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**Tegemeo Institute Of Agricultural
Policy And Development**

**DEVELOPING INCOME PROXY MODELS FOR USE
BY THE USAID MISSION IN KENYA:
A TECHNICAL REPORT**

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Developing Income Proxy Models for use by the USAID Mission in Kenya: A Technical Report

By

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I. Introduction

Governments, donors, and NGOs in developing countries spend billions of dollars every year on efforts to improve the well-being of rural households. Most of these interventions have the ultimate goal of reducing poverty, and many include specific objectives of increasing household incomes from specific activities such as microenterprise, cash cropping, food cropping, or livestock. Since an accurate assessment of these outcomes is costly and time-consuming, much research has attempted to identify simple indicators which are correlated with the variables of interest.¹ The income proxy models developed in Kenya are one method in this large and expanding toolbox of low cost approaches to monitoring otherwise complex indicators of household welfare.

The work in Kenya builds on and improves methods developed earlier in Mozambique (Tschirley, et al. 1999) and applied by NGOs there. The purpose of the models as currently developed in Kenya is to provide donors, government agencies, and other interested organizations with a low cost method to generate estimates of total household income, broken down by eight different income sources. In addition to generating estimates of mean incomes on a geographically disaggregated basis for monitoring purposes, the model results will be useful for a series of basic descriptive analyses to be described below.

This paper details the specific procedures utilized to develop the income proxy method for the USIAD/Kenya mission, reports on the performance of the method, and brings together in one place each part of the package needed to implement the method. The next section provides general background on income proxy methods; section III reports briefly on the Tegemeo/MSU Tampa full income survey that formed the basis for development of the proxy method; section IV provides details on model development, including definition of income components, the types of proxy variables tested, and the performance of the models; section V assesses model performance, and section VI touches on how the models can be used. A companion document (Developing Income Proxy Models for Use by Title II-funded NGOs in Kenya: A Technical Report for NGOs and USAID/Kenya) provides similar documentation for the modeling effort undertaken with NGOs.

¹ See, for example, Daniels 1999; Glewwe 1990; Glewwe and Kanaan 1989; Grosh and Baker 1995; Hentschel et al. 1998; Jalan and Ravallion 1999; Little 1997; Minot 2000; Morris et al. 1999; Ravallion and Lokshin 1999; Riely et al 1999; Rose 2000; Rose and Tschirley 2000; Sahn and Stifel 2000a; Sahn and Stifel 2000b; Swindale and Ohri-Vachaspati 1999; Takasaki and Barham 2000l; Wolfe and Frongillo 2000; World Bank 2001;