**Problems related to participating in Farmer Field School Training Session in Gabiley district in Somaliland**

**A B S T R A C T**

Farmer Field Schools (FFS) play a crucial role in enhancing agricultural knowledge, productivity, and rural development. However, several challenges hinder their effectiveness. The study was conducted to identify and describe the problem confrontation of FFS farmers in participating FFS training sessions. Data and information were collected from 150 farmer field school (FFS) farmers of selected four villages, Kidiga-dhanaan, Agabar, Butuji and Geesdheere in Gabiley district under the Maroodi-jeh region in Somaliland. The questionnaire was designed to gather information from the farmers. The data was analyzed with the help of SPSS software using frequency, percentage, means and standard deviation. The study has shown that 61.0% of the respondents were male, with a significant proportion (41%) aged between 26 and 35 years. Marital status data indicate that 68% of the respondents are married, and engagement in farmer field schools (FFS) is mainly moderate, with 68% participating for 3–4 years. Among fifteen selected problems “ Lack of Funding of FFs” got the highest score (PCI- 439 ), followed by “ Limited access to agricultural inputs include seeds, farm tools and fertilizers” (PCI- 425), “Inadequate trails and training materials” (PCI- 421), “Gradual reduction of the members in training sessions” (PCI- 419), “ Lack of active participation of female beneficiaries in the FFS sessions” (PCI- 406). “Conflict among FFS Members” got the lowest score (PCI-205). The highest proportion of the FFS farmers (66.7%) had high problems in participating FFS training session, while 20.0 % and 13.3% had medium and low problems, respectively.

Key Words: Farmer field school, FFS farmer, Problem confrontation, Training, Somaliland

**1.0 Introduction:**

The Farmer Field School (FFS) is a widely used method seeking to educate farmers to adapt agricultural decisions to diverse and variable field conditions (van den Berg et al., 2020). Agriculture plays a crucial role in Somaliland economy, with the majority of the population relying on farming and livestock for their livelihoods. However, challenges such as climate change, low productivity, limited access to modern farming techniques, and recurring droughts have hindered the sector’s growth. To address these issues, the FFS approach has been introduced in Somaliland as a participatory extension model aimed at enhancing farmers' knowledge, skills, and resilience by various organizations including the Food and Agriculture Organization (FAO) and local NGOs, have implemented FFS initiatives to support smallholder farmers. These programs focus on building resilience to climate-related shocks, promoting sustainable land management, and enhancing farmers' adaptive capacities. Given Somaliland fragile environment and frequent humanitarian crises, FFS plays a vital role in fostering self-reliance and strengthening the local food system. Rural populations of farmers and pastoralists rely for their livelihoods to an important extent on natural resources and ecosystem services. To cope with stress factors and changing circumstances caused by land degradation, population growth, ecosystem loss, climate change, and loss of natural resources, farmers must learn to adapt their practices to make optimal and sustainable use of available natural resources while adjusting to markets (Béné et al., 2016).

The FFS is a non-formal education programme and is meant for adult farmers. It is designed to empower farmers, increase productivity and improve livelihoods. It involves a group of farmers jointly managing trial plots and doing thorough observations of innovative agricultural practices. The farmers group themselves based on the learning process and carry out experiential learning activities that help them understand the ecology of their crops (Food and Agriculture Organization, (1)

Farmer Field School (FFS) is considered an extension approach where the farmers are being trained up about different aspects of crop production especially management of soil and crop in a low cost and environment-friendly means through a season-long training program. FFS is a very popular extension and education approach throughout the world. Nowadays, about 78 countries are implementing this approach (2), although in different forms and with varying focus depending on the national context. The aim of an FFS is to build farmers’ capacity to analyze their production systems, identify problems, test possible solutions and eventually adopt the practices most suitable to their farming system, although in different forms and with varying focus depending on the national context. The aim of an FFS is to build farmers’ capacity to analyze their production systems, identify problems, test possible solutions and eventually adopt the practices most suitable to their farming system.

The knowledge acquired during the learning process enables farmers to adapt their existing technologies to be more productive, profitable, and responsive to changing conditions, or to test and adopt new technologies. The first FFS was conducted in 1989 in the rice fields of Indonesia. FFSs were designed to educate farmers on the principles of “Integrated Pest Management” (IPM) in order to deal with major outbreaks of Brown Plant Hopper (BPH) (3).

In the context of Somaliland, specific information regarding the exact introduction date of the FFS approach is limited. However, the Ministry of Agricultural Development has identified the limited presence of formal technical vocational education and training (TVET) and farmer field schools as a significant challenge in the region.

