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The effect of livestock theft on household poverty in developing countries: The case of Lesotho

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ABSTRACT

While livestock theft in Lesotho is primarily caused by increased poverty among unemployed workers and drought stricken crop farmers, its effect on stock farmers can be devastating. It reduces the affected households' own consumption of both the "returns" on their wealth, e.g. milk and wool, and of wealth itself, e.g. meat and hides. In addition, it restricts their ability to sell their returns and wealth in the market place and use the proceeds to acquire other food and non-food products. Some policy implications are also highlighted.

Keywords: Livestock theft, Lesotho, own consumption, animal products, diversified farming, nutritional status, human capital, HIV/AIDS

JEL codes: D11, O12, Q12

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1. Introduction

Livestock contributes significantly to the livelihoods of people living in the rural areas of developing countries (Cornelis *et al*, 2001). Lesotho is no exception. Dzimba and Matooane (2005) found that in the case of Lesotho 92.9 per cent of stock owners reside in the rural areas, while only 7.1 per cent stay in urban areas. Delgado *et al*, (1999) also find that poor people earn the highest proportion of their incomes from livestock, while the opposite is true of the rich. This suggests that stock theft presents a much more serious poverty related challenge for the poor than for the rich.

Stock theft has been a problem in Lesotho for some decades but it has recently intensified. Dzimba and Matooane (2005) contend that livestock theft "has become a national crisis in Lesotho". Stock theft occurs more frequently than other types of crime.

The major reason behind the increase in livestock theft appears to be poverty (Dzimba and Matooane, 2005 and Kynoch and Ulicki, 2000). In the past many young men with minimal or no education had worked on the mines in South Africa. But for at least the past two decades South African mines have not been recruiting large numbers of unskilled workers from Lesotho and a significant number of those who used to work in the mines have been retrenched. This has resulted in increased unemployment in Lesotho and more so in the rural parts of the country. In addition, the recent drought that has devastated the country means that the majority of those who used to work in the non-livestock agricultural sector no longer have any work. Many of these individuals may have turned to stock theft as a means of survival.

Dzimba and Matooane (2005) also point out that some of the stock theft cases involve a high degree of organization coupled with sound financial and asset backing. For example, there are instances where trucks were used to move the stolen animals. Stock theft is also encouraged by the ease with which stolen animals can be traded. Stolen stock is sold without the necessary documentation to individuals for immediate use in communal celebrations as well as funerals and to butchers at very low prices (Dzimba and Matooane, 2005 and Kynoch and Ulicki, 2000).

Whilst stock theft is mainly caused by poverty, as indicated above, it also has the *effect* of impoverishing livestock farmers. It thus involves a redistribution of poverty insofar as those who commit stock theft (illegally) enrich themselves in the process. Most instances of crime naturally have a similar redistributive effect, irrespective of whether the losers and beneficiaries are rich and poor people respectively, or whether they are all either relatively poor or relatively rich. In this paper we focus on the economic effects of livestock theft on rural households in Lesotho. Section 2 discusses the role of agriculture, particularly livestock farming, in boosting the livelihoods of relatively poor rural households. Section 3 uses a simple microeconomic model to illustrate the impact of livestock theft on household poverty, and gives several examples from the Lesotho experience. Section 4 raises a few policy implications, while section 5 concludes.

2. The Role of Livestock in Household Poverty

There are different ways in which livestock farming contributes to the livelihoods of poor households. It can be a significant source of nourishment and protection against nature as households consume (part of) the returns on their livestock wealth, e.g. milk and its derivative products, wool and mohair. They may also replenish part of their wealth to satisfy their need for meat and hides. Part of the returns on stock wealth, and livestock itself, may also be sold for cash that can be used to purchase other food and non-food goods and services. The standard household utility function can thus be extended as follows:

$$U = U(C^{o}, F^{t}, N^{t}, W) \qquad [1]$$

where C^{o} represents goods consumed from the household's own resources, or wealth; F^{t} and N^{t} are the quantities consumed of food and non-food products acquired in the market place; and W is a measure of the household's wealth. W is assumed to enter the utility function both as an independent variable and indirectly through its impact on other independent variables, as we show below.

Own consumption, C^{o}, can be further specified as follows:

$$C^{o} = \pi W + W(1 - \sigma) = (\pi + 1 - \sigma)W \qquad [2]$$

where π is that part of the *return* to household wealth used for own consumption (e.g. milk, wool, vegetables and fruit); and σ is the percentage of the prevailing wealth used for consumption purposes (e.g. meat and hides). Whereas πW does not reduce household wealth, σW evidently does.

The corresponding budget constraint is given by:

$$Y + \alpha W + W(1 - \beta) = Y + (\alpha + 1 - \beta)W = P_f\ F^{t} + P_n\ N^{t} \qquad [3]$$

where Y is wage income and transfers; α is that part of the *return* on household wealth that is sold in the market place, with the total return being $(\pi + \alpha)W$; β is the percentage of wealth sold in the market place; and P_f and P_n are the market prices of food and non-food products.

