This paper examines the technical efficiency of the Small Scale Sugarcane Farmers in Swaziland. The sugar industry as part of agricultural as well as of the manufacturing sector, directly accounts for 18% of the country’s GDP. The industry’s contribution to employment creation is massive. This is because sugarcane production still requires a lot of labour. Latest official employment statistics (in 2001) showed that the industry contributed over 35% of private sector agricultural wage employment. Sugarcane farming gained momentum in Swaziland due to a combination of political and economic factors such as the allocation of sucrose quotas to Smallholder Sugarcane Growers (SSGs) on Swazi Nation Land. It is important to assess the level of efficiency among the small scale farmers so that the farmers may make profit even after the removal of preferential markets which has resulted in the reduction of sugar prices, so that they continue with their sugarcane production. The stochastic frontier function model of the Cobb-Douglas type was used to determine the technical efficiency of a scheme of 40 sugarcane farmers from Vuvulane and 35 individual sugarcane farmers from Big Bend. Technical inefficiency effects were estimated and were assumed to be a function of other observable variables related to the farming operations. A cross sectional data for 2006/07 season was used for the study. The results reveal some technical efficiency levels of the sample farmers that are varied widely, for the Vuvulane sugarcane farmers ranging from 37.5

* Supervisor: J.I. Rugambisa, Co-supervisor: M.B. Masuku
percent to 99.9 percent with a mean of 73.6 percent and for the Big Bend sugarcane farmer’s ranges from 71.0 percent to 94.4 percent with a mean value of about 86%. The more important contributors in the small scale sugarcane production were fertilizer, labour and herbicides. Thus an appropriate amount of fertilizer, herbicides and labour utilization could increase the sugarcane production. The technical inefficiency of small scale sugarcane production decreased with increased farm size, education and age of the sugarcane farmer, but increased when small scale sugarcane farmers engaged in off-farm income earning activities.

**Index words:** Technical efficiency, sugarcane, stochastic frontier function.