Abstract
In arid and semi-arid lands (ASALs), low adoption of integrated soil fertility and water management (ISFWM) technologies has contributed to food and nutrition insecurity. A study was conducted to assess factors influencing smallholder farmers’ adoption decision of ISFWM technologies in Mwala and Yatta Sub-Counties. A questionnaire was administered to 248 respondents in the study region. Selection of household heads was done in ‘Farmer-led adoption approach’ sites otherwise known as Primary and Secondary Participatory Technology Evaluations (PPATEs and SPPATEs) and Non-PPATEs/SPATEs sites in both Sub-Counties. Relationships between different variables were determined by the Tobit model. The results revealed that group membership (P<0.016), inaccessible credit services (P<0.017), gender (P<0.025), age and access to agricultural extension services (P<0.027) influenced adoption of ISFWM technology significantly. Cost of inputs and access to radio information (P<0.01), access to appropriate farm machines (p<0.001), cost of labor and farmers’ perception on seasons’ reliability (P<0.004) and output markets (P<0.006) were reported to affect adoption of ISFWM practices highly significantly. Descriptive statistic results indicated that majority of the respondents (93.9%) in the project areas were adopting a combination of tied ridges, organic fertilizer and improved seed compared to only 6.1% in the non-project area. There was also significantly (P<0.01) higher adoption (76.5%) of a combination of tied ridges, both fertilizer and improved seed in the project area in contrast to merely 23.5% in non-project area, as well as those adopting (80%) a combination of zai pit, both fertilizer and improved seed compared to only 20% in non-project area. Policy makers should focus on availability of affordable credit facilities and farm machines, ease access to information, labor and input-output markets for enhanced farm productivity and livelihoods of the smallholder farmers in ASALs.