As implied by equation [2], the value added by livestock farming goes beyond the consumption and sale of animal products. In Lesotho, cow dung is used as fuel for cooking and warming the house, particularly by poor households residing in the rural areas (Dzimba and Matooane, 2005). Horses, donkeys and mules are used for transport. This is particularly the case in the mountain areas where there is a lack of road infrastructure. Similarly, livestock provides non-human power to poor farmers who cannot afford modern means of ploughing their fields (Otte et al, 2005). Stock, especially cattle, are used for ploughing the fields and livestock manure is still very much used to enhance soil fertility by farmers who cannot afford expensive chemical fertilizers. Utilising livestock in this manner enables farmers to plant vegetables, fruit and other food products, thus diversifying their farming activities.

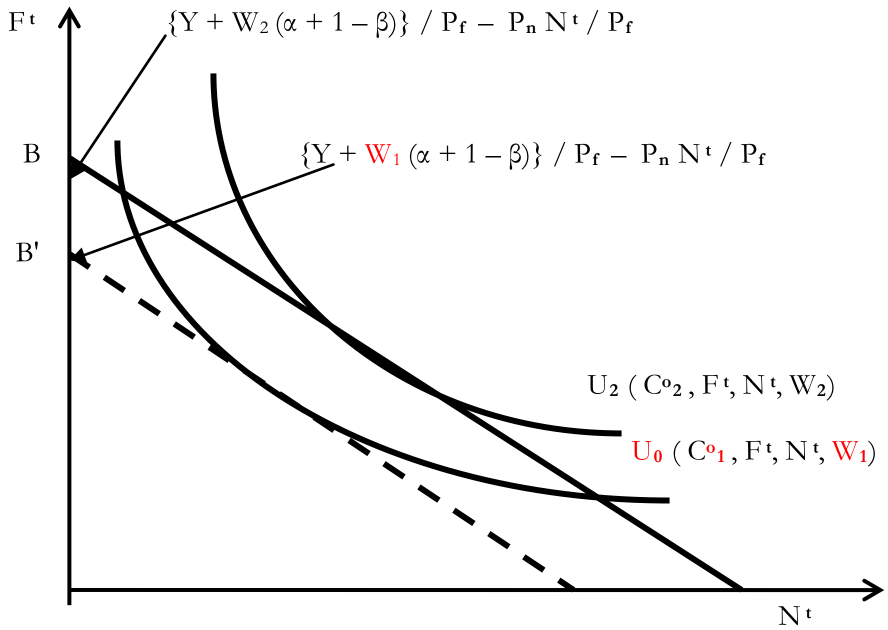
Livestock is also a source of both physical and human capital investment. Households may sell livestock and use the proceeds to build or extend a dwelling and acquire capital equipment for farming purposes. Livestock can thus be viewed as a capital asset that provides insurance to poor households who for various reasons do not have access to formal financial services. Finally, there is evidence showing that the proceeds from selling livestock are often used to pay for health expenses (Holmann *et al*, 2005) and school fees (Cornelis *et al*, 2001). In these instances livestock clearly serves as a source of human capital investment.

3. . **The impact of Stock Theft on Household Poverty**

From the previous section on the role of livestock in the livelihoods of rural households it is quite apparent that stock theft could affect the poor very adversely. Adding a conventional budget line to the above model,

$$F^t = \{Y + (\alpha + 1 - \beta)W\} / P_f - P_n N^t / P_f \qquad [4]$$

a stock theft will reduce wealth from W_2 to W_1 in Figure 1 below, and also the monetary return on wealth from αW_2 to αW_1, shifting the budget line inwards as indicated. Similarly, the fall in utility from U_2 to U_0 is caused by both the loss of wealth and the drop in own food consumption from $C^o{}_2$ to $C^o{}_1$.



Livestock theft has recently become one of the major factors resulting in poverty in the mountain areas of Lesotho (Dzimba and Matooane, 2005). The entire wealth and livelihood of a household could be wiped out in one attack and experience has shown that chances of recovery are quite minimal, if not non-existent (Kynoch and Ulicki, 2000). In terms of the above model, a loss of livestock through theft means that the affected household loses the benefits from own consumption as well as the earnings that it used to get from the sale of animal products, livestock and other agricultural products partly produced by livestock.

The FAO (1997) states that there are some very poor households that managed to accumulate some livestock from hiring out their sons as herd boys for richer households in Lesotho. Many of the relatively rich households have been impoverished as thieves have stolen a large part of their livestock. This suggests that stock theft affects poor households in two different ways: firstly, poor households lose the stock that they have to the thieves; and secondly, they are no longer able to accumulate livestock by hiring out their services to the rich as the thieves have also left many of the formerly rich with none.

