

**Statistics of Poverty: Multivariate Regression Analysis, Rural Sudan**

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This paper employs binomial and ordinal logistic regression models to map out a poverty profile and examine probable determinants of poverty in rural Sudan. The first model determines the factors that are affecting the living standards of the household, being poor or non-poor. The ordinal logistic regression model has been employed to estimate the log odds of three poverty categories (extremely poor, poor and non-poor) and to allow the simultaneous comparison of more than one contrast. The odd ratios for the two models, which indicate the effect of the factor after controlling for others including in the regression analysis were estimated. The study concluded that since poverty categories have a natural order, the ordinal logistic model is the appropriate model to be employed in estimation of relevant probabilities.

*Keywords:* Binomial Logistic Model, Ordinal Logistic Model, Odd Ratio