in the multivariate analysis, considering that there were differences in poverty incidence across regions, and between rural and urban areas. The analysis can be considered as an indirect approach to examine the determinants of poverty because it only took into account variations in per capita income. It must be noted that a household's per capita income could be relatively lower but not poor, when compared against poverty thresholds set by government.

A study of poverty incidence in Ethiopia by Bogale et al in 2005 surveyed 149 households in three rural districts in Ethiopia using a *food threshold* to separate the poor from the non-poor in the sample population. To note, food threshold was operationally defined by the National Statistics Coordinating Board in 2007 as the minimum income and/or expenditure required for a family and/or individual to meet the basic food needs, which satisfies the nutritional requirements for economically and socially desirable physical activities.[4] While the study deliberately excluded non-food necessities in the computation of the poverty line, it identified the factors that contributed to poverty incidence in Ethiopian rural areas by regressing the poor/non-poor variables with other factors which were thought to be poverty-generating.

Bogale et al concluded that household resource endowments such as land area and livestock were important factors that determined poverty in rural areas. A notable result of their study was the significant contribution of the gender variable to the likelihood of a household being poor. Results of the study showed that male household heads had higher probability of being poor, compared to their female counterparts.

However, the fact that the study used the calorie benchmark could also mean that households with male heads in rural areas seemed to prioritize non-edible commodities over food. In fact, Bogale et al found out that actual poverty count was higher in female-headed households than their male counterparts. The study also revealed that household size and composition did not contribute

to the probability of a household being poor. The predominance of child labor in the rural area could also be a factor in this regard.[5]

In Kenya, on the other hand, Achia et al's poverty analysis in 2010 diverged from the conventional, income-based indicator when it used health survey data to identify key determinants of poverty. In terms of policy formulation, an interesting outcome of the study was the discovery that ethnicity and religion were significantly related to poverty of a Kenyan household. The study, nevertheless, did not expound on these findings, perhaps due to varying practices across religions and ethnic groups which contributed to poverty in Kenya. Other factors that were found to be significantly related with the likelihood of being poor were age and educational attainment of household head, as well as the rural/urban variable.

Methodology

The data examined in this policy brief came from the Family and Income Expenditure Survey or FIES 2009, a national survey of households that determines general sources of income, prevailing spending patterns, and general levels of expenditure in the Philippines. The FIES is used to update the weights of the consumer price index (CPI) and estimate of household accounts in the System of National Accounts. It also serves as basis for the measurement of the human development index (HDI), and more importantly, determines income distribution and degree of inequalities among families. The National Statistics Office (NSO) conducts the survey every three years since 1985.

Identifying the Poor through Poverty Line. For the purpose of this study, it is necessary to determine who among the sample population are poor and non-poor, in essence drawing a line that separates the two. By doing so, one can examine characteristics which are expected to be poverty-generating and analyze how these attributes vary between poor and non-poor households. Given that income is an official indicator of poverty,[6] per capita income of each household is compared

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against the poverty thresholds provided by the National Statistics Coordinating Board (NSCB), the country's official source of poverty statistics. The basic needs cost method was used to calculate the provincial poverty lines for rural and urban areas. Basically, the NSCB computed the income required for an individual to meet his or her minimum food and non-food requirements.[7] A household is considered poor (Y=1) if its per capita income is less than the poverty threshold, or non-poor (Y=0) if its per capita income is equal or greater than the poverty line.

Method of Analysis: Logistic Regression. Given that our dependent variable is a binary outcome (i.e., poor and non-poor), logistic regression can be used for the analysis of the data.[8] The goal of the logistic regression analysis is to estimate the probability that a sample (household) is from the population Y=1 (poor) depending on certain independent variables.

The Empirical Model. A probability model is designed in which the chances of being poor are linked to certain socio-economic, demographic, and geographical markers which are expected to be poverty-generating. The model allows for deeper insights about the determinants of poverty in the Philippines, and eventually explore specific polices which can contribute substantially in alleviating poverty in the country.

Demographic Variables. For the demographic variables, the total number of household numbers is included in the probability model. An additional family member results in an increased probability of the household living below the poverty threshold. The age and gender of the household are also included in the analysis. The probability of being poor is expected to decrease with age, based on the premise that the older a person is, the larger his or her assets are. Furthermore, other members of the household ages with the household head, meaning that they would reach a period where they would earn for themselves and eventually leave the household to build a family of their own.

