

## Abstract

Food processors implement differing food safety and quality assurance standards and guidelines. This may result in variable performance of the food safety management systems (FSMS) due to differences in technological development, resource access and food safety legal frameworks. The aim of this study was to evaluate the performance of FSMS in the fresh produce export processing sector in Kenya as a case. The risk posed by the context in which they operate was assessed. An FSMS diagnostic instrument was used to evaluate thirteen fresh produce exporting processors based on indicators and descriptive grids for context factors, control and assurance activities and food safety output. Riskiness in context was diagnosed either as low risk, moderate risk or high risk. Performance of control and assurance activities was categorized as not conducted, basic, average or advanced. Food safety output was scored as either not done, poor, moderate or good.

Majority of the processors ( $\geq 7$ ) operate at moderate level in most (74%) of the context riskiness indicators. Seven out of the 13 processors indicated that susceptibility of initial material to microbial contamination posed the highest risk with respect to product characteristics. Even though majority of the companies had advanced level core control activities performance for 6 out of 29 of the activities, there was a moderate performance in 48% of the activities and 24% control activities were not applied. Core assurance activities for majority of the companies also performed moderately in 89% of the indicators. FSMS performance was poor for 53% and good for 37% of the processors. All the processors had advanced scores for monitoring of pesticide residues but five lacked sampling and subsequent criteria for microbial analysis. The FSMS implementation for 77% of the companies was poor to moderate and, given the moderate context riskiness, this therefore resulted in moderate FSMS-output.

The mostly moderate FSMS activity levels when assessed in the context riskiness lower the food safety performance of the fresh produce sector. Several recommended control and assurance activities in fresh produce sector should be improved to advanced levels in order to realize a stable and predictable safety output subject to the riskiness of context situation.