

Open Access | Original Article

Agricultural Education and Training (AET) Programme for Rural Farmers' Improved Food Productivity in Rivers East Senatorial District Rivers State, Nigeria

¹Nlebem B. S. PhD & ²Ejimofofor Destiny Ndidi

^{1&2}Department of Agricultural Education, Faculty of Education, Rivers State University, Nkpolu-Oroworukwo, Port Harcourt, Nigeria.

Keywords

Agricultural Education, Training, Rural farmers, Improved, Food productivity.

Volume 8 | Issue 2
June, 2025

P-ISSN 2382-4583
E-ISSN 2964-3648

Copyright © 2025

Abstract

The study examined how the integration of agricultural education and training (AET) programme would improve food productivity among rural farmers in Rivers East Senatorial District of Rivers State. The study was guided by three (3) research questions. The study adopted a descriptive survey research design. The target population was all peasant farmers in Rivers East Senatorial District. A simple random sampling technique was adopted to select 124 female and 102 male from five local government areas in the zone. The instrument for data collection was a self-structured questionnaire designed in a 4- point rating scale of agreement titled Agricultural Education and Training (AET) Programme for Rural Farmers Improved Productivity Questionnaire (AETPRFIQ). The instrument was scrutinized by two experts from Rivers State University, Faculty of Education, and Department Agricultural Education. The reliability of instrument was established using Cronbach alpha reliability which yielded an index of 0.86. Data was analyzed using mean and standard deviation with a benchmark mean value of 2.50. Findings from the study revealed that training programmes such as farmer-trained, field-school programme and enterprise training would enhance quality of information of farmers thus improving their agricultural productivity, enhance adequate adoption of new farming techniques, enhance smallholder farmers' managerial skills and improve farmers' skills in control of farm diseases. The study therefore recommends the integration of field-school approach in different areas of agriculture by extension officers and other stakeholders as it has the potentials for increased production and awareness of agribusiness training should be made to all stakeholders in agriculture from the lowest cadre of both extension and research officers to policymakers.

INTRODUCTION

Agriculture is the source of food production and income generation for the society. In fact, food security cannot be achieved without adequate enhancement on the food production sector. However, Amadi and Nnodim (2011) posited that the use of farm mechanization by peasant farmers is still at low level, as farmers still adopt crude tools to farm. Similarly, Nlebem (2023) asserts that low income and productivity of rural farmers are mainly associated with poor skilled farmers who still adopt traditional farming practices. Literatures had revealed deficiencies in skills, knowledge and ability among rural farmers (Wheeler, 2007 and Wheeler, 2008). Rural farmers have limited knowledge on best practice for crop production. This however could be due to lack of information on specific means to achieve this as there has been

much discussion on the need to increase productivity and sustainability in agriculture globally. Hence Food and Agriculture Organization (FAO, 2024) was of the opinion that empowering rural women and communities through participatory agricultural technology and farmers' innovation would enhance the development production agriculture.

The requirement for improved distribution of knowledge to rural farmers has been identified during the diagnosis that was conducted under Soil Fertility Initiative (FAO, 2014). Rural farmers depend on contemporary information to adopt new technologies and improve productivity. However, solving rural women's farming limitations require participatory approaches that would help them diagnose their limitations and identify possible solutions to overcome these limitations. Involving farmers in proffering possible solutions to the problems surrounding their farming system facilitates their complete adaption of improved farming techniques for different farm situations. In this regard, Jane and Macours (2017) identified farmers' field school approaches as being very successful for promoting Integrated Pest Management (IPM) through enhancing farmers' understanding of the ecological principles behind the safe and effective management of harmful pest and diseases.

Low agricultural productivity and limited adoption of new agricultural technologies by farmers are challenges Nigerian extension works attempt to deal with these issues, the importance of training cannot be underestimated. The skills to improve productivity, increase adaptability to deal with change and crisis, and facilitate the diversification of livelihoods to manage risks are at a premium in rural areas. Providing these skills has not been well met, usually because the contextual factors that prevent small farmers from accessing and applying training have not been addressed. To reduce poverty and improve socio-economic status of rural farmers in the country where large population depend on agriculture for food and income, training rural farmers becomes a necessity to improve production skills and boost the economy (Doss, 2018). Unless local agriculture is developed and other income earning opportunities open up, the food security determined by limited production potential will persist (FAO, 2023). This raises the assertion World Bank (2017) that improving the productivity, profitability, and sustainability of smallholder farming is the main pathway out of poverty, and to achieve this grassroots farming training remains the key.

