International Journal of Agriculture, Food and Biodiversity IJAFAB

REVAMPING FARMER FIELD SCHOOL TO FARMER FIELD BUSINESS SCHOOL FOR SUSTAINABLE AGRICULTURAL PRODUCTION

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Abstract

The Farmer Field School (FFS) is a form of out of regular school or adult learning situation or execution of the learning process in the field where farmers experiment together with the extension agent. The FFS tends to provide farmers especially the non-formal avenue to practically view things directly as being demonstrated by the extension agent who is the field teacher and the farmers themselves who demonstrate the basic concept alongside the extension agents. However, educating farmers through FFS requires more issues of agricultural commercialisation from both farmers and the facilitators than simple technology transfer or technical recommendations of innovation. This paper provided insight into the content of FFS, regarding the norms of FFS, the role of facilitators and the need to enhance FFS, build capacity of farmers for commercialized agricultural production, food and nutrition security and continued rural development. The FFS is not effectively practised and there are few extension agents to handle the processes, thus affecting agricultural production and food security. The reorientation of FFS as farmer field business school (FFBS) will enhance extension services delivery for more income hence, need for more agents is critical for effective FFBS, the FFBS consequently will contribute to achieving the sustainable agriculture and rural development.

Keywords: FFBS, ill-equipped, poor funding, reorientation, sustainable development

Introduction

The Food and Agriculture Organization of the United Nations (FAO) established the farmer field school (FFS) in 1980s both in Asia and Africa (Makokha, 2022) to enable farmers access, understand and sustain innovation development. The millennium development goals (MDGs) focused on achieving food and nutrition security by 2015. When this was not fully achieved the Sustainable Development Goals (SDGs) were reached as an agenda to sustain food, agriculture and rural development by 2030 and an approach that empowers rural people as agents of change (Food Agriculture Organisation, 2017; United Nations, 2018). Rural populations that make up the vast majority of the global poor who are often confronted with an array of challenges, including population growth, food insecurity, land degradation, climate change effects, pressure on natural resources, and rapid rural transformation. The capacity of farmers for adaptive management to respond to changing farming practices and climate issues is crucial for sustainable food and nutrition, rural development and economically viable national development The FFS is a form of adult learning situation, which emanated from the concept that farmers tend to learn better from field observation and experimentation (van den Berga, Ketelaarb, Dickea, Fredrixc (2020). The principle of FFS ensures that at various sessions of the planned programme of the FFS learning process from planting to harvest, groups of neighbouring farmers observe and discuss the dynamics of crop production. Simple experimentation of various technologies helps farmers to further improve their understanding of functional relationships (e.g. pests-natural enemy population dynamics and crop damage-yield relationships). In this recurring learning process, farmers develop the expertise that enables them to make relevant decisions that will enhance their capacity to produce more food to better their living standards and improve the overall development of their national economy.

The need to build the capacity of extension service providers and the farmers on basic principles in the implementation of the FFS is an addition to the improvement of agricultural production, especially when the ratio of extension agents to farm families is too high as obtainable in most developing agricultural nations. The FFS tends to provide farmers especially the non-literate avenue to practically view things directly as being demonstrated by the extension agent who is the field teacher and the farmers themselves who demonstrate the basic concept alongside the extension agents. Nonetheless, the reality is that majority of farmers in Nigeria remain poorly informed about innovative agricultural practices. Unfortunately, the agricultural extension services are poorly funded, and not equipped to reinforce the capacity for adaptive management in the FFS situation. Therefore, this paper considered the content of FFS, the norms of FFS, the role of facilitators and the need to enhance FFS, build capacity of farmers for commercialized agricultural production, food and nutrition security and continued

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rural development. The FFS is not effectively practised and there are few extension agents to handle the processes, thus affecting agricultural production and food security. It also considered the reorientation of FFS to farmer field business school (FFBS) which will invariably lead to sustainable food and nutrition security and rural development.

