

## Farmer Field Schools: Main lessons learned from Concern Worldwide's experience in Sierra Leone

### Context

Farmer Field Schools (FFS) are a non-formal adult education approach that combines experiential learning, community leadership, and action research to empower farmers with the knowledge and skills needed to achieve productive and sustainable agriculture.

The FFS approach was introduced by the Food and Agriculture Organization of the United Nations (FAO) in 1989, initially to address small-scale rice farmers' heavy reliance on pesticides in Indonesia during a period of food insecurity caused by pest outbreaks and increasing ecological damage. At the time, agricultural extension systems required extension workers to act as experts across multiple crops and contexts, often resulting in messages being transferred directly from research to farmers without sufficient adaptation to local realities. As a result, much of the advice provided was not locally appropriate or practical.

In response, the FFS approach was designed as a decentralised, participatory model of farmer education, enabling farmers themselves to become 'experts' in managing the ecology of their own fields. Through observation, analysis, and collective learning, farmers are supported to make informed decisions that lead to improved yields, reduced production problems, lower costs, increased profitability, and lower risks to human health and the environment. "*Grow a Healthy Crop*" was established as the first guiding principle of the Integrated Pest Management programme and remains central to the FFS methodology.

### Overview

FFS were introduced in Sierra Leone in 2003 by the Ministry of Agriculture and Food Security (MAFS), with technical support from the FAO. Since then, FFS have been progressively embedded within the national agricultural extension system and are now the primary extension approach used by Government, delivered through chiefdom extension workers and supported by master and lead farmers at community level. This institutionalisation has been supported through sustained collaboration between government, national actors, and international non-governmental organisations.

In the aftermath of Sierra Leone's civil war, FFS were adopted as a participatory and inclusive approach to rebuild farmer capacity, restore trust within communities, and support the recovery of agricultural livelihoods.

The FFS approach supports the Feed Salone agenda by advancing its core aim of increasing local food production and improving nutrition through practical, community-driven learning. Through participatory experimentation and peer learning, FFS contributes to improved productivity, more diverse diets, and the promotion of sustainable, climate-smart farming systems, while strengthening community-level capacity.

Concern Worldwide has been present in Sierra Leone since 1996, initially responding to humanitarian needs before transitioning into longer-term development programming across livelihoods, nutrition, health, education, and climate resilience, with a strong emphasis on gender equality and inclusive approaches. As the FFS methodology became established nationally, in 2007 Concern adopted it as a core delivery and learning platform within its livelihoods and food systems programming, aligning implementation with national systems and priorities.

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Concern's engagement with FFS has focused on strengthening small-scale farmers' knowledge and practices in climate-smart agriculture (CSA) to improve food availability, dietary diversity, and resilience to climate shocks. Across multiple programmes, FFS have functioned as participatory learning spaces, combining learning by doing, farmer-to-farmer exchange, and field-based experimentation on communal village plots. This approach has supported improvements in production, soil and water management, and household nutrition.

### The Approach

**Members Selection:** A participatory and inclusive process is used to select members for the FFS. Selection begins with community sensitisation meetings facilitated by project staff and local leaders to explain the purpose, principles, and expected benefits of the FFS approach. Selection criteria are jointly developed with communities to ensure transparency and alignment with project objectives. Priority is given to smallholder farmers actively engaged in agriculture, particularly those from vulnerable groups, including women, youth, widows, single mothers, and households with persons with disabilities. Prospective members are required to reside in or near the target communities, demonstrate interest in learning and sharing improved farming practices, and commit to regular participation. This approach ensures that FFS groups are diverse, inclusive, and well positioned to maximise learning and peer exchange.

**Land Allocation:** Following the formation of FFS groups, members work with their communities to identify suitable plots of land for practical demonstrations and experimentation. To support learning on CSA, selected sites include both Inland Valley Swamp (IVS) and upland areas, allowing for exposure to different agroecological conditions. The land selection process is participatory, involving community leaders and landowners to ensure transparency and local ownership. Priority is given to land that is easily accessible, simple to develop, and often located along main roads to enhance visibility and learning by non-participants. Land allocated for FFS activities is used temporarily for experimentation purposes and is not owned permanently by the group, with use limited to the duration of the project.

**Sessions:** In line with the standard FFS Manual developed by MAFS, farmers participate in a minimum of eight weeks of structured, participatory sessions. These sessions cover land preparation; seed and planting material management; crop establishment; water management; soil fertility and crop nutrition; pest, disease, and weed management; flowering and maturity management; harvest and post-harvest handling; and evaluation, learning, and scaling. Beyond serving as a training space, the FFS functions as a platform for collective problem-solving, peer learning, and shared decision-making.