Farmers training are ongoing phases of acquiring new innovative skills, attitude and knowledge in the context of improving a vocation that will enhance productivity in agriculture. Farmer training is education that most often takes place outside formal learning institutions (Sajeev, Singha & Venkatasubramanian, 2020). Training according to Sajeev and Singha (2020) is acquisition of the best way of utilizing knowledge and skill in a given field or profession. Increase in rural farmers' productivity primarily depends on acceptance of technological and cultural changes within the agricultural sector. Hence, training becomes a necessary component to boost agricultural productivity. Farmer training is implemented to inculcate the right skills to improve productivity for smallholder farmers. These farmers primarily focus on producing staple and cash crops like maize, cassava, sweet potatoes and other farm produce. Anderson (2018) asserts that farmer's training supports and facilitates rural dwellers who engaged in agricultural production to obtain skills, information and technologies to ensure a positive impact on agricultural productivity. Giving the example of farmers training, Jane and Macours (2017) asserted that the aim is to lift smallholder farmer; out of poverty by boosting their production.

Farmer-to-farmer contact plays a key role in inculcating good and salable skills to peasants. It is an effective means of reducing the risks farmers perceive. They are designed to take new innovations out of the 'unreal', scientific realm of the research station and place them firmly within the bounds of a farmer's everyday experience. This technique displays results of adopting a new practice and then to give the farmer an opportunity to practice new methods.

According to Mulugeta (2019), this aspect of training provide a structure that enables smallholder farmers to share and implement training information among themselves, collectively press for improved method of farming practice and support each other in applying new techniques and technologies. Farmer-to-farmer training has an immense important in facilitating farmers' access to training and has a direct impact on farmers' ability to utilize skills learned.

Delivering training through other trained rural farmers increase the number of farmers that adopt modern farming practices. Training farmers in "peer learning techniques" according to Kathleen and Chris (2019) improve rural farmer's ability to share information on availability of improved seeds/seedlings, and the appropriate utilization of them. According to Jeremie (2017) farmer-to- farmer training improves farmers' knowledge, productivity and revenues. Training is most effective when launched at the local level. Unlike academic researchers, farmers may not be motivated by scientific articles outside of their needs or dropping system. While technical documents and formal trainings are very useful, learning from the experience of other farmer is a key factor to influence farmers' decisions in trying new farming practices to maximize profit. Connecting with rural farmers who are already incorporating new technologies that increase in yield provides opportunities for other late adopter to learn experiences in implementing a given practice (Katharina, Eric, Mace & Jennifer, 2021).

Also Richardson (2013), asserted that rural farmers gain adequate information from on-Farm demonstration programme that enhance their production capacities and adoption of modern farm practices. On farm demonstrations gained the confidence of farmers who toured the farms leads to successful growth and development of rural farmers' income (Lugar & Harkin, 2021). Farmer Trainers to train other farmers in their village on the use of improved feed practices through demonstration plots and lesson. Narman (2021) was of the opinion that on-the-farm visit which is in aspect of extension service enables rural farmers develop several methods of production. Narman (2021) also posited that farm demonstration training provide farmers with non-formal knowledge on the use of new production techniques, the economic benefits and financial returns that can be achieved when new techniques are adopted.

Field School is training based on adult education methods, it is a school without walls that teaches basic agro-ecology and management skills that make farmers experts in their own farms. The Farmers' Field-Schools training programme focuses on learning-by-doing approach that puts farmers at the heart of learning and decision-making around new agricultural techniques. This approach integrates multiple components such as sustainable agriculture practices, market engagement and food and nutrition security. Farmers' field school programme is the most effective extension programme. Therefore, it requires adequate attention. Farmers' field school training view of Davis, Ekboir, Mekasha, Ochieng, Spielman and Zerfu (2017), provides rural farmers with management skills and commercial awareness that enables them develop better understanding of market opportunities and how they might be managed. Supporting this assertion, Chipeta, Christopher and Katz (2018) noted that lack of commercial and market awareness was a major barrier to achieving market success among rural farmers. Thus, emphasizing the need for extension or advisory services to be targeted at rural farm holders on marketing and business advice and understanding of agricultural value chains, in addition to technical knowledge. Furthermore, farmers' field programme helps smallholders to adopt progressive production techniques.

