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LEO BRIEF
Leveraging Economic Opportunities

EVALUATION OF SANITARY AND PHYTOSANITARY (SPS) TRADE POLICY CONSTRAINTS WITHIN THE MAIZE AND LIVESTOCK/ANIMAL-SOURCED PRODUCTS VALUE CHAINS IN EAST AFRICA

SUMMARY BRIEF 2: MAIZE

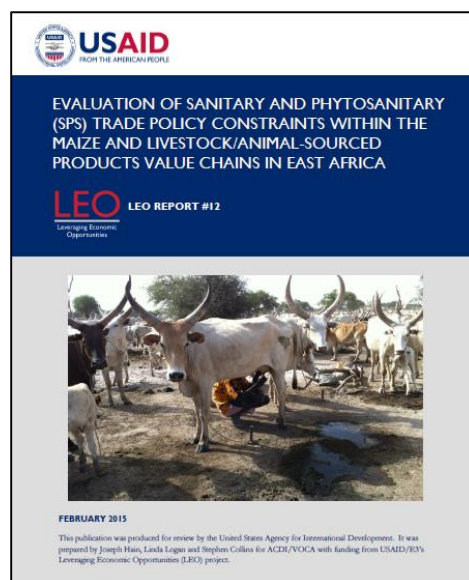
USAID's Bureau for Food Security commissioned the study *Evaluation of Sanitary and Phytosanitary (SPS) Trade Policy Constraints within the Maize and Livestock/Animal-Sourced Products Value Chains in East Africa* through the *Leveraging Economic Opportunities* (LEO) project¹. The study is one of three 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 East Africa study targeted four countries: Ethiopia, Kenya, Rwanda, Tanzania, and Uganda. This brief summarizes key SPS issues in the maize industry.

SPS issues have emerged as key regional concerns as tariff liberalization within the East African Community (EAC) and the Common Market for Eastern and Southern Africa (COMESA) has made free trade in staple foods a reality. Maize lethal necrosis (MLN) has wreaked havoc on the maize value chains in several countries of the Eastern Africa region, while contamination of maize with aflatoxin continues to present human health risks.

MAIZE VALUE CHAIN OVERVIEW

Maize is a staple food crop and an important input into processed foods and animal feeds that significantly impacts economic growth and food security at a local, national and regional level in East Africa. Kenya is the largest importer of maize in the region, with an annual shortfall of approximately 8 to 18 million 90 kg bags, which is generally for human consumption as well as the increasing demands of the animal feed industry (approximately one-third of the feed is a grain, usually maize). This deficit must be imported, which is mostly through informal trade, with relevant food safety (aflatoxin), phytosanitary and quality concerns. In good years, both Uganda and Tanzania export maize to Kenya.

Free maize trade in the EAC is limited by government concerns about maize shortages and periodic maize export bans, high tariffs, documentation, inspection and testing fees, and other practices that lead traders to go around official channels. Consequently, much of maize trade is informally traded across borders and may not meet the quality or health standards of the importing country. Export bans on maize are imposed by local



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

and national governments in years with poor harvests, without the benefit of modern crop forecasting systems, frustrating efforts to improve food security through greater availability under the EAC and COMESA free trade rules. Currently the existing national systems for SPS regulation and enforcement are being harmonized through COMESA, EAC, Inter-Government Authority for Development IGAD², and international standards setting bodies such as CODEX, the International Plant Protection Organization (IPPC).

MAJOR SPS ISSUES IN THE MAIZE VALUE CHAIN

The report identified two maize health issues that urgently need strategic SPS interventions.

Maize Lethal Necrosis (MLN) which affects maize production and infects seed stocks, has emerged as a serious threat in East Africa. The virus poses no human health risk, but devastates the maize plant and yields. MLN has devastated maize fields since 2011 in Kenya, Rwanda, Tanzania, Uganda, Ethiopia, and Democratic Republic of Congo to date, heightening the need for farmers, local government bodies, and the national SPS committees to be vigilant and pro-active in combating MLN and mitigating the effects.

Aflatoxin - The other issue is fungal mycotoxins of which aflatoxin has long been recognized as a leading food and feed safety risk in maize in East Africa. Aflatoxin is produced by the mold *Aspergillus flavus* and is highly toxic to humans and animals. High exposure to aflatoxin leads to serious illness and can cause death in humans and animals. In lower doses, aflatoxin is linked to liver disease and cancer, stunting in children and suppression of the immune system. It is estimated that aflatoxins cause between 5 percent and 30 percent of all liver cancer in the world, with the highest incidence of 40 percent occurring in Africa.

