

ABSTRACT

Banana (*Musa spp*) is a widely distributed fruit and which is contributing greatly towards food security in the developing countries. In Kenya, banana is among the major food and cash crop produced by smallholder farmers as a source of income and food security. However, it has been associated with low productivity and income. Currently, banana production in Kenya is 14 t/ha-1yr-1, which is below the global average of 20.5 t/ha-1 yr1. The low production has been attributed to various factors such as poor agronomic practices, low soil fertility, poor markets, lack of farming capital and sociodemographic factors. Despite studies on most of these factors, information on dynamics of socio-economic factors on banana farming by smallholder farmers is ever changing due to change in climate and lifestyles. Therefore, there is need to continuously monitor and study the effect of these factors on productivity and income of banana farming. The study, therefore determined the effect of manure adoption on banana production in smallholder farms in Maara Sub County, Tharaka-Nithi County. Descriptive research design was used in the study. The study targeted 34,779 smallholder banana farmers. A structured questionnaire, open and closed ended, were used to collect the data. Data was collected on demographic socio economic, institutional factors and banana production. Data obtained was analysed using the SPSS version 26. Descriptive statistics were employed in the presentation of the results. The study revealed that majority of the banana farmers are above 53 years and majority (54.8%) of the farmers derived their seedlings from their own suckers. About 83.8% of the farmers have adopted manure while 16.2% of the respondents have not. The common variety planted by the farmers is Kampala represented by 30.73%. About 29.7% banana farmers own land sizes between 0.5-1.0 ha of land. The majority (97.3%) of the farmers privately owned their lands while 2.7 3% of the respondents leased the lands for growing bananas. It was established that majority (88.0%) of the adopters received extension services while adopters who had not received any extension services were being represented by 8.0 %. Majority of the farmers who belonged to a farmer group and were adopters of manure being represented by 82.0% respondents while farmers who and were adopters and did not belong to any farmer group were represented by 14.0%. The study sought to determine the socioeconomic factors that affect adoption of manure in smallholder farms in Maara Sub County. Logistic regression model was used to find out whether gender, age, highest level of education of decision maker, access to extension service, participation in a farmer group, labour and land size were significant in the adoption of manure. Education level of decision maker $p = 0.007$, Gender $p = 0.000$, land size $p = 0.000$ and participation in farmer group $p = 0.003$ and extension services $p = 0.027$ were the factors that were found to significantly affect adoption of manure. Multiple regression model was carried out to determine the impact of adoption of manure on banana yield. The result showed that adoption of manure had an association with banana yield and was statically significant at $p = 0.000$. Most of the respondents were found to be literate. Therefore, illiterate farmers should be enlightened as education boost a farmer's ability to decode information. Awareness should be created to encourage any member who has not registered to any group as is through such groups the information is disseminated. Extension services should also be well strengthened. The study recommends farmers to adopt manure as a way of increasing banana yields.