Kynoch and Ulicki (2000) show that rural-urban migration has increased as affected household members have to find jobs. This is in response to the increase in agricultural unemployment, which is attributable to stock theft among other factors. Members of some households have been able to find work in the urban parts of the country. These are mostly young female members, who have been employed in the textile industries (Dzimba and Matooane, 2005). Some work as nannies and domestic workers and are in most cases paid wages that are below the minimum wage.

Black (2004) contends that in South Africa "many parents invest in their children on a *quid pro quo* basis, expecting them eventually to return the favour by reinvesting part of their "adult earnings" towards furthering the well-being of surviving parents and other older members of the household". This also applies to Lesotho where in addition the older educated child is also expected to assist in the education of other younger members of the family. The inability of parents to invest in the human capital development of their children means that even these intergenerational transfers are lost.

Dzimba and Matooane (2005) indicate that as a result of stock theft many children leave school early because parents cannot afford to pay for their schooling. Due to the implementation of the policy of free primary education in Lesotho, which now covers the entire primary school system, every Lesotho child can complete primary education. The problem is at the secondary and high school levels, where government subsidizes a significant portion of the school fees but parents still bear a relatively substantial share of the total costs. Moreover, every child who completes high school successfully and obtains an admission into tertiary institutions in Lesotho and South Africa instantly qualifies for government sponsorship, which covers all the costs. Those whose parents cannot afford paying for their secondary and high school education are not able to benefit from this opportunity.

The free primary education could have certain benefits. As argued by Black (2004) it may provide children with the necessary skills to get employment in the informal sector or to carry out essential household activities when they leave school. Informal employment could reduce poverty levels to a certain extent. Those working in the informal sector are highly likely to be better off compared to those who are not employed at all. However, some of the unemployed may not be able to enter the informal sector. Kingdon and Knight (2004) contend that entry into the informal sector by the poor could be deterred by such factors as a lack of skills, experience and the necessary capital, and in some cases a lack of government support in providing infrastructure and preventing crime. The implication is that a lack of resources to educate children due to stock theft could have the effect that affected children cannot get employed at all.

The loss of income is likely to increase the consumption of inferior as opposed to normal goods by the affected household. Coupled with the loss of milk and meat for family consumption due to stock theft, such a loss of income implies a deterioration in the nutritional status of the household. This could in turn affect the health status of the household. According to Black (2004), the household's level of health may deteriorate as a result of an exogenous decrease in household income and thus consumption, coupled with the simultaneous substitution of low for high nutrition food and other necessities.

Holmann *et al* (2005) point out that households sometimes sell their animals to raise money to pay medical bills of sick household members. This is relevant to HIV/AIDS stricken developing countries and Lesotho in particular. Booysen (2002) finds that in South Africa, to cope with increased medical care expenses, HIV/AIDS affected households use their savings following the depletion of which they resort to selling their assets. When the assets are finished they borrow from friends and relatives. It makes sense to assume that the same thing would apply to poor rural households in Lesotho, with relatively low income and where the main assets are livestock. Wason and Hall (2004) indicate that very few households in the rural areas of Lesotho own physical assets such as radios, televisions, stoves, agricultural equipment and vehicles. Thus stock theft leaves these households with limited strategies for coping with the effects of the HIV/AIDS pandemic.

4. Policy Implications

Evidence suggests that livestock theft is largely caused by poverty, e.g. among the unemployed and drought stricken crop farmers, while we have argued that it also has the effect of (further) impoverishing stock farmers. Policy should thus ideally be directed at both the cause(s) of the problem and its consequences. Attacking the source of the problem calls for an intensification of government's efforts at addressing the problem of poverty in the country as a whole. Rapid and sustainable growth that could lead to increased employment is essential for poverty reduction and its ultimate eradication. But this is clearly easier said than done, especially in a time of prolonged recession. Sustamed economic growth can at best be viewed as a long term objective.

Thus some short to medium term measures for enabling households to survive should be considered. These could include increased state unemployment benefits and other forms of social security; an increase in the subsidy on secondary and high school education, or providing it freely to the poor through an appropriate means tested system; and better policing of the rural areas generally and livestock farming in particular. Given Lesotho's level of economic development, however, such measures are bound to be too costly and difficult if not impossible to implement. A case may thus be made for securing foreign aid aimed specifically at eliminating livestock theft in Lesotho.

5. Conclusion

The literature indicates that livestock plays a significant role in the livelihoods of the rural poor in developing countries. Thus stock theft, which has taken on alarming proportions in Lesotho, has exacerbated the problem of poverty, especially among rural households. The effects of stock theft on households include an enforced cut back in the own consumption of and the sale of animal products – defined here as (part of) the returns to household wealth. It also removes their ability to sell livestock itself and use the proceeds to acquire other food and non-food products or expand and diversify their farming activities. Alarmingly, livestock theft often prevents household heads from investing in the human capital development of their children, and may also result in a deterioration of the household's nutritional status adding to health expenses. The loss of livestock limits the coping strategies available to HIV/AIDS affected households.

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