Foods and Agriculture Organization (FAO) (2020), agreed that this method of training builds the knowledge and skills in agricultural practices among farmers. In the word of Makokha (2020), farmers' field- school method enhances adoption skills among participants thus making them translate this skill and adapt it into their own fields, creating ownership and sustainability of adoption. Furthermore, the facilitators also visit farmers in the field and participate in the

farmer's session. This gives the farmers competence of being able to apply what is learned in class.

Lugar and Harkin (2021), argued that during farmers' field school rural farmers develop skills on how to identify insects and pest plaguing farmer's plants or animals. Lugar and Harkin (2021), further stated that farmers' field school training approach have shown remarkable impacts in terms of pesticide reduction, increases in productivity, knowledge gain among farmers and empowerment. Ebowore (2023) in a study reported that farmers' field school contributed considerably to farmers' knowledge regarding the control of cocoa diseases in Nigeria. In similar vein, Nathaniels (2015) stated that this training approach enhances farmers' sharing of information and knowledge and promoted the development of innovations on cowpea in Zimbabwe. Furthermore, Simpson and Owens (2022) found evidence of some diffusion in an evaluation of farmers' field school experiences in Ghana and Mali, with frequent communication between trainees and other farmers regarding specific agricultural practices.

Engaging peasant farmers in field school programme would make a huge impact on the utilization of improved indigenous technology. Pontius, Dilts and Bartlett (2022) were of the view that this approach has a good record in facilitating the emergence of local project initiative. Furthermore, the approach enables farmers develop skills for the application of integrated pest and its management in production agriculture. In similar vein, Keiser, Utzinger and Singer (2022) posited that skills farmers develop in field training include the construction of irrigation and formulation of manure for increased productivity. Farmers' field school programme particularly encourages participants to develop their critical thinking and make sound farm management decisions, resulting in adoption of improved technologies (Mvena, Mattee, Wambura, Mwaseba, Lazaro, Kiranga & Kilave, 2020). Farmers actively cultivate interpersonal networks and use these networks for acquiring much of their new knowledge and information. Furthermore, there is a considerable informal knowledge sharing that takes place within a village setting. Participants learn from field school experience and retain most of the basic knowledge they learned in these schools. This also offers an opportunity for a closer working relationship between researchers, extension officers and farmers and at the same time gives farmers the opportunity to make an input into the work of researchers.

Agricultural business training helps rural farmers who are smallholders to manage and market their farm produce more effectively and to take advantage of new agricultural opportunities. Farm enterprise training is directed to fit in participants' existing skill levels. Kathleen and Chris (2019) posited that farmers' enterprise training develops farmers' managerial skills and prepare them for risks involved in introducing progressive production technologies. The authors further stated that this training program also help rural farmers diversify their productive activities by branching out into non-farm enterprises which is an important mechanism in reducing susceptibility to crisis and developing a more stable all-year-round income. Jane and Macours (2017), asserts that farm enterprise training is particularly valuable in enhancing rural farmers' profit from new identified agribusinesses. In the same vein, Kathleen and Chris (2019) opined that this training support subsistence farmers' quality control, capital management and price awareness in the agricultural markets to maximize profit.

Hagmann, Chuma, Murwira, Connolly and Ficarelli (2022) posited that farm enterprise training is an avenue for rural farmers to have direct linkages to needed markets, and empowers them to interact with market intermediaries on fair terms. Farm enterprise training ensures both financial management and marketing is directly relevant to the rural farmers who are the participants and also enhance their skills in making good decision in their agribusiness. Smallholder farmers not only acquire technical skills to improve farm productivity, but they also

get equipped with the skills to negotiate rapidly changing agricultural markets, and adapt their productive activities in response to the new niches that it creates (Hagman et al., 2022).