Considering the above facts, the researchers undertook this research and formulated the following objectives:

* To identify and describe the problems of the FFS farmers in participating FFS training sessions
* To describe the selected characteristics of the FFS farmers

**2.0 METHODOLOGY**

**2.1 Study area**

The study was conducted in 4 villages (Kidiga-dhanaan, Agabar, Butuji and Geesdheere) under the Gabiliey district. The study area was selected purposively for investigation because the highest number of FFFs has been conducted there. The total list of FFS groups was obtained from the village headman’s (village committee).



**Figure 1: Map of the study locations**

**2.2 Population, and Sampling**

Simple random sampling was used in selecting the respondents from each FFS group and a total of 160 FFS farmers were selected as sample size from the population (about eighty 80) percent of the total population was the sample size of the study.

**2.3 Data Collection and Analysis**

The empirical data were collected using personal interview method along with Focus Group Discussions during the period of 12 July – 28 August 2024. Before collecting final data, pre-testing of the interview schedule was made to locate any defects regarding the questions and statements

Problem confrontation of the FFS farmers in participating FFS training sessions was the focus variable of the study. The researcher used a 4-point rating scale for measure problem confrontation score. The farmers were asked to give their response against 15 selected problems which they faced in participating FFS training sessions. The weights assigned for each response were: 3 for high confrontation, 2 for medium confrontation, 1 for low confrontation and 0 for not at all.

The problem confrontation score was obtained by adding weights of responses of the problems and therefore, the problem confrontation score could vary from 0 to 45, where 0 indicating ‘no problem’ and 45 indicates ‘highest problem’.

Problem confrontation index (PCI) was applied to identify and analyze the most critical problems that thwart farmers from adopting appropriate measures to adapt to climate warming effects (Pickson & He, 2021).

For making rank order, Problem Confrontation Index (PCI) was computed as used by Hossain and Miah, 2011. The PCI was computed by using the following formula:

PCI = Ph×3 + Pm×2+ Pl×1+ Pn×0 Where,

PCI = Problem Confrontation Index

Ph = No. of the respondents expressed problem as “high”

Pm = No. of the respondents expressed problem as “medium”

Pl = No. of the respondents expressed problem as “low”

Pn = No. of the respondents expressed problem as “not at all”

Thus, the PCI of individual problem could range from 0 to 450, where 0 indicating ‘no’ problem confrontation and 450 indicates ‘high’ problem confrontation.

**3.0 FINDINGS AND DISCUSSION**

The demographic analysis of the surveyed farmers reveals that the majority are male (61%), and (39 %) are females, with a significant proportion (41%) aged between 26 and 35 years. Marital status data indicate that 68% of the respondents are married, aligning with previous studies that suggest married individuals are more engaged in agricultural activities due to household responsibilities (4). Education levels remain a concern, as 59% of respondents are illiterate, which may hinder the adoption of modern farming techniques, as supported by previous findings that literacy significantly impacts agricultural productivity (5). Farm sizes are predominantly small, with 81% managing between 0.5 and 3 hectares, reinforcing the trend of smallholder farming as a dominant practice in many developing regions (6). Farming experience varies, with 54% having 16–30 years of experience, highlighting a well-seasoned workforce. Engagement in Farmer Field Schools (FFS) is mainly moderate, with 68% participating for 3–4 years, suggesting a growing interest in agricultural training programs, which have been recognized for improving farming efficiency and sustainability (7).

**Table 1: Demographic data of the respondents**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Variable** | **Frequency**  | **percentage** | **Mean** | **Standard Deviation** |
| **Gender** |  |  | 80.0 | 18.0 |
| Male | 98 | 61% |
| Female | 62 | 39% |
| **Age (Years)** |  |  |  |  |
| 20- 25 | 44 | 28% | 32.62 | 8.85 |
| 26- 35 | 65 | 41% |
| 36 - 45 | 32 | 20% |
| 45 - Above | 19 | 12% |
| **Marital Status** |  |  |  |  |
| Singe | 35 | 22% | 53.33 | 40.12 |
| Married | 109 | 68% |
| Divorced  | 16 | 10% |
| **Level of Education**  |  |  |  |  |
| Illiterate  | 95 | 59% | 53.33 | 40.12 |
| Primary Education | 51 | 32% |
| Secondary Education | 10 | 6% |
| University | 4 | 3% |
| **Farm Size** |  |  |  |  |
| 0.5 - 3 ha | 130 | 81% | 2.44 | 1.6 |
| 3-5 ha | 15 | 9% |
| 5-7 ha | 10 | 6% |
| 7 - 10 ha  | 5 | 3% |
| **Farming Experience (Years)** |  |  |  |  |
| Less (up to 15 years) | 45 | 28% | 20.74 | 9.36 |
| Medium (16-30 Years) | 87 | 54% |
| Hight > 30 years | 28 | 18% |
| **Engagement with FFS (Years)** |  |  |  |  |
| Low (up to 2 years) | 30 | 19% | 3.23 | 1.18 |
| Medium (3 - 4 Years) | 109 | 68% |
| High (> 4 year) | 21 | 13% |