The concept of farmer's field school (FFS)

FFS represent an effective mechanism for group training that can reach thousands of small-scale farmers with diverse education and religious background as well as gender, with knowledge and technical content that each can adapt to their own unique circumstances. Beyond this, as has been indicated, these processes empower farmers, both individually and collectively, with the requisite skill and knowledge to effectively participate in the processes of agricultural development (Climate Technology Centre and Network, 2022). This process therefore, makes farmers useful to themselves and fellow farmers, as well as contributes to national development which plays a major role in the fight against food insecurity.

FFS is a Group Extension Method which is based on the principle of adult education; it is a "school without walls" that teaches basic agro-ecology and management skills that make farmers experts in their farms (Makokha, 2022**).** It is however, not based on formal education principles where learners may be restricted to confinement or a class-room block. A very important feature of the FFS is the execution of the learning process in the field where farmers experiment together with the extension agent. It is usually guided by the principle of learning by doing. It is a field situation where farmers and extension agents engage in debate, observations, incorporate their previous experiences and present new information from outside the community. The results of the meetings are usually management decisions on what action to take. Thus FFS as an extension methodology is a dynamic process that is practised and controlled by the farmers to transform their observations to create a more scientific understanding of their crop-livestock agro-ecosystem. A field school therefore, is a process and not a goal (Makokha, 2022). FFS consists of groups of farmers who come together with the primary aim of studying a particular concept or topic. The topics or concepts to study may cover a wide area of agricultural production. This may vary from conservation agriculture, organic agriculture, animal husbandry, soil husbandry, to income generating activities such as handicrafts and farm management principles that will enhance their production. FFS provides opportunities for learning by doing. By implication, farmers are allowed the opportunity to personally put into practise what they are taught directly in the field. It teaches basic agricultural and management skills that make farmers experts in their farms thereby creating a direct solution for farmers' production problems. FFS is a forum where farmers and trainers debate observations, experiences and present new information from outside the community (SUSTAINET EA, 2010). In this regard, farmers' knowledge from the previous production can be re-examined for further consideration by the FFS planners. Along the same line, farmers' indigenous knowledge systems (IKS) in crop production and animal husbandry could be reassessed by the farmers and the service providers. A very notable implication of this is that when farmers (IKS) are collectively reassessed by the extension service provider and the farmers, the farmers get a sense of belonging and gain some confidence in the FFS activities. The end product of the FFS is to positively influence the farmer's interest. Khisa (2010), maintained that FFS is usually a community-based field learning activity integrating the application of experiential learning (learning-by-doing) principles where the field is the school. Noting that the field school emphasizes observation, discussion, analysis, collective decision-making, presentation and taking appropriate collective and individual action and emphasizing that FFS roots are in ecology and it combines indigenous and modern knowledge in empowering farmers following the laid down principle.

Ethics of FFS

FFS is guided by some basic ideologies required to boast its functioning especially for the farmers to benefit tremendously. The following principles were offered by Oxfam Novib (2021).

1. **Learning by doing**: Adults learn faster and accept change mostly through their practical experience and not usually by sedentary listening to the teacher and observing the demonstrations. Adult tends to respond positively when they are made to participate in the practical aspect of the learning process. Which make them develop a positive attitude when playing an active role in the demonstration process. Through experimentation, observation, and analysis, FFS group members can create and believe in their understanding and be confident about their personal knowledge which makes them become problem solvers.

2. Focus on a specific topic: FFS programme should concentrate on a sole task at a time. This challenge must be of relevance to the livelihoods of all participants based on solve some production problems and better their living conditions. Different ways to address the challenge are compared through experimentation (nutritional issues, different cooking methods, crop varieties, marketing strategies or any other issue of relevance to the farmers) and issues are discussed among the FFS participants as they occur in real-life situation.

3. The duration of the FFS: This must match with the challenge being studied, from planted seed to

harvested seed, from affluent period to scarcity period (when studying nutrition in the community) or from seed production to seed processing and marketing. Therefore, the time allocated for FFS is usually considered to fully cater for the problem to provide the needed solution.