STATEMENT OF THE PROBLEM

Despite the low levels of agricultural productivity, farmers in Rivers East Senatorial District of Rivers State tend not to adopt new agricultural technologies. One possible reason for limited technology adoption is that farmers may find it difficult to learn about new technologies on their own. Many governments invest in agricultural extension services to share information about new agricultural technologies with farmers. However, traditional farming practices have not consistently had an impact on farmers' behaviors and tend not to improve smallholder farmers' productivity and income, hence, the need to train rural farmers and encourage them to consider adopting improved farming practices that support productivity to increase the supply of food and improve economic livelihood in Rivers East Senatorial District of Rivers State in particular and the nation in general.

Purpose of the Study

The major purpose of the study was to assess how integration of agricultural education and training programmes would improve food productivity among rural farmers in Rivers East Senatorial District of Rivers State, Nigeria. Specifically, the study sought to:

Determine how farmers'-training programme would enhance agricultural productivity of rural farmers in Rivers East Senatorial District of Rivers State.

Examine how farmers' field-school programme would enhance agricultural productivity of rural farmers in Rivers East Senatorial District of Rivers State.

Ascertain how farm business training programme would enhance agricultural productivity of rural farmers in Rivers East Senatorial District of Rivers State.

Research Questions

Based on the purpose of the study, the following research questions were formulated:

How would farmers-training programme enhance agricultural productivity of rural farmers in Rivers East Senatorial District of Rivers State?

How would farmers' field-school programme enhance agricultural productivity of rural farmers in Rivers East Senatorial District of Rivers State?

How would farm business training programme enhance agricultural productivity of rural farmers in Rivers East Senatorial District of Rivers State?

METHODOLOGY

The study was conducted in Rivers East Senatorial District of Rivers State. The zone is dominated by Ikwerre, Etche, Okrika, Ogu-bolo ethnic nationality and the majority of the populace resides in the rural side where farming is their main base for livelihood. The study utilized a descriptive survey research design to seek the opinion of peasant farmers on farmers training and agricultural productivity in zone. The zone has several oil wells. However, agricultural activities constitute the main occupation of the dwellers, especially in the rural areas. The study was a descriptive survey research design. The target population was all peasant farmers in the zone. A simple random sampling technique was adopted to select 114 female and 102 male from five local government area in zone, which include (Ikwerre, Etche, Okirika, Ogu-bolo and Omuma) giving a total sample of 216 rural farmers for the study. The instrument for data collection was a self-structured questionnaire designed in a 4-point rating scale of agreement titled 'Agricultural Education and Training (AET) Programme for Rural Farmers Improved Productivity Questionnaire (AETPRFIQ), with a criterion mean of 2.50. The benchmark for agreed was mean ≥ 2.50 . Thus, any mean less than 2.50 were regarded as disagreed. The instrument was used to elicit information on each research question posed for the study. The instrument was face and content validated by two experts from Rivers State

University Faculty of Education, Department of Agricultural Education. The reliability of the instrument was established using Cronbach alpha reliability coefficient method which yielded a reliability index of 0.86. To analysis the data, mean and standard deviation were used.

Results

Research Question 1: How would farmer-training programme enhance agricultural productivity of rural farmers in Rivers East Senatorial District of Rivers State?

Table 1: Mean Responses on How Farmer-Training Programme Enhance Agricultural Productivity of Rural Farmers in Rivers East Senatorial District of Rivers State

S/N	Statements	Female (N = 114)			Male (N = 102)		
		\bar{X}_1	SD	Decision	\bar{X}_2	SD	Decision
1	Farmer to farmer training would enhance quality of information among farmers thus improving their agricultural productivity	3.51	0.86	Agreed	3.32	0.53	Agreed
2	Engaging farmers in peer-to-peer training would enhance adequate adoption of new farming techniques	4.23	0.77	Agreed	3.19	0.57	Agreed
3	The programme would increase farmers utilization of improved seeds/seedlings	2.82	0.63	Agreed	2.73	0.52	Agreed
4	Improves farmers' innovative skills	3.33	0.92	Agreed	3.18	0.55	Agreed
5	Trained-farmer trainers enhances farmers knowledge on crop production	3.08	0.67	Agreed	3.39	0.97	Agreed
6	Fastens rural farmers' adoption of modern farm practice	3.43	0.75	Agreed	3.31	0.66	Agreed
7	The activities in this method of training would encourage rural farmers to press to identify improved method of farming practice	2.96	0.64	Agreed	2.61	0.72	Agreed
	Grand Mean	3.14	0.70	Agreed	3.18	0.66	Agreed

