## The effects of agricultural technology transfer through participatory methodologies: case study of farmer field schools in Kakamega district

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## **Abstract:**

This was an ex-post study that evaluated the effects of agricultural technology transfer through the farmer field school (FFS) methodology in Kakamega district. The objectives of the study were; to establish the types of participation that FFS has promoted, to assess the contribution of FFS as a participatory methodology towards individual farmer improvements, to establish whether farmers' agricultural and socioeconomic problems are gendered; to assess whether FFS addresses the both male and female farmers' agricultural and socio-economic problems, to establish the constraints of the methodology identified by the farmers and their views on the improvements of the methodology in future and to identify the facilitating and limiting factors of the sustainability of FFS. The study used both primary and secondary tools and techniques for data collection. The research sites for the study were in Bukura location, Lurambi division of Kakamega district of western province in Kenya where the farmer field schools are located. These sites were purposively chosen because Kakamega district is one of the pilot districts in western province, where the initial farmer field schools were started in Kenya in 1995. The study interviewed a total of 100 farmers (49 male and 52 female). The secondary data sources included the internet, case studies, and research reports among others. The data was analyzed by MS Excel and Statistical Package for Social Scientists (SPSS) packages. The research findings show that participation in FFS has led to various significant positive effects in terms of individual farmer improvements. These positive effects can be classified into social, agricultural productivity and gender development categories. The positive social effects include; willingness to participate in group activities, improved social integration and interaction, promotion of selfmobilization and interactive participation types of participation, increased enthusiasm towards information sharing and improved leadership skills. The positive agricultural productivity effects are; the transfer and adoption of agricultural technologies, increased access to knowledge and agricultural information, embracing farming as a business, improved technical know-how, improved decision making and change in attitude towards farming. The benefits in terms of gender development include; improvement in the access and control of agricultural resources, improved gender relationships and hence improved gender participation, equal opportunity for both gender to participate fully in agricultural development and equal decision making opportunities for both genders. Various constraints were identified which include; inadequate funding, lack of marketing strategies and infrastructure for farm produce and cultural barriers lhindrances among others. This study recommends that future research should focus on the assessment of the effects of other participatory methodologies of agricultural technology transfer in comparison to FFS. Future research should also focus on incentives that encourage

farming as an occupation for the youth given the fact that agriculture is the back-bone of the Kenyan economy and that its sustainability lies in the active participation of the youth. Research should be oriented towards ways of educating the poor on cultural hindrances and the importance of giving control to the youth in terms of land to practice agriculture and to help them be involved fully in agricultural development activities. Future research should also focus on education on gender in terms of access and control of resources and benefits. These strategies should involve the primary stakeholders and be as participatory as possible to ensure sustainability of the strategies developed. There is also the need for future FFS programmes to tackle the challenge of marketing since the challenge facing Kenyan farmers is not the absence of science to help improve productivity but the failure of markets. Microfinance services should also be availed to the farmers on farmer friendly terms. Future research should also focus on a comprehensive impact assessment project of the FFS approach, in the following four key thematic areas; economic, social, environmental and sustainability. Under each of these thematic areas, the assessment should focus on these five crucial levels; the farm, catchment areas, district, national and ecological zones after which the FFS methodology should be considered within the larger system, since FFS has already established itself as a process of social learning, negotiation and collective action by and for farmers and their communities.