4. **The field as a learning place:** Usually the learning sessions take place in the field (kitchen, forest, market) in the classroom, which could be a plot of land made available by the community or an individual FFS member. This gives the farmers a sense of belonging and ownership of the programme and also boosts their interests in the FFS. Depending on the topic, learning may also take place in a dedicated facility or site, such as a kitchen or forest with food plants, or a seed market. Participants observe and learn from the field-work, food preparation, or forest and market trips, instead of from textbooks which may not fully present the concept under study when compared with real-life situations where farmers are made to see and practice activities on their own.

5. Emphasis on facilitation and support: The facilitator plays a critical role in the FFS process. Instead of the normal teaching, the facilitator helps to guide FFS members through the learning process, remaining in the background, listening attentively, asking questions, and encouraging participants to think, observe and find answers by themselves. In this situation, the farmer plays an active role in proffering solutions to the problem being addressed.

6. Farmers' knowledge: This is critical forms of the preliminaries of the FFS activities. During the FFS, participants improve their observation and learning skills. FFS may also benefit from collaboration with scientists, crop breeders, health workers, etc. Such collaboration can provide farmers with new insights, knowledge, and materials.

7. Steady observation and analysis: This is a key to forming the cornerstone building of the FFS sessions. All FFS members are collectively involved in the regular observation, analysis, and presentation of what happens in the field. The group takes decisions based on their observations on regular basis in the progress of the work and makes the conclusions based on the experiments

8. Equity is encouraged in FFS: All FFS members participate on an equal basis, making participation in FFS democratic in nature. The FFS recognizes no hierarchy between farmers and facilitators, group leaders and ordinary members. There is usually gender equality as men and women are given equal opportunities to participate. Also, in FFS people of different ages, status or castes, and education have equal rights of participation in group or FFS activities. Special care is usually taken to allow equal participation of farmers with low literacy or without any form of formal education. All members are equal partners in the FFS learning experience.

9. Collective action: Group formation has often supported the livelihood strategy of farmers of the rural resource-poor and enhanced the agricultural extension service deliver. Indeed, acting as a group creates more power than as an individual. The shared learning experiences in the FFS are reinforced by group dynamics, singing, dance, and drama. Shared decision-making enhances ownership of results and newly acquired knowledge-making farmers see themselves as problem solvers. In the end, a strong group is formed that can take a leadership role in tackling new challenges in their community, or autonomously continuing the FFS activities.

Distinctive factors of FFS

FFS has some basic characteristics which distinguish it from other learning approaches, some of these characteristics include:

1. **Farmers as Specialists:** Learning by doing is the training approach adopted in FFS. Farmers learn by carrying out the various activities related to the particular farming practice they want to study and learn about by themselves and the guidance of the facilitators who act as a moderator of the entire activity. The important thing is that farmers conduct their field studies by making relevant observations and commenting on the progress of the activities. Their training is based on comparison studies (of different treatments) and field studies that they, not the extension/ research staff conduct (TNAU AGRITECH, 2015). In so doing they become experts on the particular practice they are investigating.

2. **The Field is the Primary Learning Situation:** All the learning is conducted in the field where farmers are made to see and practices things themselves and learn the basic concept of a particular technology. Farmers work in small sub-groups where they collect and analyse data, make actionable decisions based on the analysed data and present their decisions to the other farmers in the field school for further discussion, questioning, refinement and comparison (**Makokha, 2022**).

3. **Extension Workers as Facilitators:** The role of the extension worker in FFS is very much that of a facilitator rather than a conventional teacher by so doing farmers are made active participants in the entire process. Once the farmer knows what to do, make proper observations in the field and takes the needed readings, the extension worker takes a back seat role, only offering help and guidance when asked to do so. Presentations during meetings are the work of the farmers not the extension worker, with the members of each working group assuming responsibility for presenting their findings in turn

to their fellow farmers. The extension worker may take part in the subsequent discussion sessions but as a contributor, rather than the leader, in arriving at an agreed consensus on what action needs to be taken at that time. Interestingly, in the whole process every farmer or participant has an equal right to participation in the group activity.

4. **Subject Matter Specialists' Work with Farmers:** The role of scientists and subject matter specialists is to provide backstopping support to the members of the FFS and in so doing to learn to work in a consultative capacity with farmers (**Makokha, 2022**). In other words, they play a role in working with the farmers to collectively bring out results rather than being a lecturer who teaches the farmers basic concepts of the process.