While the report identified MLN and aflatoxin as the priority SPS issues for the maize value chain, these should be seen as a plant disease or a mycotoxin that needs to be resolved today; but there will be another devastating disease, pest or mycotoxins that will devastate the maize value chain in the future. To ensure the region is ready to address the next MLN or aflatoxin, the goal of the SPS technical assistance is to build a plant health system that can readily address the next disease, pest or mycotoxin that devastate the production of smallholder farmers.

SPS INVESTMENT OPPORTUNITIES

The LEO report outlines an action plan needed to deal with these important maize SPS issues. Interventions are needed at the farm level and throughout the value chain. National policies, legislation, regulations and implemented surveillance and control programs need to be strengthened to include implementation of country-wide surveillance for aflatoxin with field testing. Surveillance and diagnostics require financial support and cooperation between maize farmers, local government bodies and other private-sector members, such as, cereal traders and millers.

At the level of the national government, there is need to build laboratory diagnostic capacity. An extensive training program for personnel to maintain and use new state of the art equipment for identification of plant pathogens and identification and quantification of fungal contaminants in maize is needed. Urgent attention is needed to build acceptance for use of binders in human diets to reduce mycotoxin absorption in individuals who are forced to use mycotoxin-contaminated maize. Capacity building programs to raise awareness about the MLN disease threat to maize and the importance to health of mycotoxins is needed for farmers and other key players in the value chain. Government SPS regulators at county and national levels would benefit from

² The Inter-Governmental Authority for Development (IGAD), one of the eight Regional Economic Communities recognized by the African Union, includes Djibouti, Eritrea, Ethiopia, Kenya, Somalia, Sudan, and Uganda.

training in rapid field test kit use and surveillance methods. Further capacity building for plant health research and regulatory services diagnostics and risk assessment would improve disease detection and food safety. Training on regulatory rule-making and disease control program implementation are needed.

SPS-specific investment priorities for the maize value chain include the following:

MLN

- Research on the epidemiology of MLN with the Kenya Agricultural and Livestock Research Organization (KALRO) in Naivasha, the center of MLN initiatives to date, as it has the only testing capability in Eastern and Southern Africa.
- Development of MLN-resistant maize in coordination with CIMMYT (the International Maize and Wheat Improvement Center) who has been testing local maize varieties for susceptibility to MLN.
- Further development of local capacity.
- Prevent the further spread of MLN by cooperating with officials from the Southern African countries of COMESA and SADC.
- Strengthen SPS technical capacity and systems.
- Assist in the review, revision and implementation of national plant health laws, regulations and standards that are based on science, consistent with international standards (WTO and IPPC) and harmonized across the region.
- Support local efforts with funding and technical guidance such as ASARECA on developing an integrated regional strategy and coordination of MRL efforts.

Aflatoxin

- Create a USAID regional aflatoxin coordinator position
- Support financially and coordinate (providing advice and guidance) with the Partnership for Aflatoxin Control in Africa (PACA) on projects in East Africa.
- Support the registration and availability of Aflasafe™—a set of seeds and soil treatments shown to reduce aflatoxin in maize crops
- Assist in the review, revision and implementation of national laws, regulations and standards that are based on science, consistent with international standards and harmonized across the region
- Support the systematic surveying and monitoring and the enforcement mechanisms at the national level and harmonized across the region
- Support the biocontrol of aflatoxin
- Provide training to smallholder farmers
- Develop low-cost testing and drying systems for on-farm use
- Conduct additional research

Institutional Support

- Develop a USAID SPS strategy lead by a designated SPS Coordinator that links the work of the regional and bilateral USAID missions together with the strategies of the AU regional economic communities and national governments to engage donors who are implementing SPS-related projects to develop complementarity
- Partner with the EAC on capacity building activities to strengthen laboratory diagnostics and quality assurance, as well as methods to augment surveillance for plant disease and control of product

contaminates such as aflatoxin, provides opportunities for USAID to partner with both financial and technical support.

- Support the SPS task force of officials from EAC, COMESA, IGAD and AU-IBAR to interact with the national public and private sectors.

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