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# The Role of Farmer Field Schools in Poverty Reduction among Rural People in Kasungu District, Malawi

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**Abstract**
Farmer field school is becoming popular extension services delivery method across the global. Farmer field school, according to FAO E learning Academy (2021), is defined as a participatory education approach that brings together a group of small-scale food security farmers to solve production related challenges through sustainable agriculture. Public and Private sector organizations are using the farmer field school approach as a tool for addressing production related challenges among farmers. This study was conducted to evaluate the role of farmer field schools in poverty reductions among rural people in Kasungu District, Malawi. The objectives of the study were to identify technologies validated in Farmer Field Schools; to assess use of technologies validated in Farmer Field Schools by FFS graduates; to determine changes in crop yield among Farmer Field School graduates, and to assess changes in household annual income among farmer field school graduates. The study used purposive method and 60 respondents were drawn from farmer field schools that had been in operational for more than one year. Data collected were triangulated through focus group discussions with Agriculture Extension Development Coordinator and Agriculture Extension Development Officer/ Master Trainers for the targeted Farmer Field Schools. Data were analyzed using the Statistical Package for Social Science (SPSS) software. The study findings showed that farmer field schools conducted studies on various topics; farmer field schools enhanced adoption of improved technologies among farmer field school members; Farmer field schools have improved crop yield among the farmer field school members; There is evidence of enhanced annual income among farmer field school members; Assets possession has improved among farmer field school members, and that Farmer field school concept has potential to reduce poverty according to farmer perceptions. In conclusion, farmer field schools have a role to reduce poverty by promoting adoption of recommended agricultural practices which impact on yield and consequently Basing on the findings, the study recommends that Government should establish board comprising technical people for FFS implementation guide; Higher learning institutions should consider revising curriculum to accommodate FFS as standalone course for undergraduate students, and that Government and NGOs should continue investing resources in the FFS approach.

**Keywords:** Farmer field school (FFS), agricultural practices, yield/productivity, annual income levels, assets, perceptions, adoption.

## 1. Introduction

Malawi is Agro-based economy which employs over 80% of population (World Bank, 2024). Agriculture sector contributes 67 percent of foreign exchange earnings and 29 percent of Gross Domestic Product (GDP) (GoM, 2020). Raw materials for manufacturing in Malawi has 65 percent that comes from Agriculture sector.

Agriculture sector in Malawi faces a number of challenges. The challenges affecting results into low productivity and consequently contributing to high poverty levels in the rural

areas. Low productivity is the major challenge faced by farmers.

Poverty is defined by different parties using different definition. Chen *et al*., (2024) defined poverty as a condition in which a person or community lacks financial resources and essentials for a minimum standard of living. Malawi Poverty Report (2020) showed that poverty analysis by place of residence in Malawi shows that 56.6 percent of people from rural areas were poor compared to 19.2 percent in urban areas in 2019/2020. majority of rural people depends on farming as a livelihood option which implies that majority of poor people in Malawi are farmers. Pangali *et al*., (2013) Indicated that poverty in Sub-Saharan Africa (SSA) is high in rural areas. Factors that affect agriculture productivity obviously contributes to high poverty levels.

Government is making all efforts to ensure that agriculture sector becomes vibrant and contribute to poverty reduction. Agriculture Extension Services employs various approaches and methods to help farmers have access to agriculture information. Farmer Field School is one of the extension methods that has gained popularity in most countries of the world including Malawi. The Farmer Field School (FFS) is a widely used method in rural development circle seeking to educate farmers to adapt their agricultural decisions to diverse and variable field conditions (FAO 2016).

**Problem Statement**

Kasungu district has 74,060(46%) of farming households that are participating in Farmer Field Schools. Several organizations have been facilitating the implementation of FFSs with huge investments in technical, financial and material support. Farmer Field School method is adopted to increase productivity which in turn increases income and food security consequently reduces poverty. Despite the increased investments in Farmer Field Schools by private and public sector organizations in Kasungu District, as a means to fight poverty, there is still little or contradictory information on the effectiveness of the FFS approach in poverty reduction in the district. This study seeks to evaluate the role of farmer field schools in poverty reductions among rural people in Kasungu District, Malawi.

**Objectives**

The main objective of the study was to evaluate the role of farmer field schools in poverty reductions among rural people in Kasungu District, Malawi. Specifically, the research sort to: To identify technologies validated in Farmer Field Schools; To assess use of technologies validated in Farmer Field Schools by FFS graduates; To determine changes in crop yield among Farmer Field School graduates, and to assess changes in household annual income among farmer field school graduates.

