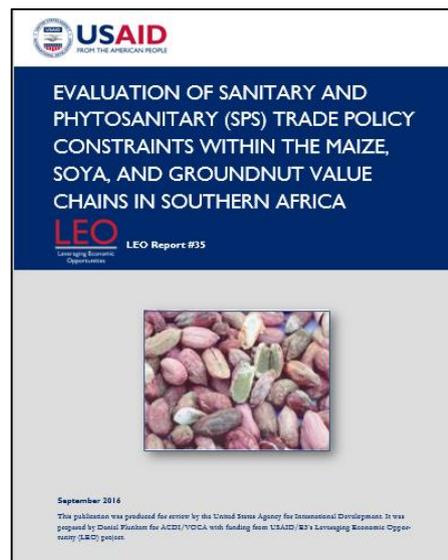


EVALUATION OF SANITARY AND PHYTOSANITARY (SPS) TRADE POLICY CONSTRAINTS WITHIN THE MAIZE, SOYA AND GROUNDNUT VALUE CHAINS IN SOUTHERN AFRICA

BRIEF 4: THE TRADE IMPACTS OF MLN: SPOTLIGHT ON ZAMBIA'S MAIZE INDUSTRY

USAID's Bureau for Food Security commissioned the study *Evaluation of Sanitary and Phytosanitary (SPS) Trade Policy Constraints within the Maize, Soya, and Groundnut Value Chains in Southern Africa* through the [Leveraging Economic Opportunities](#) (LEO) project¹. The study is one of three regional assessments carried out in East, Southern, and West Africa regions to identify key SPS-related constraints to trade within priority Feed the Future value chains, in order to gauge opportunities for potential SPS-related investments. The Southern Africa study targeted four countries: Malawi, Mozambique, South Africa, and Zambia. The study identified Maize Lethal Necrosis (MLN) as one of the most important SPS issues in the region. Zambia, whose maize value chain is a key driver of the economy, stands out in the region as having particularly critical trade impacts. This brief explores those impacts.



SITUATIONAL OVERVIEW

While currently MLN has only been reported in East Africa, the impacts of MLN have the potential to devastate half the annual maize crop in Zambia. The economic impact there could be \$500 million in the first year alone, accounting for the value-adding maize seed, animal feed and brewing industries. As the presence of MLN precludes planting maize for at least three subsequent seasons, the cumulative impact would rise into the billions of dollars. The sooner Zambia's maize value chain actors get organized, the lesser the impact will be.

MLN OVERVIEW

Maize Lethal Necrosis is a combination of viruses causing significant yellowing of the leaves, restricting the plant's ability to enact photosynthesis and often resulting in stunting and death of the plant before tasseling. Plants infected late in development fail to be productive, with the maize cobs deformed and inedible. Unlike aflatoxin, the impact of MLN on human health is not readily clear, leaving a question of what to do with the contaminated corn cobs, stalks and other ingestible materials.

Kenya experienced the first outbreak of MLN in 2011, followed by Uganda and Tanzania in 2012 and then Rwanda, the Democratic Republic of Congo, Ethiopia and South Sudan since. Disseminating these 'warning signs' to farmers groups, cereals markets, and other public and private sector stakeholders in Zambia could lead to early detection, containment, and tracing of the source of the outbreak.

ECONOMIC IMPACT ON ZAMBIA

Maize fields afflicted with MLN can have productive losses ranging from 30 percent to 100 percent. With Zambia's maize output at 3.4 million tons, a 50 percent loss could mean a \$500 million economic loss in

¹ For more information on LEO, and to access the full studies for East, West, and Southern Africa, visit www.microlinks.org/leo.

the first year, considering the value-added industries involved. The crop forecast by Zambia’s Central Statistics Office and Ministry of Agriculture for the 2015/2016 year in the table below suggest at least a \$230 million loss, certainly an under-estimate as the Food Reserve Agency (FRA) floor price was well below the offer price of \$230 per ton in July 2016 and so many farmers likely did not sell to FRA.²

MINIMUM ESTIMATE FOR POTENTIAL ECONOMIC LOSS FROM MLN IN ZAMBIA

Projected Maize Harvest	2.7 million tons
Current FRA Floor Price (mid-2016)	\$170 per ton
Value of Total Maize Harvest	\$459 million
Estimated Loss at 50%	\$230 million

Source: SPS in Southern Africa Study author calculations based on Food Reserve Authority statistics.

The figure of \$500 million in economic loss also brings to bear the many industries relying on Zambian maize as an input. Should MLN become widespread, the majority of small-scale farmers would lose not only their source of income but also their staple food. This would entail importation of more expensive maize from other countries with serious economic ramifications on household livelihoods, for example out-migration.

Zambia is a maize seed hub with great potential for expansion, with expertise in seed production and a suitable climate producing the best seed yields in the region. Zambia produced a total of 56,024 metric tons of maize seed worth \$67.2 million in 2015, with an average price per ton of \$1,200. An estimated 70 percent of the maize crop was planted to quality seed of improved varieties. Protecting Zambia’s maize seed industry from MLN must be a priority, as it both stimulates the whole maize value chain and produced exports worth about \$46.5 million, according to Zambia Revenue Authority figures. Maize seed is also a high-value product. Exports of maize seed can fetch up to \$2,000 or \$3,000 per ton in the region.

The animal feed sector also provides a necessary input with multiplier effects. Larger-scale Zambian businesses devote about a quarter of a million tons of maize to compound feed for livestock, in addition to sizeable volumes used by the many large and small farmers who mix compound feed themselves for dairy and pork production. Poultry feed operations in Zambia typically purchase processed feed with high percentages of maize, with poultry feed accounting for 60 percent of the total cost of production. Zambia’s ministry of agriculture estimates that about 115,500 tons of maize go into the brewing industry.³

WHAT TO DO ABOUT COMBATING MLN IN ZAMBIA?

The threat of MLN to Zambia’s economy requires robust action by both public and private operators so as not to reverse recent gains in food security and poverty reduction. The study identified the following high-priority actions:

- a) a multi-stakeholder study trip to MLN-affected countries, including maize seed operators;
- b) a series of national workshops held around the country to alert farmers groups, cooperatives, civil society and other public and private sector operators of the threat and how to identify and combat MLN;
- c) a multi-stakeholder process of devising a national MLN strategy;
- d) field surveillance in different regions;
- e) development of alternative economic options for farmers and the follow-on industries;
- f) a vigorous public communications campaign using free air time accorded to the Ministry of Health and the Ministry of Agriculture.

Disclaimer: This document was produced by review for the United States Agency for International Development (USAID). It was prepared by ACDI/VOCA through the Leveraging Economic Opportunities contract. The views expressed in this document do not necessarily reflect the view of USAID or the United States Government.

² Zambia’s maize producers are a mix of small-scale and larger-scale farmers, with the small-scale farmers typically selling part of their crop to Zambia’s Food Reserve Agency.

³ Zambia does not have a maize starch industry, but is instead launching a starch factory based on cassava.