The government of Uganda, with help from its development partners, is designing and implementing policies and strategies to address poverty, land degradation, and declining agricultural productivity. Land degradation, especially soil erosion and depletion of soil nutrients, is widespread in Uganda and contributes to declining productivity, which in turn increases poverty.

OBJECTIVES OF THE STUDY

One of the challenges that the government faces in confronting these problems is lack of information to empirically support policy recommendations. To address this information gap, the authors of this research report analyze the policy-relevant determinants of households’ income strategies and land management practices in Uganda and their impacts on agricultural production, household income, and land degradation. To obtain basic data, they surveyed 107 communities and 451 households and conducted a plot-level survey to investigate the land management and productivity of each plot. As indicators of sustainability of land management, soil nutrient flows and balances were estimated for a sub-sample of 58 households in eastern Uganda, and the determinants of these flows and balances were also investigated.

The contribution of this research to the literature is its analysis of complex relationships among different policy and program interventions, households’ livelihood strategies and land management decisions, and impacts on agricultural productivity, poverty, and land degradation. The study offers policy-related insights for addressing poverty and land degradation sustainably.

The report has four major objectives: (1) to examine the causes of land degradation in Uganda; (2) to identify the determinants of income strategies and land management decisions and their impacts on agricultural productivity, soil erosion, and household income; (3) to assess the trade-offs and complementarities among these different objectives; and (4) to analyze the soil nutrient depletion in eastern Uganda to determine the factors that influence it.
ing on agriculture and environmental issues helped to reduce land degradation but had less favorable near-term impacts on production, especially outside of the highlands.

Access to credit did not appear to affect income or purchase of inputs such as fertilizer, but it increased the intensity of labor.

Land tenure and land title affected crop choice and land management practices somewhat, but had no significant impact on the value of crops produced, soil erosion, or household income.

Education significantly influenced households’ income strategies, land management practices, and labor use in crop production. As expected, higher education contributed to significantly higher household income and reduced soil nutrient depletion, but it also led to less labor intensity in crop production.

Female-headed households had higher incomes than male-headed households, and they depended more on nonfarm activities. This suggests that women are more likely to be employed off the farm and that their labor productivity is higher than that of men, which supports a common view that men are underemployed relative to women in rural Uganda.

**POLICY IMPLICATIONS**

These results suggest that the most promising strategies for reducing rural poverty are improvement in farmers’ education and development of livestock production. Strategies to help increase the value of crop production include agricultural extension and training programs, development of banana and livestock production, specialization in cash crops, increased nonfarm activities, and improved access of small farmers to land. Reducing land degradation is more likely to be achieved by supporting NGOs that focus on agriculture and the environment, promoting non-farm activities, and controlling population growth or facilitating emigration from the highlands, thus reducing soil erosion and nutrient depletion.

In efforts to reduce poverty and increase agricultural production sustainably, it is important to realize that many strategies involve trade-offs among these objectives and that their impacts are often context-specific. For example, improved education leads to higher incomes and better soil nutrient balances, but it may also reduce crop production and increase soil erosion, as a result of reduced labor intensity in farming. Agricultural extension and training increases productivity but also contributes to increased soil erosion and soil nutrient depletion, by promoting increased production of annual crops without sufficient promotion of soil-fertility improvements or soil- and water-conservation measures. Similarly, improvements in market access can help to increase fertilizer adoption and reduce use of slash and burn, but they also contribute to soil nutrient depletion.

In general, these results imply that there are few “win-win-win” opportunities to simultaneously increase production and household income and to reduce land degradation. Different instruments are needed to achieve different objectives, and trade-offs among these objectives must be expected. Just as no single solution exists to improve all outcomes simultaneously, different approaches are needed in different locations. There is no “one-size-fits-all” solution to the complex problems of small farmers in the diverse circumstances of Uganda.