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“Development on the margin”

## Socio-economic Factors Affecting Farm Cash Income in Urban Agriculture in Khartoum, Sudan

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### Abstract

The expansion of the built-up areas over the last 50 years in Khartoum puts high pressure on arable land for food and feed production in and around the city. In 1993 11% of Khartoum's population owned agricultural plots planted to crops used for self-sufficiency or sale. Since then a substantial increase in land use competition has occurred which has affected both, the urban crop production and the livestock sector.

The objectives of this study were to investigate the changes in farm resource use, and cropping patterns, and to model socio-economic factors affecting the cash income of farmers involved. Therefore 45 crop and 30 dairy producers were randomly selected and interviewed first in 2007 and a second time in 2009 using a semi-structured questionnaire. The information collected included age and education of the farmers, their farm location and size, cropping patterns as well as fertilisers prices and quantities, number of livestock kept, and their sources of income.

Descriptive and non-parametric statistics (Mann-Whitney U test) were performed to test the differences between 2007 and 2009 for the observed parameters. Generalized Estimating Equations (GEE) was used to analyse the effects of a set of socio-economic factors on farm cash income.

Within the two-year period, only a slight change in farm size (+4%) and in total livestock units (TLU) (-6%) was observed while crop intensity decreased by 25%. While urea prices varied significantly over time ( $z = -8.866^{***}$ ), the use and price of chicken manure and liquid foliar fertiliser remained rather constant. The farm location (urban versus peri-urban) did not significantly affect farm cash income. Education, farm size, and milk productivity significantly enhanced farm cash income while chicken manure and the area of fodder decreased it. This raises questions about the use efficiency of chicken manure and of fodder cultivation in the study area.

**Keywords:** Cash income, socio-economic factors, urban farms