Source: Field work 2025

Table 1 shows the mean and standard deviation of respondent on how farmer-training programme enhances agricultural productivity of rural farmers in Rivers East Senatorial District of Rivers State. The respondents agreed that farmer to farmer contact enhances quality of information of farmers thus improving their agricultural productivity (3.51 & 3.43), engaging farmers in peer-to-peer training would enhance adequate adoption of new farming technique (3.23 & 3.19) and that the programme would increase farmers utilization of improved seeds/seedlings (2.82 & 2.73). The table also revealed that the respondents agreed that farmer-to-farmer would improve farmers' innovative skills (3.33 & 3.18), farmer-to-farmer training programmes would enhance farmers' knowledge on livestock productivity (3.08 & 3.39), fastens rural farmers' adoption of modern farm practice (3.43 & 3.31) and would also encourage rural farmers to press to identify improved method of farming practice (2.96 & 2.61). The respond to each variable by the respondents is an indication that farmer-training programme enhances agricultural productivity of rural farmers in Rivers East Senatorial District of Rivers State as the mean values were all more than the criterion mean value of 2.50. Also the standard deviation of female famers range from 0.63 to 0.92 and that of male farmers range from 0.52 to

0.97, again the near similar value of standard deviation shows that the respondents were not widely dispersed.

Research Question 2: How would field-school programme enhance agricultural productivity of rural farmers in Rivers East Senatorial District of Rivers State?

Table 2: Mean Responses on How Field-school Programme Enhance Agricultural Productivity of Rural Farmers in Rivers East Senatorial District of Rivers State

S/N	Statements	Female (N = 114)			Male (N = 102)		
		\bar{X}_1	SD	Decision	\bar{X}_2	SD	Decision
1	Enhances smallholder farmers' managerial skills	3.21	0.76	Agreed	3.41	0.69	Agreed
2	Improves farmers skills in control of farm diseases	3.12	0.87	Agreed	3.31	0.61	Agreed
3	Enables rural farmers' develop good decision-making skills in farm enterprise	3.32	0.68	Agreed	3.54	0.93	Agreed
4	Develops farmers knowledge on new production techniques	3.45	0.91	Agreed	3.56	0.78	Agreed
5	Inculcate skills to identify food crop diseases	3.54	0.70	Agreed	3.42	0.52	Agreed
6	Provides adequate information needed to enhance production capacities	3.01	0.60	Agreed	3.15	0.66	Agreed
7	Enhance rural farmers' adoption of modern farm practices	2.96	0.64	Agreed	3.21	0.72	Agreed
	Grand Mean	3.14	0.70	Agreed	3.18	0.66	Agreed

Source: Field work 2025

Table 2 shows the mean and standard deviation of respondents on how field's school would enhance rural farmers' agricultural productivity in Rivers East Senatorial District of Rivers State. The respondents agreed that field school programme enhance smallholder farmers' managerial skills (3.21 & 3.41), improves farmers skills in control of farm diseases (3.12 & 3.31), enables rural farmer develop good decision-making skills in farm enterprise (3.32 & 3.54) and develops farmers knowledge on new production techniques (3.45 & 3.56). The table also revealed that farmers' field school programme inculcate farmers with the needed skills to identify food crop diseases (3.34 & 3.42), provides adequate information needed to enhance production capacities 3.01 & 3 15) and enhance rural farmers' adoption of modern farm practices (2.96 & 3.21). The respond to each variable by the respondents is an indication that field-school progamme enhances agricultural productivity of rural farmers in Rivers East Senatorial District of Rivers State as the mean values were all more than the criterion mean value of 2.50. Also the standard deviation of female famers range from 0.60 to 0.91 and that of male farmers range from 0.52 to 0.93, again the near similar value of standard deviation shows that the respondents were not widely dispersed.

Research Question 3: How would farm business training programme enhance agricultural productivity of rural farmers in Rivers East Senatorial District of Rivers State?