**Experimentation Plots:** Farmers are encouraged to apply lessons from FFS sessions through hands-on learning using demonstration and experimentation plots. These plots visibly compare improved practices with existing methods they had been using before the trainings, allowing farmers to observe outcomes directly. The participatory nature of the learning process promotes peer-to-peer exchange, builds confidence, and supports gradual adoption of improved practices. Ongoing guidance from facilitators, together with observable productivity and economic gains from climate-smart techniques, further motivates farmers to apply new knowledge on their own farms.

**Collaboration with the Ministry of Agriculture and Food Security (MAFS):** Collaboration with MAFS strengthens institutional linkages between projects, communities, and government structures, supporting sustainability and alignment with national agricultural development priorities. MAFS plays a central role in implementing the FFS model, with government extension staff serving as technical facilitators and trainers who lead practical sessions and ensure the effective transfer of climate-smart agricultural practices. Their involvement enhances technical quality and credibility. In addition, MAFS supports the capacity strengthening of Concern staff through targeted training, enabling effective monitoring, technical backstopping, and quality assurance throughout implementation.

**Inputs:** Each FFS receives essential farm inputs, including assorted seeds such as rice, cassava, orange-fleshed sweet potato vines, groundnut, and a range of vegetable seeds including okra, garden egg, and pepper. Seed selection is informed by market assessments and national crop priorities identified by MAFS. Prior to procurement, technical guidance is sought from MAFS and the Sierra Leone Seed Certification Agency (SLECSA).

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FFS groups also receive basic farming tools, including hoes, cutlasses, wheelbarrows, pickaxes, rakes, garden lines, shovels, spades, watering cans, and head pans. To reduce post-harvest losses, groups are additionally supported with hermetically sealed containers.

## Results

**Crop diversity and adoption of climate-smart practices:** The 2025 annual survey showed an increase in the number of different types of agricultural produce grown by households, from 2.8 at baseline to 4.8 in 2024 and 5.5 in 2025 (against a target of 3.36). Over the same period, adoption of climate-smart food production practices increased from 5% at baseline to 41% in 2024 and 50% in 2025. These trends suggest improved productivity and continued progress in climate resilience, particularly among women farmers. Compared with households in non-FFS areas, FFS households recorded higher crop diversity and yields, which is consistent with the intended effects of the climate-smart practices promoted through the project.

**Crop yields:** For rice, yields increased from 1,529.58 kg/ha in 2024 to 1,584 kg/ha in 2025. This represents positive progress, although it remains slightly below the national average of 1,670 kg/ha (World Bank, 2023). Observations from Inland Valley Swamp (IVS) demonstration plots suggested higher rice productivity; however, measurements were not captured due to the timing of data collection. For cassava, yields increased from 6,000 kg/ha at baseline to 14,070 kg/ha in 2025. This performance may reflect both crop resilience and improved adoption of recommended practices introduced through the FFS sessions. Cassava yields exceeded the national average of 13,100 kg/ha (Ministry of Agriculture, 2022).

**Farmer confidence and practice uptake:** The practical, hands-on learning approach of the FFS, facilitated by trained MAFS staff, enabled farmers to observe results directly on demonstration and experimentation plots. Participants reported increased confidence in applying improved agronomic practices. Farmers also described sharing practices with other households within and beyond project communities, contributing to wider uptake of selected techniques.

**Women's participation:** Women represent 44% of FFS participants, contributing to more inclusive participation in agricultural learning activities.

**Spillover to neighbouring households:** Neighbouring households in non-targeted communities reported adopting elements of the FFS approach in their farming activities, supported by informal knowledge sharing from FFS members. This spillover suggests potential for wider replication where extension actors and local authorities can resource and support scaling.

*“At first, I didn't believe that stopping the burning of my field would make any difference. I used to burn every year because that's how we were taught. But after seeing my neighbour in Makassie using the no-burn method and getting a better harvest, I decided to try it. Now, my soil holds more moisture, and my crops are doing better. It took time and patience, but I have seen the evidence myself.” Pa Sorie, a farmer from Rolal.*

**Collective problem-solving:** FFS groups have been used as platforms for farmers to discuss priority farming challenges and agree on approaches aligned with good agronomic practices. Examples raised by participants included improving women's access to land and responding to pest and disease outbreaks.

**Role of lead farmers:** Training and working with lead farmers strengthened the sustainability of project activities, as trained farmers increasingly serve as peer educators within their chiefdoms.