FFS Farmers’ problems in participating FFS training sessions FFS farmers’ problems in participating FFS training sessions were measured in two ways, i.e., i) by placing the problematic aspects in rank order and ii) by measuring the overall problem confrontation. For determining the extent of confrontation of the individual problem rank order was made computing Problem Confrontation Index (PCI). According to the rank order (Table 2), the top five problems with the highest PCI score have been described here.

**Table 2. Fifteen Selected Problems among with problems confrontation index and rank order**

|  |  |  |  |
| --- | --- | --- | --- |
|  **Problems**  | **Extent of Problem Confrontation**  | **PCI** | **Rank Order** |
| **Hight** | **Medium** | **Low** | **Not at All** |
| 1.     Lack of Transportation of the Farmers | 121 | 12 | 10 | 7 | 397 |  6 |
| 2.     Lack of suitable incentives for Facilitators | 109 | 21 | 14 | 6 | 383 |  8 |
| 3.     Lack of Funding of FFs | 139 | 11 | 0 | 0 | 439 |  1 |
| 4.    Difficulty of Selecting an appropriate demonstration Farm for FFs | 102 | 36 | 9 | 3 | 387 |  7 |
| 5. Lack of incentives for FFS’s members | 90 | 34 | 11 | 15 | 349 |  11 |
| 6.     Biasness in trainee selection | 88 | 19 | 30 | 13 | 332 |  12 |
| 7. Farmers sometimes are busy with field work of their farms | 103 | 31 | 13 | 5 | 382 |  9 |
| 8.     Lack of interest in FFSs | 113 | 15 | 12 | 10 | 381 |  10 |
| 9.     Limited access to agricultural inputs include Seeds, farm tools and fertilizers | 132 | 12 | 5 | 1 | 425 |  2 |
| 10.  Lack of active participation of female beneficiaries in the FFS sessions | 126 | 12 | 4 | 8 | 406 |  5 |
| 11.  In adequate trails and training materials | 130 | 13 | 5 | 2 | 421 |  3 |
| 12.  Conflict among FFS Members  | 44 | 25 | 23 | 58 | 205 |  15 |
| 13.  Irregularity of the farmers participation  | 88 | 22 | 13 | 27 | 321 |  13 |
| 14.  Time consuming training session | 44 | 33 | 21 | 52 | 219 |  14 |
| 15.  Gradual reduction of the members in training sessions | 128 | 16 | 3 | 3 | 419 |  4 |

**Note: PCI = Problem Confrontation Index (PCI)**

Table 2 shows that “Lack of Funding of FFs” got the highest score (PCI- 439) and hence was considered as the 1st ranked problem. Adequate funding is crucial for the success of FFS programs, as it ensures the availability of essential resources such as training materials, facilitator incentives, demonstration farms, and agricultural inputs. Insufficient funding limits the effectiveness of training sessions, reduce the engagement of both facilitators and farmers, and hampers the sustainability of FFS initiatives. According to (8) found that 31.9% of facilitators reported insufficient governmental funding as a major obstacle to effective FFS implementation. The problem “Limited access to agricultural inputs include seeds, farm tools and fertilizers” got the **2nd** highest score (PCI-425). Access to quality inputs is essential for improving agricultural productivity, yet many farmers face constraints due to high costs, limited availability, and poor distribution systems. Without these essential resources, FFS participants struggle to implement learned practices, leading to lower yields and reduced enthusiasm for training programs. For instance, a study by (9) found that farmers in sub-Saharan Africa experienced significant productivity gaps due to limited access to quality seeds and fertilizers, emphasizing the need for better input supply chains and supportive policies. Similarly, (10) highlighted that access to improved inputs significantly enhances the impact of FFS programs by increasing adoption rates of sustainable farming techniques.