Table 3: Mean Responses on How Farm Business Training Porgramme Enhances Agricultural Productivity of Rural Farmers in Rivers East Senatorial District of Rivers State

S/N	Statements	Female (N = 114)			Male (N = 102)		
		\bar{X}_1	SD	Decision	\bar{X}_2	SD	Decision
1	Participation of rural farmers in enterprise training would	3.31	0.72	Agreed	3.20	0.86	Agreed

	develop their managerial skills in agribusinesses							
2	It will give peasant farmers the opportunity to develop risk management skills for a successful farm enterprise	3.12	0.64	Agreed	3.11	0.81	Agreed	
3	The activities would give subsistence farmers the insight in agricultural markets	2.87	0.65	Agreed	3.23	0.49	Agreed	
4	Equip farmers with the skills to adapt to rapid change in agricultural markets	3.13	0.58	Agreed	3.46	0.71	Agreed	
5	Increase rural farmer & profit in new identified agribusinesses	3.11	0.66	Agreed	3.33	0.60	Agreed	
6	Farmers enterprise training would develop farmers' innovativeness in marketing of farm produce	3.39	0.72	Agreed	3.49	0.75	Agreed	
7	Farmers business training would directly links rural farmers to needed markets opportunities	3.56	0.74	Agreed	2.81	0.75	Agreed	
	Grand Mean	3.44	0.70	Agreed	3.48	0.66	Agreed	

Source: Field work 2025

Table 3 shows the mean and standard deviation of respondents on how farm business training would enhance agricultural productivity of rural farmers in Rivers East Senatorial District of Rivers State. The respondents agreed that participation of rural farmers in agribusiness training would develop their managerial skills in agribusinesses (3.31 & 3.20), It will give peasant farmers the opportunity to develop risk management skills for a successful farm enterprise (3.12 & 3.11), The activities would give subsistence farmers the insight in agricultural markets (2.87 & 3.23) and equip farmers with the skills to adapt to rapid change in agricultural markets (3.33 & 3.46). The table also revealed that farm enterprise training increases rural farmers' profit in new identified agribusinesses (3.11 & 3.33), would develop farmers' innovativeness n marketing of farm produce (3.39 & 2.49) and would directly links rural farmers to needed markets opportunities (3.56 & .81).). The respond to each variable by the respondents is an indication that farm business training progamme enhances agricultural productivity of rural farmers in Rivers East Senatorial District of Rivers State as the mean values were all more than the criterion mean value of 2.50. Also the standard deviation of female famers range from 0.64 to 0.74 and that of male farmers range from 0.60 to 0.86, again the near similar value of standard deviation shows that the respondents were not widely dispersed.

DISCUSSION OF FINDINGS

From research question 1, the study indicated that farmer-training enhances quality of information of farmers thus improving their agricultural productivity, engaging farmers in peer-to-peer training would enhance adequate adoption of new farming techniques and that the programme would increase farmers' utilization of improved seeds/seedlings. From this section, the study also revealed that farmer-contact improve farmers' innovative skills, help them enhance their knowledge on livestock productivity, fastens their adoption of modern farm practice and encourage them to press to identify improved method of farming practice. The findings are in corroboration with Jerermie (2017) who affirms that farmer-contact training improves farmers' knowledge, productivity and revenues. The finding is also buttressed by Katharina et al. (2021) who in a study on farmer' training ascertained that connecting farmers

to agricultural programmes enables them incorporate new technologies to increase yield and provides opportunities for other late adopters to implement new learned farming practices.

From research question 2, the study indicated that field school programme enhance smallholder farmers' managerial skills, improves farmers skills in control of farm diseases, enables rural farmers' develop good decision-making skills in farm enterprise and develops farmers knowledge on new production techniques. The finding is in line with the assertion of Lugar and Harkin (2021) that rural farmers develop skills on identification of insects and pest plaguing farmer's plants or animals through their engagement in farmers' training. The study also revealed that field school programme inculcate farmers with the needed skills to identify food crop diseases, provides adequate information needed to enhance production capacities and enhance rural farmers' adoption of modern farm practices. The finding is in agreement with Food and Agriculture Organisation, FAO (2023) that field school method of training builds the knowledge and skills in agricultural practices among farmers.

