Demographic Response to Environmental Pressure in Malawi

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The discussion in this paper uses Malawi as a case study to shed some light on the interrelationships between population growth and demographic responses to environmental pressure. It is noted that certain parts of the country that are experiencing extreme environmental stress have began to go through a rapid phase of demographic and social change and transformation. For example, the Southern Region of the country, which has some of the highest densities, is experiencing a fertility transition. There is a spontaneous internal migration pattern from densely populated rural areas to other sparsely populated rural areas. Other non-demographic responses to population pressures are also briefly discussed in this paper.

INTRODUCTION

In response to the limitations of the demographic transition model, Davis (1963) formulated the theory of multiphasic response. He criticized the demographic transition model as being too simplistic because of its narrow emphasis on fertility and mortality at the expense of other possible demographic and non-demographic responses. Davis suggested three possible responses to population or environmental pressures. A first response, non-demographic in nature, is for people to try to increase resources by working harder perhaps through longer hours or a second job (Weeks, 1994). If working harder fails, then some family members are encouraged...
to migrate. The third demographic response, assuming people perceive a chance for social or economic improvement, is the attempt to limit family size. These responses can take place simultaneously, hence the term multiphasic demographic response. However, Davis's incorporation of the complexities of demographic change in his model concentrated on an analysis of demographic changes in industrialized or developed rather than developing countries.

Bilsborrow (1987) has extended Davis's postulations by developing a more comprehensive conceptual approach for investigating the responses to increases in rural population density in developing countries with an impressive amount of empirical evidence to illustrate the model. According to Bilsborrow's generalized model, people respond in three main ways to environmental pressure or land degradation: economically, by increasing arable land or agricultural intensification; demographically, by reducing their fertility; and economically-demographically, by out-migration. Although the model is appealing, the major weakness lies in the use of generalized empirical evidence for broad regions in developing countries.

Drawing upon Davis's and Bilsborrow's models and the growing body of literature on the relationship between population and the environment, this paper discusses and provides more empirical evidence to the theory of multiphasic demographic response given conditions of acute environmental pressure in the southern part of Malawi. The central question we attempt to elucidate is how people have responded in demographic and nondemographic avenues to rapid population growth and attendant environmental pressure. Demographic data from Malawi, though tenuous and sparse, suggest that people are responding in various ways to population pressures in the country. From a demographic point of view, the responses can be seen in the confused and spontaneous patterns of internal migration as well as declining fertility rates particularly in areas of high population densities. Malawi offers an interesting case study for empirical verification of the theory of multiphasic demographic response to acute environmental stress and/or land degradation.

VIEWS ON POPULATION GROWTH AND THE ENVIRONMENT

Before presenting the Malawian case study, it is pertinent to review the growing body of literature on population and environment particularly in the context of developing regions such as sub-Saharan Africa. Jolly (1994) has evaluated current theories of the relationship between population