

## Refugee Settlements in Southern Sudan: Using Multivariate Analysis to Assess Household Well-Being

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The basic charge and challenge facing the UN Office of the High Commissioner for Refugees (UNHCR) as well as hundreds of private and public agencies is to ensure refugee welfare. Hence, debates over appropriate relief often involve the matter of how well-being is defined and measured. During the last decade researchers have chosen different concepts, standards, and tools to measure and assess refugee household welfare in eastern and southern Africa (Armstrong 1988; Bulcha 1988; Hansen 1990; Wijbrandi 1990; Bascom 1993). Yet none of these studies employ multivariate analysis. Instead, they all rely on univariate or bivariate descriptive statistics to assess the welfare of individual households and present the results as frequency distributions or contingency tables derived from cross-tabulation analysis. Hence, the use of multivariate analysis remains surprisingly absent in the literature on refugee migration, despite considerable work based upon such statistical methods for voluntary migration.

This study uses multivariate analysis to assess household welfare in conjunction with an extensive data base for Ugandan refugees in southern Sudan. More specifically, we construct an index of household welfare with factor analysis, and then, apply multiple regression to examine associations between that index and a number of independent variables. One benefit of this form of analysis is that it allows the researcher to identify those factors associated with improved household welfare, and then, to compare the relative effect of each one. The household data presented in this study were originally collected to assess the well-being of refugee households. Hence, the data are well-suited for our study, which we hope will provide an initial step in the development of a multivariate research literature to probe into the complex web of relationships that underlie refugees' well-being after they are forced to migrate into a new country.

### **THE REFUGEE POPULATION**

Small numbers of refugees left the country of Uganda throughout Idi Amin's "reign of terror," but reprisals against ethnic groups associated with him produced a mass exodus of people into Kenya, Sudan, Tanzania, and Zaire. The flight of his supporters began in April 1979 when Amin evacuated Kampala. The Kakwa, an ethnic group closely identified with Amin, fled first to Sudan. Formal assistance was not yet available, but they received a warm reception