**Research Question**

The following were the research questions that the study answered: What are the technologies validated in Farmer Field Schools; To what extent are farmer field school graduates use technologies validated in Farmer Field Schools; What are the changes in crop yield among Farmer Field School graduates, and What are the changes in household annual income among farmer field school graduates.

## 2. Research Design

This study adopted descriptive research design. Descriptive research design mainly describes the characteristics of a particular individual or of a group (Kothari, 2004). The research was conducted in Chipala Extension Planning Area, Kasungu district. The study targeted farmer field school members who have been in the farmer field schools for more than one year. Farmers who have been in farmer field schools for more than one year are considered farmer field school graduates. 60 farmer field school members was the sample size for the study.

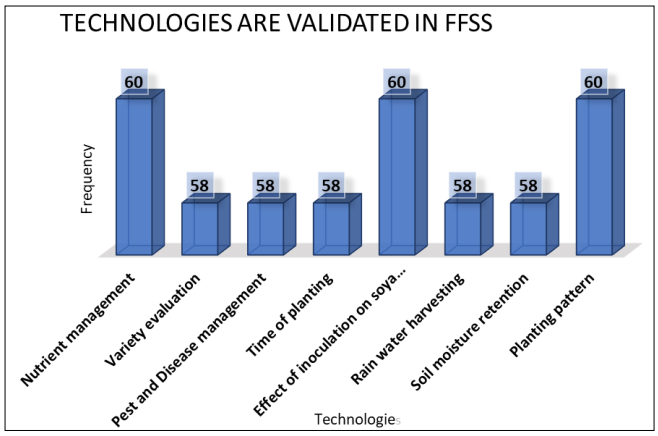
The study used two methods of sampling. The two methods were purposive and convenient sampling. Purposive sampling was used to sample the Extension Planning Area and Sections to conduct the survey. Convenient sampling was used to sample farmer field schools to be included in the study. The criteria for selecting the FFSs were as follows: FFS that has been working for more than a year and Distance of the FFS from the Extension Planning Area.

**Data Collection**

The data for the study was collected using questionnaire that was administered through face to face interview with respondents. The focus group discussion was conducted in a participatory approach. FGD was conducted for Mater Trainers and Agriculture Extension Development Coordinator. The discussions were open and interactive to capture the in-depth understanding of the subject matter. The data collection exercise for the survey took seven days to be completed.

## 3. Key Findings

### A. To Identify Technologies Validated in Farmer Field Schools




Various study topics had been conducted in FFSs. 60(100%) of the respondents indicated that their farmer field schools have had study topics in nutrient management, planting pattern, and effect of inoculation on soya production. 58(96.6%) of respondents indicated that they have had studied variety evaluation, pest and disease management, time of planting, rain water harvesting and soil moisture retention. The findings suggest that the majority of FFSs are likely to have had studies on nutrient management, planting pattern, and effect of inoculation on soya production in the study area. The study topics are in reference to the production challenges that farmers have been experiencing in the study area.

### B. To Assess use of Technologies Validated in Farmer Field Schools by FFS Graduates

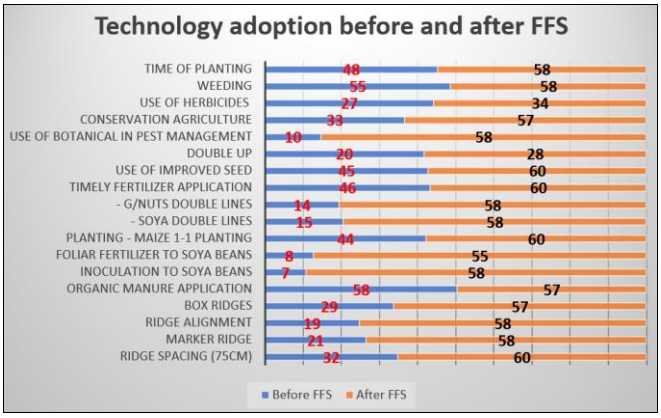



**Fig 1:** Technologies practiced after FFS

The research captured data on technologies practiced before and after joining farmer field schools. According to figure 1 above, before farmer field schools, 58(96.6%) of respondents indicated to have been practicing organic manure application, 55(91.6%) of respondents have been practicing timely weeding, followed by time of planting with 48(80%) of respondents, timely fertilizer application had 46(76.6%) of respondents. 45(75%) of respondents had been practicing use of improved seed; 44(73.3%) of respondents had been practicing 1-1 planting for maize; 33(55%) of respondents had been practicing conservation agriculture. The least practiced technology was inoculation to soya beans with only seven (11.6%) of respondents.

