

Abstract

Agricultural extension services provide smallholder farmers with knowledge, technical guidance, and advisory support that can facilitate the adoption of climate-smart agricultural (CSA) practices. This study examined the role of agricultural extension services in promoting CSA adoption among smallholder farmers in Mwingi West Sub-County, Kitui County, Kenya. A cross-sectional mixed-methods design was used. Quantitative data were collected from 200 randomly selected farmers through structured questionnaires, while qualitative evidence was obtained from 10 agricultural extension officers and 10 focus group discussions with farmer groups. Quantitative data were analysed using descriptive statistics and the chi-square test of independence. Significant associations were reported between CSA adoption and access to agricultural extension services, the source of extension information, type of extension support received, frequency of extension contact, perceived usefulness of extension services, CSA practices promoted through extension, and farmers' perceived influence of extension services on adoption. Most respondents (82.0%) had access to extension services. Extension agents were the main information source (46.0%), and technical training was the most frequently reported support (38.0%). Conservation agriculture (30.0%), agroforestry (22.0%), and water harvesting (19.0%) were the leading practices promoted through extension activities. Nearly half of respondents (48.0%) reported that extension services had increased CSA adoption to a great extent. The findings indicate that accessible, practical, and regular extension support is closely associated with CSA adoption in the study area.