## Price formation in the presence of international private food quality standard: the case of Kenyan French beans

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Private food quality assurance standards especially GlobalGAP now dominate Western food retailers' markets. GlobalGAP defines market access condition for producers requiring farm investments, traceability and certification. Despite quality, safety, health, welfare and environmental benefits, compliance is costly for smallholders yet a price premium is unobservable. Alternative markets mitigate quality and safety risks through contracts whose use and frequency of renewal is unexplained. Using data from French bean producers, three essays are presented: analysis of GlobalGAP adoption, its effect on producer prices, use and frequency of contracts renewal. In the first essay, results show that age, education, many producers in a village and short monitored supply chains reduce the likelihood but protective garments, experience and extension services increase the likelihood of adoption. It means that independent, elderly and those with off-farm opportunities may not adopt GlobalGAP. Nonland assets, farmer capacity and non-financial incentives are important strengths. In the second essay, the econometric model shows that GlobalGAP certification, use of supply contracts, direct procurement by exporters, and the size of markets in a village, have a positive effect on producer prices. Organized producers receive significantly lower prices. The GlobalGAP premium is not very large or constant over one season and is less important than supply contracts and direct procurement. More buyers in a given village, non-switching selling to one buyer and better roads are found to increase prices paid to producers. The third essay finds that farm size, education, many producers and many producers sharing buyer in a village are associated with oral contracts while extension, number of producer groups in a village, group size, price incentive and contact seasons with a buyer differentiate written contracts. Further, the results show that contract seasons increase with price if it's known at planting, spot cash payments, distance to irrigation water source, producer-exporter linkage, traceability and number of producers but reduces with the number of buyers in a village. The results indicate that alternative markets strongly depend on oral contracts while contract renewal is based more on mutually enhancing marketing practices. Overall, producer groups may be a more effective way to co-opt smallholders in private quality and safety standards. There is a weak GGAP certification premium beside non-monetary benefits. Finally,

alternative markets are available for smallholders without GlobalGAP certification.