

**The dynamics of livestock ownership, asset ownership and human health in rural households and the role of animal based product consumption: a cross sectional study in Western Province Kenya**

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Ascertaining relative socio-economic position of households has become of recent focus in an attempt to identify those at greatest risk to adverse health or to guide allocation of resources in interventions. Asset ownership has become a proxy measure of the gold standard of the measurement of wealth, expenditure. However, due to the intricacy of livelihood strategies in rural areas, recent methods have been criticised for their urban bias. Frameworks by Carney (1998) and Dorward (2001) describe the complexity of rural livelihoods and demonstrate how the role of livestock, non – productive assets, and human wellbeing are interlinked. Whilst it is commonly stated that there is a collinear accumulation of multiple asset types and improved wellbeing there is little statistical evidence to support this theory. Indices of asset wealth, as a proxy measure of purchasing power, were created using principal component analysis and mixed effect linear regression models were used to assess the association with livestock ownership of homesteads – as measured by total livestock value. Univariate and multivariate methods analysed the association of both primary exposures with the nutritional health of household members and the role of animal based product consumption. The evidence suggests that livestock and expenditure are closely linked but that livestock ownership plays a neutral role in the provision of foodstuffs and health to individuals. However, more information is needed to explore the influence of non-livestock agricultural activities and alternative income sources. Livestock are likely to be more important at a community level demonstrating the social importance of livestock species and dependency upon them in a wider setting.