From research question 3, the study indicated that participation of rural farmers in agricultural business training would develop their managerial skills in agribusinesses, give peasant farmers the opportunity to develop risk management skills for a successful farm enterprise, give subsistence farmers' the insight in agricultural markets and equip farmers with the skills to adapt to rapid change in agricultural markets. The findings are in agreement with Kathleen and Chris (2019) who in their study concluded that farmers' enterprise training develops farmers' managerial skills and prepare them for risks involved in introducing progressive production technologies. Finally, findings from the study also indicates that farm enterprise training would without doubt increase rural farmers' profit in new identified agribusinesses, develop farmers' innovativeness in marketing of farm produce and would directly links rural farmers to needed markets opportunities. The findings corroborates with Hagmann et al. (2022) who posited that farm enterprise training is an avenue for rural farmers to have direct linkages to needed markets, and empower them to interact with marked intermediaries on farm terms. The finding is also buttressed by Jane and Macours (2010) who confirmed that farm enterprise training is particularly valuable in enhancing rural farmers' profit from new identified agribusinesses.

CONCLUSION

From the background and findings, the study therefore deduced that farmer's training is an aspect of vocational training that needs an immense attention on the implementation so as to achieve the desire goals to which it was designed for. These approaches have some potential for enhancing the uptake of technologies by farmers and will without doubt have immense increase on food productivity, income generation thus sustaining the rural livelihoods of farmers in Rivers East Senatorial District of Rivers State and the nation at large.

RECOMMENDATIONS

In spite of this potential, however more needs to be done in order to realize benefits of these relatively new approaches. It is therefore recommended that:

The field school approach needs to be studied in depth in different areas of agriculture by extension officers and other stakeholders as it has the potentials for increased production.

Awareness of agribusiness training should be made to all stakeholders in agriculture from the lowest cadre of both extension and research officers to policy makers. This would help sensitize them on key attributes of this approach for proper implementation.

During these training, farmers should be allowed to use their own farm as a demonstration site. This will enable them gain access to the profit and encourage full participation among other rural adopters.

REFERENCES

- Amadi, N.S. & Nnodim, A.U. (2011). *Needs for Curriculum Innovation in Agricultural Education and Mechanization in Schools and Colleges*. *Research in Curriculum Studies*, 6(92), 199-207.
- Chipeta, S., Christoplos, I. & Katz, E. (2048). *Common Framework on Market-Oriented Agricultural Advisory Services*. Wagineng, Netherlands: Neuchâtel Group.
- Davis, K., Ekboir, J., Mekasha, W., Ochieng, C., Spelman, D., & Zerfu, E. (207). *Strengthening Agricultural Education and Training in Sub-Saharan Africa from an Innovations Systems Perspective*. Discussion Paper 00736. Washington: IFRPI.
- Davis, K. (2006). *Farmer field schools: A Farm or Bust for Extension in Africa?* *Journal of International and Agricultural Extension Education*, 13(1), 91-97.
- Davis, K., Nkonya, E., Kato, F., Mekonnen, D. A., Odendo M., Miiro, R. & Nkuba, J. (2010). *Impact of Farmer Field School on Agricultural Productivity and Poverty in East Africa*. IFPRI Discussion Paper 00992. Internatica1 Food and Policy Research Institute, USA.
- Doss, J.T. (2018). *Handbook of Vegetable Preservation and Processing* in Y. H. Hui, Sue Ghazala, Dee M. Graham, K. D. Murrell, and Wai-Kit (eds) Nip CRC Press.
- Ebewore, S.O. (2013). *The Role of Farmer Field School in Training in improving farmers' Knowledge of Selected Cocoa Cultivation Practices in Edo State, Nigeria*. *Journal of Natural Science Research*, 3(1), 41-50.
- Food and Agriculture Organization, FAO (2023). *Cassava Productivity Improvement Programme through Farmers Field School*. Annual Report of the Food and Agriculture Organization of the United Nation.
- Food and Agriculture Organization (2024). *Soil Productivity Improvement Programme through Farmers Field School*. Annual Report of the Food and Agriculture Organization of the United Nation.
- Hagmann, J., Chuma, E., Murwira, K., Connolly, M. & Fiearelli, F. (2022). *Success Factors in Integrated Natural Resource Management. R&D: Lessons from Practice*. *Ecology and Society*, 29(2).
- Jane, K. & Macours, M. (2017). *The Impact of Farmer-to-Farmer Training on Agricultural Productivity in Uganda*
- Jeremie, M.C. (2017). *The Role of Farmer Field School in Training in Improving Farmers Knowledge of Selected Cassava Cultivation Practices in Rivers State, Nigeria*. *Journal of Natural Science Research*, 3(2), 50-56.
- Kathleen, C. & Chris G (209). *Training for Rural Development: Agricultural and Enterprise Skills for Women Smallholders*. Produced by: City & Guilds Centre for Skills Development, 24-30 West Smithfield, London, EC1A 9DD. Editor: Sara Clay.
- Keiser J, Utzinger J & Singer BH (2022). *The Potential of Intermittent Irrigation for Increasing Rice Field, Lowering Water Consumption, Reducing Methane Emissions, and Controlling Malaria in African Rice Fields*. *J Am Mosq Control Assoc.*, 18, 329-340.
- Lugar, R & Harkin, T., (2021). *Objectives for the new farm bill*. United States Senate. [on-line] available: http://www.senate.gov/agriculture/Press/2001_Press/01925b.htm.
- Makokha, D. W. (2020). *Farmers Field School Extension Methodology Characteristics*. *Journal of forestry*, 4(4), 21-34.
- Mulugeta, T. (209). *Developing Integrated Soil Fertility Management*. *Agricultural Systems*, 73, 57-81.

