

## ABSTRACT

Artisanal Gold Mining (AGM) is an economic activity particularly in developing countries. The activity has various negative effects on agricultural productivity like loss of farm land as reported in Peru and Ecuador. In Ghana, AGM has absorbed the agricultural labour force as most households in the mining villages are actively involved in AGM activities. AGM is a common economic activity in Migori, Narok, Kakamega and Siaya Counties of Kenya. In Karemo division of Siaya County, AGM as an emerging economic activity has encroached on agricultural land leading to reduction in land acreage, soil erosion, loss of soil fertility and injuries to livestock. These effects have led to overall reduction in the quantity and quality of agricultural output. Although the low agricultural production is supplemented by income from gold sales, AGM is a short lived activity and the households often revert back to agriculture once gold is depleted. Post AGM rehabilitation strategies to mitigate the AGM challenges on agricultural land are inadequate. Thus, this study aimed to assess the effects of AGM on agricultural land use in Karemo division of Siaya County. Its specific objectives were to: establish the effects of AGM on agricultural land acreage; establish the relationship of hours spent by households on AGM and on agriculture and to establish the rehabilitation status of land under AGM. A cross-sectional descriptive research was used and a random sample of 384 households was drawn from 15,200 households using Fischer et al formula. Primary data on the extent of AGM on agricultural land area was collected using a household questionnaire; this was supplemented by interview schedule for key informants, photography and observation checklist. Secondary data on the history of AGM in Karemo division was collected from academic reports and government institutional reports. Data analysis was done using independent sample t- test to show whether there was a significant difference between land under agriculture and that under AGM. Pearson correlation was used to determine the relationship between hours spent on AGM and agricultural activities. Percentages were used to establish the rehabilitation status of land under AGM. The findings were presented in the form of tables, frequencies, percentages, pie charts, bar graphs and photography. The findings revealed that the acreage of land under AGM was significantly ( $p < 0.05$ ) larger than that used for agricultural purposes. A moderate negative significant correlation between hours spent on AGM and on agricultural activities ( $r = -.550$ ,  $p < 0.01$ ) was reported. Also, there was a small attempt of land rehabilitation after AGM as revealed by a percentage of 25.5% of the households that either planted bananas and trees or refilled the abandoned mines. It was concluded that AGM activities in Karemo division had encroached into agricultural land and reduced its acreage, households spent more hours in AGM activities than agriculture and there was minimal rehabilitation of land after AGM. The study recommends that the households should rehabilitate mined parts of their farms for agricultural productivity. These findings are relevant to the policy makers in designing guidelines that would inform on post AGM productive land use.