After participating in farmer field schools, 60(100%) of respondents indicated that they are practicing ridge spacing (75cm), 1-1 planting in maize, timely fertilizer application, and use of improved seed; 58(96.6%) of respondents practice marker ridge, ridge alignment, inoculation to soya beans, double role planting in soya, double row planting in ground nuts, use of botanical in pest management, weeding and time of planting. 57(95%) of respondents are practicing box ridges, organic manure application, and conservation agriculture. 55(91.6%) of respondents practice application of foliar fertilizer to soya beans. 34(56.6%) of respondents uses herbicides and 28(63.3%) practices double up.

The research findings meant that the majority of farmer field school members are likely to practice improved farming practices after participating in FFSs as compared to period before FFS. A few farmers are likely to use herbicides and double up technologies. The research suggests the reason for low adoption of herbicides and double up compared to other practice to be the cost implications like for herbicides and unfamiliarity with double up technologies s it is relatively new. Use of herbicides also faces some resistance in the rural communities where hearsays suggest that herbicides may lead to soil degradation.

### C. To Determine Changes in Crop Yield among Farmer Field School graduates

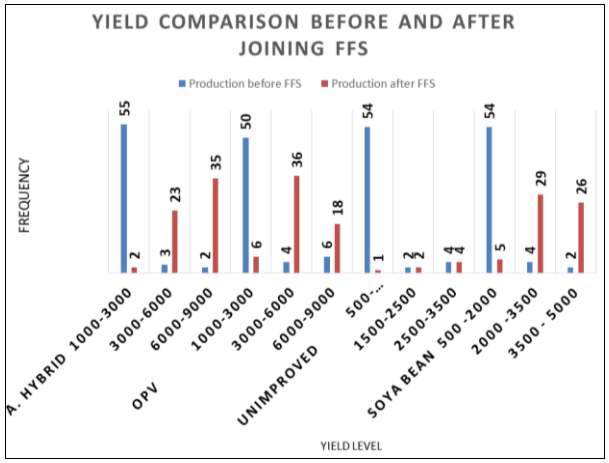



**Fig 2:** Crop yield comparison before and after joining FFS

The study findings on changes in crop yield before and after farmer field schools presented in figure 2 above showed that yield of hybrid maize variety has shifted from 1000-3000kg per hectare that had 55 respondents to 6000-9000kg per hectare and 3000-6000kg per hectare with 35 and 23 of 60 respondents respectively. As for OPV the majority are now producing 3000 to 6000kg per hectare followed by 6000 to 9000kg per hectare from low production level of 1000 to 3000kg per hectare with 36, 18 and 6 respondents respectively. The study also noted the shifting of farmers from 60 that grew local maize cultivars to seven farmers despite the increase in yield from 500 -1500 kg per hectare. On soya been, the comparison showed that majority of respondents had shifted from low production level of 500 to 2000 to 2000 to 3500 kg per hectare produced by majority followed by 3500 to 5000 KGS per hectare. The sets have five, 29, and 26 respondents of 60 respectively. The findings suggest that farmer field school graduates are likely to have high production levels in almost all crops due to the adoption of improved farming practices promoted in farmer field schools.

### D. i) To Assess Changes in Household Annual Income among Farmer Field School Graduates

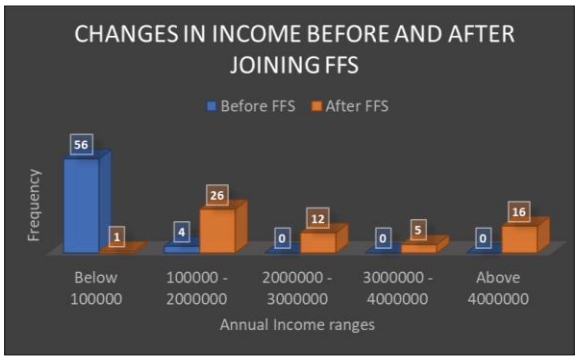



**Fig 31:** Changes in annual income before and after participating in FFS

Figure 3 above shows the changes in income before and after joining the farmer field school. The comparison on income levels before and after joining FFSs showed that 55 (91.6%) of respondents have graduated from annual income levels of below 100000mk to higher income levels. The number of respondents with 1000000MK to 2000000MK has increased from four (6.6%) to 26 (43.3%) of respondents. 2000000mk-3000000mk; 3000000mk-4000000mk; and above 4000000mk annual income levels had zero respondents before joining FFS but after joining FFSs had 12(20%), five (8%) and 16(26.6%) of respondents respectively. The results meant that there was an increase in annual income levels among FFS graduates. The study determined a significant difference in annual income for FFS members before and after joining FFS. The Pearson Correlation showed significant difference at 0.05 level.