Socio-economic Variables. The effects of economic and educational variables are captured in the probability model by including the total number of employed family members that earn income, and a categorical variable on whether the household is agricultural or not. Meanwhile, the only education information available in FIES 2009 is the household head's highest educational attainment. For this study, the education variable is arranged according to its equivalent categorical values: No Grade Completed =0; Elementary Undergraduate =1; Elementary Graduate =2; High School Undergraduate =3; High School Graduate =4; College Undergraduate =5; and College Graduate and Beyond =6.
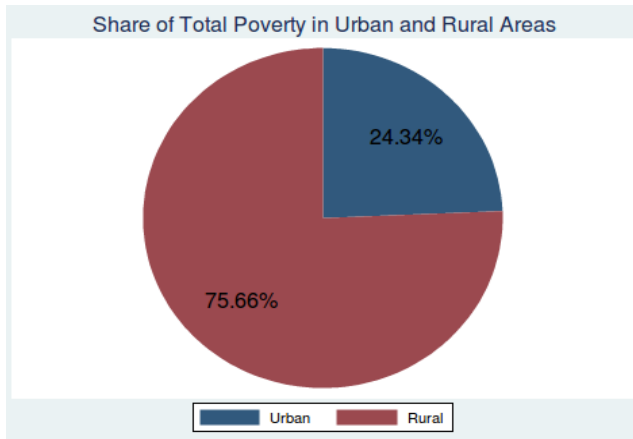
Geographical Variables. The study takes into account the variation of poverty incidence according to geographical location. Particularly, the study examines how the likelihood of being poor varies across regions, and between urban and rural areas. Substantial variation in the likelihood of poverty is expected to be observed across regions and between urban and rural areas, based on the premise that varying levels of poverty incidence exist across these geographical markers.[9]

Table 1: Logistic Regression Model

Independent Variables and Expected Relationship with Odds of Being Poor	
Demographic	total number of household members (+)
	age of household head (-)
	male household head (+)
Socio-economic	total number of employed members (-)
	agricultural household (+)
Geographical	rural area (+)
	geographical regions
Dependent Variable	
Categorical variable on whether the household is poor or not	

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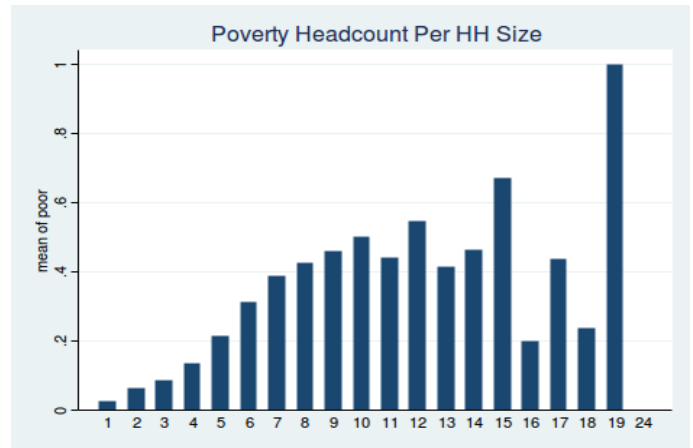
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Philippine Poverty Profile

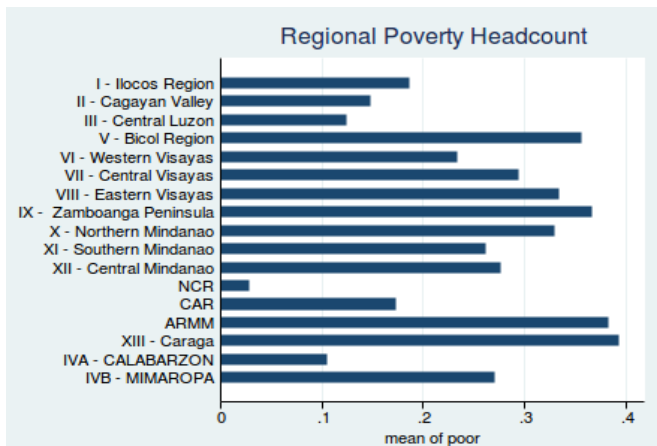**Figure 1:** Share of Total Poverty
in Urban and Rural Areas

Data shows that poverty in the Philippines is a rural phenomenon. Approximately 75% of national poverty headcount come from rural areas.