- Mvena, Z. S. K., Mattee, A. Z., Wambura, R. M., Mwaseba, D. L. Lazaro, E. A., Kiranga, E. D. & Kilave, D. M. (2020). *Farmer Field Schools as a Springboard for Enhanced Uptake of New Agricultural Technologies: Lessons for Tanzania*. *Tanzania Journal of Agricultural Sciences*, 12(1), 43-51.
- Narman, A. (2011). *Education, Training and Agricultural Development in Zimbabwe*. Paris: UNESCO.
- Nathaniels, N.Q.R. (2015). *Cowpea, Farmer Field Schools and Farmer-to-Farmer Extension: A Benin Case Study*. *Agricultural Research Extension Network (Agren), Network Paper No. 148*.
- Ndlovu, T. (2015). *Fanner Participation: A Drive towards Sustainable Agricultural Production in Makwe Irrigation Scheme, Zimbabwe*. *Global Science Research Journal*, ISSN: 2408-5480
- Nlebem, B.S. (2023). *Influence of Modern Farming Activities on Agricultural Productivity of Rural Farmers in Omuma Local Government Area, Rivers State, Nigeria*. *International Journal of Research Publications and Reviews* 5 (1), 8. -14.
- Pontius, J.C., Dilis, D.R. & Bartlett, A. (2022). *Ten years of IPM training in Asia: From Farmer Field School to Community IPM*. Bangkok: FAO.
- Richardson, J.G. (2013). *On-Farm Demonstrations Consideration Factors for their Success and Viability as an Extension Teaching Tool*. *South African Journal of Agricultural Extension Service* 32(2), 12-28.
- Sajeev, M.V., Singha, A.K. & Venkatasubramanian, V. (2012). *Training Needs of Farmers and Rural Youth: An Analysis of Manipur State, India*. *Journal of Agricultural Science*, 3(2), 103-112.
- Sajeev, M.V. & Singha, A.K. (2012). *Training Needs of Rural Youth: An Analysis of Manipur State, India*. *Journal of Agricultural Science*, 3(3), 106-114.
- Simpson, B. & Owens, M. (2022). *Farmer Field Schools and the Future of Agricultural Extension in Africa*. *Sustainable Development Dimension, Sustainable Development Department, FAO*.
- Wheeler, S. (2007). *Views of Australian Agricultural Professionals towards Modern Biotechnology and Organic Agriculture: A Comparison*. *Australian Journal of Experimental Agriculture*, 47-120.
- Wheeler, S. (2018). *What influences agriculture: 1 News towards Organic Agriculture?" Ecological Economics*, 65, 145-154.
- World Bank (2017). *Crop Production Improvement Programme through Farmers Field School: Annual Report of the World Bank*.