**ii) Asset Ownership Before and After Joining FFS**

The research captured data on asset possession among FFS graduates before and after joining the FFSs. The findings were analyzed and are as in the figure 42 below:

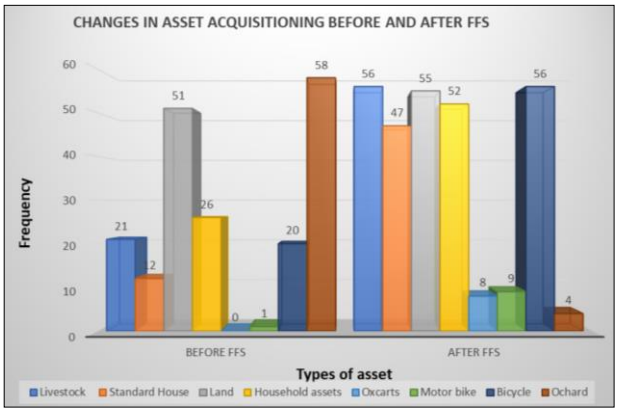



**Fig 4:** changes in asset acquisitioning before and after FFS

The study findings on changes in asset possession, presented in Figure 4 above, showed that before FFS 58(96.6%) of respondents had banana orchad; 51(85%) of had own land; 26(43.3%) of had household assets; 21(35%) of respondents had livestock; 20(33.3%) of respondents had bicycles; 12 (20%) of respondents had standard house; one (1.3%) of had motor bike; and none had oxcart. The findings suggest that people in the study area were more likely to have orchard, and land but rarely had oxcart and motor bikes.

The study findings on asset possession after participating FFSs and presented in the figure 43 above showed that after joining the FFS, 56 (93.3%) of respondents had livestock and bicycles; 55 (91.6%) of respondents had land; 52 (86.6%) of respondents had household assets; 47 (78.3%) of respondents had standard house; nine (15%) of respondents had motor bikes; eight (13.3%) of respondents had oxcart; and four (6.6%) of respondents had orchard. The study findings showed that the FFS participants in the study area are more likely to have bicycles, livestock, household assets and standard houses after participating in farmer field schools. The area is likely to still have low number of households possessing oxcarts and motor bikes. Nevertheless, there is significant difference on motor bikes and oxcarts before and after joining FFS. The study attributed the findings to the enhance income due to enhanced productivity as a result of adopting recommended farming practices validated in farmer field schools.

**iii) Effectiveness of FFS in Reduction of Poverty by Ranking**

The study captured data on perception of farmer field school members on the effectiveness of farmer field schools in reduction of poverty at household level. The findings showed that the majority of respondents 48(80%) ranked FFSs as strongly effective in reduction of poverty seconded by 12(20%) of respondents that ranked the FFS as effective in poverty reduction. Two (3.3%) of respondents ranked the FFS as neutral. The study findings suggest that the majority of people in the area are likely to rank FFS as strongly effective in reduction of poverty. Farmer field school increases income for households which reduces poverty. Relative poverty is mainly based on one's stand financially against the average income.

## Conclusion

Study has reviewed impact of farmer field schools in poverty reduction. The farmer field schools have demonstrated positive impact on adoption of improved technologies. Adoption of improved technologies has contributed to improved production which consequently impacted on income levels and asset possession of farmer field school members. Farmer field school is for all gender categories which gives an insurance of inclusion aspect in poverty reduction. There is positive significant difference between income levels before joining FFSs and income levels after joining FFSs which is the same as asset possession. The positive significant difference meant that farmer field schools have helped reducing poverty among the participants in the study area. The perception of farmers on effectiveness of FFS in poverty reduction determined a positive result that the FFS is strongly effective in poverty reduction. Promoting FFS could, therefore, mean ending poverty in the rural communities.

## Recommendations

The study put forward the following recommendations:

- Government should Establish a board to oversee the implementation of Farmer field school concept to ensure adherence to FFSs implementation guidelines
- Higher learning institutions should consider revise curriculum to accommodate FFS as standalone course for undergraduate students.
- Government and NGOs should continue investing resources in the FFS approach.
- The government should consider conducting awareness meetings to the NGOs on the effectiveness of FFSs in poverty reduction.
- There should be deliberate effort to promote FFS concept in various farmer-based organization including those in livestock production.

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