ABSTRACT

In the Nyando Climate Smart Villages (CSV), improved cassava varieties are a Climate Smart Agriculture (CSA) innovation, facilitated through multi-stakeholder Agricultural Innovation Systems (AIS). Improved cassava varieties possess unique attributes for diversification of staple food to enable households to attain the CSA triple wins of increased crop productivity and income, adaptation to climate risks, and mitigation of greenhouse gas (GHG) emissions. However, new agricultural technologies have inherent uncertainties, which bar putting the technology into socio-economic use (innovation) and subsequently stall fostering of innovation. For cassava CSA, evidence from household surveys in the Nyando CSV are inconsistent and inconclusive, so are less informative on whether and how households have failed or fostered CSA cassava innovation in production, postharvest handling and marketing. The evidence on how some farmers foster the innovations on their farms in the face of persistent climate change and variability risks can inform development practitioners how to foster cassava innovation to better realise the CSA triple wins, measureable with indices of farm diversity, adaptability, food security, productivity and mitigation. The purpose of this study is to deepen understanding on how positive deviant farmers (PDs) compared to average typical farmers (TY) under same conditions of AIS platform in the Nyando CSV have fostered cassava innovations in crop diversification, realisation of CSA triple wins and in improving post-harvest handling and marketing of cassava. The needed data will be sourced using mixed research methods, including household surveys, Focus Group Discussions (FGD), expert informant interviews, secondary sources of information and case studies. The PDs farmers will be identified by peer farmers through snowballing and validation process. Analysis will apply probability estimates, conditional probabilities and logistic regression to determine the trends in use of cassava innovations in crop diversification, and improving productivity, postharvest handling and marketing as well as in attainment of CSA triple wins. The triple wins will be computed from indices then subjected to conditional probabilities of observed frequencies by the levels of the indices. The fostering of cassava innovations will be analysed with seven Functions of Innovation Systems (7-FIS) framework and their relative importance determined with the Best-Worst scaling (BWS) choice method, implemented in a Balanced Incomplete Block design (BIBD). Analyses will be in Excel and Statistical Package for Social Sciences (SPSS) version 23.0. Expected study outputs are empirical evidence on use of CSA and cassava innovations in attaining CSA triple wins and improved productivity, postharvest handling and marketing, the relative importance of the 7-FIS in fostering CSA innovations.