



Tropentag, September 17-19, 2014, Prague, Czech Republic

“Bridging the gap between increasing knowledge and decreasing resources”

Is Microcredit Enhancing Ecosystem Payments and Environmental Services among Rural Farmers in Sudan? An Applied Dynamic Modelling Approach

ABDELATEIF HASSAN IBRAHIM¹, SAYED FADUL ELMOLA²

¹*University of Kordofan, Dept. of Agric-Economics and Rural Development, Sudan*

²*West Kordofan University, Dept. of Rural Development, Sudan*

Abstract

Although microcredit is seen as a viable financial instrument for alleviating poverty, enhancing ecosystem payments and environmental development, microcredit providers are lagging behind due to inadequate financial capacity and unclear vision for development. This study intends to discuss the potential impact of socio-economic and environmental factors that hinder investment in ecosystem under the conditions of poverty. In addition, it tries to simulate how farmers would choose to use their loans if they could use them on any ecosystem and environmental services. Evidence will be given to strengthen the argument. The study relies on a field survey, conducted in Kordofan region, Central-West Sudan, during the season 2012, using structured questionnaires. It surveyed 300 farm households, which were selected through a multi-stage stratified random sampling technique. Descriptive statistical analysis, bivariate model and non-separable dynamic farm household modelling approach were applied to analyse the data. The results of the descriptive analysis showed that 79% of rural households had a tendency to pay for environmental services and ecosystem enhancement, while 75% of rural households are more likely to be trained in business related to environmental issues. Results obtained from bivariate probit model showed strong interaction effect between loan use and ecosystem payments variables of farm households. Interestingly, the simulations over a three-year period demonstrated that, about 77% of farmers decided to invest in ecosystem payments, of which 50% did so in agricultural activities that enhance environmental sustainability.

The study suggested that in order to improve ecosystem payments and environment, the agricultural investment should be improved, particularly through the adoption of efficient technologies and the enhancement of the commercialisation of farm products. This could be possible through increasing the credit volume and providing “credit plus” services in remote areas.

Keywords: Bivariate model, ecosystem payments, loan use, microcredit, poverty