

## **ABSTRACT**

The effects of land fragmentation on food and livelihood security has been experienced not only in Kenya and Africa but all over the world thereby necessitating adequate research to generate viable interventions. Various studies undertaken on impacts of land size and use on food and livelihood security especially in Ghana and Rwanda have shown that fragmentation has adverse effects on agricultural productivity. This has not been done in Nyandarua, specifically in Gatimu sublocation thereby resulting in a knowledge gap. This study assessed household land size and use for sustainable food and livelihood security in the dairy farming system of Gatimu Sub-location in Nyandarua County.

The target population consisted of all the households in Gatimu sub-location who practice dairy and non-dairy farming from which a total of 140 households were sampled. Questionnaires were administered, focus group discussions done, key informants interviewed and documents analysed. The data obtained was coded, entered and analyzed using statistical package for social sciences (SPSS). Both descriptive and inferential analyses were conducted. The results revealed that the households in Gatimu sub-location who practiced dairy farming owned at least two pieces of land each and both measured approximately 0.99 acres.

The findings also revealed that majority of the landowners supported land subdivision among their heirs due to the high population increase and high living standards in the country. The land in Gatimu sub-location however was found to be used for settlement and crop farming besides dairy farming in the area. A bivariate correlation analysis was done on the effects of household size on food and livelihood security and revealed that household land size was positively related to food and livelihood security while the main use of land was not associated with food security. Again the findings revealed that land ownership, total owned family land size, age of household head and the household size were significant factors affecting household land Size and use.

Therefore, the study recommended that land subdivision be highly controlled by setting minimum and maximum plot sizes in agricultural areas by the relevant authorities like the Government agencies involved in land administration so as to provide sufficient land size for agricultural activities. Other measures like educating children as a way of inheritance other than land are also encouraged.