

Attaining food security continues to be a challenge for many nations in the world. Food security; a situation in which all people, at all times, have physical and economic access to sufficient, safe and nutritious food to meet their dietary needs and food preferences for an active healthy life; is affected by a complexity of factors. Moiben location in Uasin Gishu County, Kenya is classified among the high agricultural potential areas yet families experience seasonal food scarcity. A study to investigate challenges and opportunities for sustainable household food security by smallholder farmers was conducted in the location. The objectives of this study were to: evaluate the overall food production among smallholder farmers in Moiben Location; establish the socio-economic challenges and opportunities influencing sustainable household food security among smallholder farmers in Moiben Location; determine technological challenges and opportunities influencing sustainable household food security among smallholder farmers in Moiben Location; establish the environmental challenges and opportunities influencing sustainable household food security among smallholder farmers in Moiben location. The study employed cross-sectional descriptive survey design and used a researcher administered questionnaire to collect data from 102 smallholder farmers, interview schedules for the local administration officer and the area Agricultural Extension Officer, and focus group discussion guide. Sampling techniques used in the study were simple random and purposive. Reliability of the instruments was established through pre-testing the instrument. Cronbach's alpha was used to assess the reliability coefficient. The data was analyzed using both descriptive and inferential statistics such as percentages, frequencies, chi-square and Analysis of Variance (ANOVA).

The study established that maize was the highest harvested crop in the area followed by wheat and vegetable. Cowpeas and beans were lower among the smallholders. Poultry followed by dairy cows and goats were important livestock in the areas. Milk was the highest followed by eggs and beef among the food items. All the socio-economic factors including sex, age, household size, highest levels of education, occupation and income affected the food crop and livestock production. Food production was higher among females than males and increased with improvement in some socioeconomic factors of the farmers. Technology use was low among the smallholder farmers and limited food production. Some of the environmental factors limited food production. The study established that in the recent years, rainfall distribution had become irregular and insufficient thus posing a challenge for the smallholder farmers in the study area.

The present study indicates that socio-economic factors, technological and environmental factors, limited food production and improvement in these factors are one of the ways that could enhance food production, hence food security.