Figure 3: Poverty Headcount
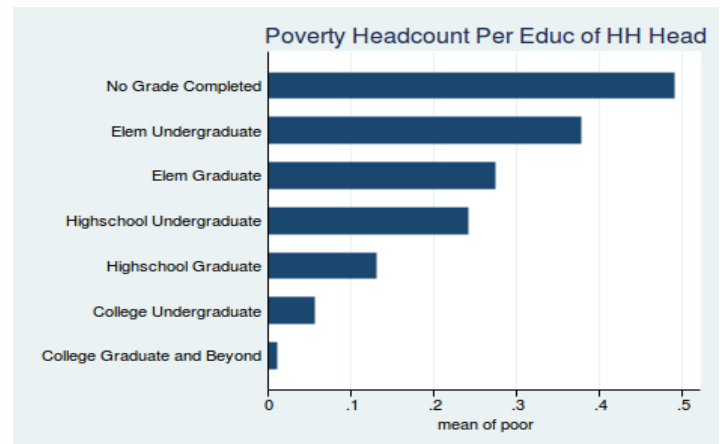Per Household Size

Level of poverty incidence increases along household size.

Figure 2: Regional Poverty Headcount

Rate of poverty incidence varies across regions, with Bicol Region, Zamboanga Peninsula, ARMM and Caraga having the highest poverty incidences.

Figure 4: Poverty Headcount
Per Head's Educational Attainment

Observe how incidence of poverty decreases as educational attainment of household head increases.

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Determinants of Poverty

This study presents how poverty headcount varies against the four variables which are: (1) rural/urban divide; (2) geographical regions; (3) household size; and, (4) household head's educational attainment. The results of econometric analysis show a pattern of relationship between poverty and odds of being poor. It suggests that poverty incidence may increase with household size, especially in rural areas. On the other hand, it appears to decrease with the level of educational attainment of household heads, and varies across geographical regions. However, the output presented above is limited only to two-variable analysis, showing how poverty level varies one indicator at a time.

Accordingly, a multivariate analysis of the poverty determinants in the Philippines is performed based on the probability model presented above. Several indicators are included in the regression model, which could explain substantial variability in the sample population. The following generalizations are interpretation of the data as processed in Stata, which is made available online.[10]

The model satisfactorily explains poverty incidence in the data. The overall model is statistically significant and fits the data well, with LR chi-square=13062.70 and p-value=0.0000. The model has a success rate of 83.20% in terms of predicting poor and non-poor households in the data. The results confirm that the explanatory variables in the model conform with their predetermined relationship to the odds of a household being poor. It is also evident that most of the variables are statistically significant at .01% level.

The more its members, the more likely that the household is poor. Data shows that a standard deviation[11] increase in the number of members increases the odds of the household being poor by about 65.1%, other things being equal. Such a relation is statistically warranted at .01% significance level.

The gender of the household head is not statistically linked with the odds of being poor. The data does reveal that a household with male head has 6.8% less odds of being poor, compared to its female counterpart. Nevertheless, such an observation is not statistically significant, as the data also presents.

The probability of a household being poor tends to diminish with the age of the household head. In fact, for a standard deviation increase in age, the probability of being poor decreases by 2.7%, holding other covariates constant.

Higher educational attainment of a household head causes higher welfare. Although the only educational information available is the highest educational level attained by the household head, its effect on the odds of being poor is largely evident in the data. It consistently displays an inverse relationship with the likelihood of being poor, which is statistically significant at all levels. The higher the educational attainment of the household head, the smaller the chances of the household being poor.

An additional employed household member significantly reduces probability of being poor. Data show that an additional income earner in the family reduces the chance of a household being poor by 62.1%.

A household in a rural area faces twice as large odds of being poor than its urban counterpart. As the regression analysis confirms, poverty in the country is indeed a rural phenomenon. The odds of being poor are 194% larger for rural than for urban households, holding other factors constant. Likewise, agricultural families have a higher probability of being poor, compared to those which are not.

The probability of being poor varies across geographical regions. There are varying probabilities of being poor for household located across the seventeen (17) geographical regions in the country. Using the National Capital Region

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(NCR) as the baseline, the regions inflicting the largest likelihood of being poor to a household are Caraga, Northern Mindanao, Bicol Region, and Autonomous Region in Muslim Mindanao (ARMM). On the other hand, those with the smallest likelihood are CALABARZON (Cavite, Laguna, Batangas, Rizal and Quezon), Cagayan Valley, and Central Luzon. Notice how the bivariate analysis of poverty incidence and geographical regions agrees with this observation.

