"The combined effect of drought and cattle eradication in Ngami East resulted in a two to threefold increase in total malnutrition rate"

Poor crop yields and livestock mortality during drought often results in higher rates of malnutrition. There have been many nutritional surveys that have purported to show the dual impact of crop and livestock losses. There have been far fewer studies demonstrating a nutritional impact of livestock loss alone. A recent study in Botswana shows such an impact.

An outbreak of contagious bovine pleuropneumonia (CBPP) in the northern part of Botswana in 1996 was contained through eradication of all heads of cattle in Ngamiland district (Ngami East and West) in the period April 1996 to February 1997. The main livelihood in Ngamiland is cattle farming and Ngami East is the area most dependent on cattle. The outbreak and eradication programme posed a serious threat to those who depended on the livestock sector for sustenance. While subsistence arable agriculture is also practised throughout the district, activities are heavily constrained by poor soils and drought. Coincidentally, the district and the country as a whole had been declared drought stricken in both June 1997 and June 1998. This was reflected in national nutritional surveillance data. While the average malnutrition rate based on monitoring of weight for age of under fives attending MCH clinics remained stable at about 13.5% in 1995 and 1996, by 1997 it had increased to 18.4%.

The aim of the study was to assess the impact of the cattle eradication alone on the nutritional status of children under five years. Using existing data routinely collected by the Botswana National Nutrition Surveillance system (NNSS), quarterly malnutrition rates for Ngami East were compared with national figures for the period of January 1995 to March 1998. The NNSS was introduced in 1978 at all primary health care facilities in the country. At district level the NNSS data informs drought relief decision-making. At national level the data are used by government bodies for policy, planning and programming purposes. The NNSS also reports findings to the National Early Warning Technical Committee.

Until 1996, malnutrition rates for Ngami East had been the lowest in the country for many years. Total malnutrition rates in this region were less than half the national figures. The drought in Botswana in 1997 and 1998 contributed to a moderate malnutrition increase (35%, relative risk 1.048) in the country as a whole. However the combined effect of drought and cattle eradication in Ngami East resulted in a two to threefold increase in total malnutrition rate over the same period (185% increase, relative risk 2.299).

The outbreak of CBPP triggered a number of significant changes in the pattern of life in the district. For example,
many people migrated from cattle posts to either lands or villages increasing dependence on subsistence arable farming. In addition, the majority of households who opted for compensation for the loss of their cattle used the cash for routine household expenditure to meet their immediate needs. Reduced animal stocks may account for the continued increased levels of malnutrition observed in 1998.

The prevalence of malnutrition rose in Ngami East several months before the national rate increased, which may reflect a particular impact of the cattle eradication programme on nutritional status. The attributable risk for cattle eradication impact on malnutrition was 4.6% for Botswana and 54.4% for Ngami East.

Failure to return to cattle farming as the main livelihood in Ngami East is likely to perpetuate the negative impact of the CBPP outbreak on nutritional status.

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Taken from Field Exchange 15

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