The problems “Inadequate trials and training materials” got 3rd (PCI- 421) and hence was considered as the **3rd** ranked problem. During training, the FFS practitioners do not provide sufficient training materials to the FFS farmers, as a result, they need to form some groups, but they want to practice individually in the field situation. The FFS farmers opined that there was a lack of adequate trials or that adequate trials seemed to be not possible due to adverse field situations. The problems may also arise when a training trainer session does not provide enough opportunities for participants to master the FFS process. In other instances, the training of trainer sessions might not follow the experiential learning process (11). According to (12), this problem got the 1st position (out of ten) in the rank order and (12), this problem got the 11th position (out of fifteen) in the rank order.

The problem “Gradual reduction of the members in training sessions” was ranked 4th highest scores (PCI - 419) which was considered as the **4th** problem. This may be due to the farmers business with other activities rather than agricultural activities or lack of interest to participate in the training sessions. According to (12), this problem got 5th ranked problem, and (8) found that it is difficulty to bring members to attend the school sessions in the absence of incentives (4.6%).

The problem “Lack of active participation of female beneficiaries in the FFS sessions” got 5th highest score (PCI- 406) and hence it was considered as the 5th problem. This highlights a significant barrier to gender-inclusive agricultural learning. Women's participation in Farmer Field Schools (FFS) is often constrained by socio-cultural norms, household responsibilities, limited mobility, and lack of decision-making power in farming activities. According to (14) pointed out that the FFS curricula were not addressing the real needs of the female in participating trainings. For instance, (15) found that gender-inclusive FFS programs in East Africa led to increased knowledge sharing and adoption of improved agricultural practices among female farmers. Similarly, (16) highlighted that addressing gender-specific barriers, such as flexible training schedules, childcare support, and women-led facilitation, improves female participation rates and enhances the overall impact of FFS programs. To overcome this issue the researcher is suggesting, that policies must focus on creating gender-sensitive training environments, encouraging male household members to support women's participation, and integrating gender-focused agricultural extension strategies.

The problem confrontation scores of the FFS farmers ranged from 20 to 44 against a possible range of 0-45, with an average 36.44 and a standard deviation 6.80. Based on the problem confrontation score, the FFS farmers were classified into three categories i.e. low, medium and high problem confrontation. The distribution of the respondents according to their problem confrontation has been shown in Table 3.

Table 3- Distribution of the respondents according to their problem confrontation

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Score range | Categories of FFS Farmers according to Problem confrontation  | FFS Farmers (n =150) | Mean | Standard Deviation  |
| Number | Percent |
| Possible | Observed  | Low up to (up to 25) | 20 | 13.3 | 36.44 | 6.80 |
| 0 – 45 | 20 - 44 | Medium (26 – 35) | 30 | 20.0 |
|  |  | High (Above 35) | 100 | 66.7 |
| Total | 150 | 100 |  |  |

The findings indicate that 66.7% of respondents experience high-severity problems in Farmer Field Schools (FFS), with key issues including lack of funding, limited access to agricultural inputs, and inadequate training materials. Additionally, 20% face medium-level challenges, such as irregular farmer participation and bias in trainee selection, while 13.3% report low-severity problems, including conflicts among FFS members and time-consuming sessions. This high confrontation level aligns with studies such as (15), which found that financial constraints, lack of inputs, and weak institutional support are primary barriers to the effectiveness of FFS in Africa and Asia. Similarly, (10) highlighted that FFS sustainability is compromised when farmers lack motivation due to poor incentives and resource limitations. The current findings emphasize the need for improved funding, better educational tools, and increased participation strategies to enhance FFS effectiveness.

**4.0 Conclusion**

The findings of this study highlight significant challenges faced by farmers in farmer field schools (FFS) session, with 66.7% of respondents experiencing high-severity issues such as lack of funding, limited access to agricultural inputs, and inadequate training materials. Additionally, 20% of respondents reported medium-level confrontation, while 13.3% faced low-severity issues. Other critical concerns include a lack of female participation, transportation difficulties, and the challenge of selecting appropriate demonstration farms. The study also identifies issues such as irregular attendance, time-consuming training sessions, and conflicts among members, which contribute to the overall inefficiency of the program.

To improve the impact of FFS, policymakers and stakeholders must prioritize increased funding, improved educational tools, and better access to agricultural inputs. Additionally, addressing gender participation gaps, trainee selection biases, and irregular farmer engagement will further enhance the effectiveness of these programs. Future research should explore long-term sustainability strategies and innovative training models to ensure that FFS programs contribute effectively to agricultural development and poverty reduction.

**6.0 Conflict of Interest Statement**

The author declares that there is no conflict of interest regarding the publication of this research. The study was conducted independently, without any financial, personal, or professional influences that could affect the objectivity or integrity of the findings.

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