5. **The curriculum is Integrated:** The integrated curriculum brings together crop husbandry, animal husbandry, horticulture and land husbandry which are considered together with ecology, economics, sociology and education to form a holistic approach. Problems confronted in the field are the integrating principle.

6. **Training is based on Seasonal Cycle:** Training is related to the seasonal cycle of the practice being investigated. This will make the practice being studied to be practically seen as it conforms to the local climate of a given locality. For annual crops this would extend from land preparation to harvesting. For fodder production, including the dry season to evaluate the quantity and quality at a time of the year when livestock feeds are commonly in short supply. For tree production and such conservation measures as hedgerows and grass strips training would need to continue over several years for farmers to be able to see for themselves the full range of costs and benefits.

7. **Regular Group Meetings:** A very important characteristic of the FFS is that farmers meet at arranged regular intervals making all group members be acquainted with all the practices involved in the FFS process. During regular meetings members have the opportunity to make regular observation and consider the progress being made. However, for annual crops such meetings may be every 1 or 2 weeks during the cropping season. For other farms/forestry management practices the time between each meeting would depend on what specific activities need to be done, or be related to critical periods of the year when there are important issues to observe and discuss in the field.
8. **Source of learning materials:** Farmers generate their learning materials, from drawings of what they observe, and materials for recording observations to the field trials themselves. These materials are always consistent with local conditions, less expensive to develop, and controlled by the learners and thus can be discussed by the learners with others. Learners know the meaning of the materials because they have created the materials. Equally the field for demonstration or sites for specific experimentation is provided by the farmers or the community. This brings a sense of commitment on the part of the farmers. Therefore, increasing their confidence in the FFS process and boosting their willingness to participate.
9. **Group dynamics/team building: The FFS help to inculcate some skills in the farmers. It emphasizes** training such as communication skill-building, problem-solving, leadership, and discussion methods. Farmers require these skills for successful activities at the community level for effective leadership skills and the ability to communicate their findings to others in order to enable smooth information flow from farmer to farmer.

Re-orienting FFS for Agricultural Commercialization in the form of FFBS

Commercialisation of agriculture is a phenomenon where agriculture is governed by commercial consideration i.e. certain specialised crops began to be grown not for consumption in village but for sale in national and even in international market. Agricultural commercialization and diversification involve the gradual replacement of integrated farming systems by specialized enterprises for crop, livestock, and poultry and aquaculture products. Changes in product mix and input uses are determined largely by the market forces during this transition. The enlargement and expansion of international trade belted commercialization of agriculture. Increasing demand for some of the commercial crops in other foreign countries gave impetus to commercialization of agriculture. Therefore, the FFS should enlarge the content/curriculum to include ways of commercializing agriculture such as, facility of loan, which is very important during commercial farming, training on agriculture based farm management and business education to farmers, value addition, better processing and need for storage facilities, provision and management of facilities like irrigation, technology, have mind-set of development to improve skill development of farmers and rural areas and organization of business fairs and online marketing strategies. Therefore, no longer be seen as FFS but as Framer Field Business School (FFBS).

Conclusion

FFS represent an operative mechanism for group training that can reach a large number of small-scale farmers with a diverse educational background as well as gender, with knowledge and technical content that each can adapt to their unique circumstances. This process therefore, makes farmers useful to themselves and fellow farmers and contributes to national

development as well as playing a major role in the fight against low agricultural production and food insecurity. Fortunately, this process can be utilised to build the capacity of the farmers and the extension agents on commercialisation of agriculture and successfully change their business orientation by changing the FFS to FFBS.

Recommendations

FFBS presents a mechanism for training group of farmers who in return will be equipped with skill and capacity to retrain other farmers in the skill and technologies they have learnt for commercial agriculture. Therefore,

1. Boost the commercial content of FFS and change the nomenclature to FFBS,
2. Reorientation of extension services for more agents are needed for effective FFBS and,
3. Need for equipment and regular capacities built of the extension agents with innovation in digital technology, and
4. There is need for fund from both public and private institutions to facilitate digitalisation of FFBS.

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