The impact and poverty reduction implications of foot and mouth disease control in southern Africa

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SUMMARY

This paper describes an extensive multi-disciplinary study to evaluate the impacts of foot and mouth disease (FMD) and its control in southern Africa (Perry et al., 2003), with particular emphasis on the poverty reduction implications of access to beef export markets. The study combines the contrasting methodologies of a national Benefit-Cost Analysis (BCA) and a livelihoods analysis in a case study country to assess different approaches to reducing poverty, with a regional and international beef trade analysis to evaluate the sustainability of the region in this enterprise.

INTRODUCTION

Although FMD is endemic in certain parts of southern Africa, these areas are generally coincident with the distribution of the African buffalo (Syncerus caffer), which harbours the virus. Vast areas of the region are free of the disease, thanks to considerable investment in FMD control programmes over many years, and this freedom has allowed several countries the ability to develop export markets in boneless beef and other livestock products to high value markets in countries free of FMD. Some of these countries, notably those members of the African, Caribbean and Pacific (ACP) group (Botswana, Namibia, Swaziland and Zimbabwe), export boneless beef to the European Union (EU) under lucrative reduced tariff arrangements of the Cotonou Protocol, successor to the Lomé Convention.

This study was set up to evaluate the impacts of alternative FMD control strategies in the region, and in particular the contributions that FMD control make to poverty reduction. This was done by means of a BCA, in a case study country, Zimbabwe. As part of the BCA, the broader effects of beef exports on the Zimbabwe national economy were studied using a Computable General Equilibrium (CGE) model, and this is reported elsewhere in the proceedings (Poulton et al., 2003). The BCA also took account of future trends in the international beef market, in particular those affecting the market with the EU resulting from revisions to the Common Agricultural Policy (CAP), from successor agreements to the Cotonou Protocol, and from trends in the World Trade Organisation (WTO).
THE BENEFIT–COST ANALYSIS
The BCA in Zimbabwe evaluated three future scenarios of FMD control in Zimbabwe, and compared them to a baseline scenario of current investment and control efficacy. The scenarios were optimistic (an increasing investment in control measures, resulting in the attainment of full OIE recognition of an FMD-free zone, a status never achieved to date), pessimistic (reduced investment in FMD control, resulting in the disease becoming endemic, accompanied by the loss of beef export markets), and an intermediate scenario with maintenance of control measures but with a reduced beef export zone. In each scenario, three trade sub-scenarios were included, reflecting different future trends in the EU and international markets in beef.

The results of the BCA show that FMD control measures are likely to be of considerable benefit to the national economy, demonstrated in several ways. Firstly, in a comparison between the baseline and the pessimistic FMD control scenarios (in which disinvestments in FMD control by 50% and loss of beef export markets was predicted), it is shown that for every $1 that Zimbabwe disinvests from FMD control $5 further are lost by the country. No trans-boundary effects were taken into account, and the losses calculated are uniquely those of Zimbabwe. However, the association of outbreaks of FMD in south-eastern Botswana in March 2002 and February 2003 after over 30 years of freedom with the outbreaks in western Zimbabwe suggest that the costs to the region as a whole of Zimbabwe’s disinvestments are much greater. In addition, the effects of declining FMD control infrastructures on the control of other diseases are not taken into account in the BCA.

Secondly, the results show that if Zimbabwe were to invest further in the fences and the veterinary service infrastructures required to create a larger and more secure export zone internationally recognised as FMD-free by the OIE, there would be returns of approximately $1.5 for every $1 invested. Similar to the disinvestment scenario, this does not incorporate benefits to the region as a whole through greater disease security for FMD control, nor the other benefits from an enhanced national veterinary service. This analysis did not consider in depth whether Zimbabwe will be able to maintain the capacity, in terms of quantity and quality of beef, to supply the export following the dramatic reduction in the commercial cattle breeding herd associated with current land reforms in the country.

The distributions of the costs and benefits were highly skewed. Expenditures from FMD control are borne almost entirely by the public sector. The majority of impacts of FMD and the benefits from its control are related to the ability to trade internationally, and so most of the benefits accrue to different elements of the commercial sector (cattle production, beef processing and related input industries and services).

THE LIVELIHOODS ANALYSIS
An in-depth livelihoods study was undertaken in Zimbabwe to determine the role of livestock in poverty reduction, the effects of FMD and its control on the poor, and the benefits derived by the poor from FMD control measures. This showed that the direct impacts on the poor of FMD, and of measures established to control it, are very limited. FMD has not been a problem in communal areas where the majority of poor live, and its effects on indigenous cattle are considerably less than in
commercially-orientated herds. Furthermore despite the fact that about 75% of poor households own or have access to cattle, over 60% of these own less than 5 animals. Most of these households use cattle for wealth storing and other livelihoods functions such as traction, and do not have the herd size capacity to engage actively in commercial cattle marketing. Only about 2% of households are engaged in regular marketing of cattle. The livestock of most importance to the poor are poultry and goats, also used for wealth storing. For most of Zimbabwe’s poor, livestock sales, particularly of cattle, are infrequent and opportunistic, aimed to raise needed finance for school and medical expenses, etc.

STUDY SYNTHESIS

Livestock are extremely important to the poor in all countries of southern Africa in a multitude of functions, and beef exports are extremely important to livestock industries and national economies of many of them. It appears that at least in Zimbabwe, FMD control makes very positive contributions to national economies, but limited direct contributions to the livelihoods of the poor. But FMD control is extremely important to the region as a whole, so disinvestments in disease control programmes in any country will have widely disruptive consequences in southern Africa, threatening the competitiveness of the region in global beef markets.

CONCLUSIONS

FMD control allows access to important beef export markets that strongly influence the very positive national economic benefits it brings to many countries of the region. These benefits are positively influenced by the low tariffs in the EU by ACP countries, and these may change, emphasising the importance of competitiveness for the future. The commercial cattle sector is the major direct beneficiary of export access, but it is the public sector that bears most of the cost of FMD control. In the interests of sustainability, a much more active engagement with the elements of the private sector should be sought in order to redress the imbalances in the distribution of costs and benefits of FMD control activities, and seek greater private sector investment in control measures. This would provide the opportunity for investment of public funds to build on FMD control infrastructures and concentrate more on the livestock and animal health constraints of the very poor, in the case of Zimbabwe being smallholder poultry and goat enterprises, so enhancing the direct poverty reduction impacts of FMD control in a partnership investment. This principle could also be applied to regional and international FMD control, with a view to exploring investment options to promote greater involvement of stakeholders in neighbouring countries and in potential trading partner countries further afield.

REFERENCES