Table 2: Summary of Findings

Variable	Statistical Relationship w/ Odds of Being Poor
Household Size	Positive
Household Head's Age	Negative
Household Head's Gender	None
Employed Members	Negative
Agricultural Household	Positive
Rural Household	Positive
Geographical Region	Varying

Policy Options

Poor and non-poor households have differences which can be poverty-generating. A systematic examination of these differences enables development planners and practitioners to design appropriate policies and programs which can help alleviate poverty. The findings in this study help draw out the following policy recommendations in creating a comprehensive poverty alleviation program by the government:

Expedite the approval of the Reproductive Health Bill. The study provides empirical evidence that an additional family member in a poor household contributes to higher risk of being poorer. The study presents empirical evidence for a population control policy in the country. It can be argued that family size itself is not the problem but the inability to invest on human resource potential. Nevertheless, the latter is a given reality, considering the scarcity of government resources. At the time of writing, the Reproductive Health Law, as the government's response to rising population, has suffered a setback with the Supreme Court's order of extended status quo ante in July 16, 2013.

> **While the findings can be used for direct poverty alleviation programs, measures of vulnerability and depth can also be useful in the formulation of preventive interventions and prioritizing schemes.**

Continue to invest in human resources. It is important to continue programs that will increase income-generating capacities of Filipinos, and lessen their vulnerability to shocks.[12] At present, the government implements a policy of conditional cash transfer (CCT) program known as the *Pantawid Pamilyang Pilipino Program (4Ps)*. This promotes investments in health and education of children, while providing immediate financial support to poor families. In Mexico, CCT programs were evaluated to be effective in improving the welfare of the poor.

Ensure economic participation of people in the rural area. It is imperative to prioritize public expenditures for the benefit of disadvantaged people in rural areas. Expenditure programs should include storage and drying facilities, farm-to-market roads, crop insurance, affordable loans, and provision of hybrid seeds, among others, that will allow people to effectively participate and compete in the market.

Design geographically-sensitive poverty alleviation programs. As the bivariate and

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regression analyses in this study verify, poverty incidence varies across geographical locations. Therefore, targeting areas with high poverty incidence will allow government to address larger portions of nationwide poverty incidence.

Prevention is better than cure. The study is limited in so far as identifying household living below the poverty line but not those marginally above it. The study also does not take into account the poorest of the poor who are supposed to be prioritized. Accordingly, while these findings can be used for direct poverty alleviation programs, measures of vulnerability and depth can be useful in the formulation of preventive interventions and prioritizing schemes.

Conclusion

> **An in-depth review of the literature on civil conflict reveals that alienation fuels grievance which is a prime driver of violence. Addressing poverty issues, therefore, not only provides an opportunity to improve the welfare of the people, but also offers a prospect for lasting peace and security.**

At the outset, the study presents official definitions of poverty and highlighted deprivation as their common denominator. Bivariate and multivariate analyses are employed to measure how much socio-economic, demographic, and geographical variables, which were identified through a review of relevant literature, affect the likelihood of a Filipino household being poor. The study shows that age, educational attainment, rural/urban divide, and geography are among the statistically valid determinants of poverty incidence in the Philippines. Information on these variables are helpful in the formulation of policies that aim to lessen poverty.

> **It is important to avoid limiting situational analysis on the common narrative that in the relationship between conflict and economic failure, the former causes the latter.**

Significantly, a study on the negative effects of economic underdevelopment to peace and security is deemed fitting. For instance, how does poverty lead to hostility and insecurity? The answer lies in the fact that poverty felt at the household level can be a result of deprivation in terms of access to economic activity, public goods, and key government services—such as education and health. An in-depth review of the literature on civil conflict reveals that alienation fuels grievance which is a prime driver of violence. Addressing poverty issues, therefore, not only provides an opportunity to improve the welfare of the people, but also offers a prospect for lasting peace and security.

Following the above argument, it is important to avoid limiting situational analysis on the common narrative that in the relationship between conflict and economic failure, the former causes the latter. There is a need for a more comprehensive understanding of the link between conflict and its economic drivers, such as poverty. Thus far, the causal link between economic development on the one hand, and peace and security on the other, is yet to be fully grasped. This is so because the neglect of the economic dimension of rebellion is grounded on the common belief that it works the other way around— that violence results in underdevelopment.

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Economic approaches to resolving civil conflict provide governments the opportunities of promoting lasting peace in conflict-afflicted communities.[13] Poverty alleviation is an effective economic solution to managing civil conflict because the latter is highly intensive on human resource which insurgent movements feed on for popular support. Improving human conditions translates translates to reducing reasons for joining insurgent groups.

Eradicating poverty is, therefore, not only a social and moral necessity but also a security imperative. It is geared towards leveling the field and ensuring universal access and participation of the people in economic activity. In essence, it addresses grievances and feelings of inequity among the populace. However, poverty alleviation is not a magic bullet. It is merely changing the context, the circumstance in which people are working on. The outcome, ultimately, is based on the peoples' effort and determination to pull themselves out of poverty. Indeed, poverty alleviation is just one of the components of the wider concept of inclusive growth.[14]

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