**Government ownership and partnership:** MAFS-led training strengthened the perceived credibility of the approach among participating farmers and helped lay the foundation for potential scale-up of FFS through District Agricultural Office extension services.

**Household income:** Participation in FFS was associated with reported increases in household income among some members. Through hands-on training and practical demonstrations, farmers adopted improved practices such as appropriate spacing, timely planting, integrated pest management, and the use of improved and certified seeds. In addition, crop selection informed by market assessments and technical advice helped farmers align production with local demand. Participants described applying lessons learned on their own farms and, in some cases, increasing sales through higher yields, better-quality produce, and reduced post-harvest losses.

## Lessons Learned

**Innovation requires time and patience.** Adopting new agricultural practices takes time, particularly where former practices are deeply rooted. Many farmers initially doubted changes in practice; some adopted innovations early, while others were more resistant. However, with patience and clear evidence, improved methods were gradually accepted. You need at least two production seasons to properly benefit from the FFS approach. As one farmer explained:

**Working with community structures strengthens ownership and trust.** Engaging community structures such as farmer-based organisations, village development committees, and traditional leaders is critical to the success of FFS. Their involvement builds community ownership and trust, leading to stronger farmer participation and improved coordination. These structures support farmer mobilisation, provide valuable local knowledge, and promote inclusive, collective decision-making. Their leadership enhances sustainability, as communities increasingly take responsibility for maintaining demonstration plots, applying climate-smart practices, and expanding lessons learned beyond project sites.

**Working with lead farmers enhances sustainability.** Lead farmers serve as trusted reference points for CSA information within their communities. Their role supports peer learning, reinforces adoption of improved practices, and contributes to the long-term sustainability of project outcomes.

**MAFS leadership supports alignment with national priorities.** Working closely with the MAFS provides opportunities to align activities with national priorities, such as the Feed Salone strategy. This collaboration strengthens institutional ownership and enhances the sustainability and potential scale-up of project interventions.

**Practical, hands-on learning accelerates adoption.** Farmers learn faster and retain knowledge more effectively when they practise new techniques through hands-on sessions on demonstration plots. Involving farmers in experimentation and decision-making can strengthen ownership of the learning process: farmers identify problems affecting their crops, select practices to test through the FFS, and observe whether these practices address the issue. Participants linked this process to increased confidence and continued use of climate-smart agriculture practices.

**Gender-sensitive facilitation promotes inclusivity and impact.** Ensuring that women and men participate as lead farmers and FFS members help to create inclusive learning environments. In several groups, women farmers have applied lessons on crop diversification through homestead gardens, improving household nutrition, income, and food security. Across both districts, women make up 50% of the 344 lead farmers engaged, reflecting strong progress towards gender balance. Beyond participation and shared decision-making, the FFS approach has supported women's economic empowerment, strengthened technical skills, and increased confidence and leadership within their communities. As a result, women's contributions have gained greater social recognition, narrowed gender gaps in the adoption of improved practices, and generated wider household benefits as children and other family members gain from improved nutrition and agricultural knowledge.

**Peer-to-peer learning drives behaviour change.** Farmers are more likely to adopt improved practices when they observe their peers achieving positive results. Peer-to-peer learning within FFS groups has proven to be a powerful mechanism for building trust, accelerating adoption, and sustaining change.

## Challenges

Farmers across our programme areas still face challenges when it comes to accessing and affording quality seeds, which in turn affects their productivity and resilience. As a result, many continue to rely on recycled or low-quality planting materials, largely due to weak distribution systems and limited availability in the market. This ongoing gap in the seed sector remains a major barrier to agricultural growth. In the coming year, we plan to address this by strengthening our collaboration with the Sierra Leone Seed Certification Agency (SLESCA), with a focus on making certified, high-quality seeds more available, affordable, and widely adopted by smallholder farmers.

## Recommendations

**FFS are most effective when they are designed as participatory learning platforms** rather than top-down training sessions. Encouraging farmers to select what they want to trial, actively experiment, observe, and share knowledge through practical demonstrations, on-farm trials, and group problem-solving which helps build skills, confidence, and ownership. This approach supports stronger adoption of improved practices, including climate-smart agriculture and pest management, among both women and men farmers.

**Sustained support beyond initial training is critical.** Providing ongoing mentoring and light-touch supervision for lead farmers helps maintain the quality of learning, reinforces good practices, and ensures knowledge continues to spread effectively within and across communities.

## Testimonials

*“Before, I was farming the usual way and getting limited results. After learning new methods from the Farmer Field School, I tried them on my farm and saw the difference myself. Something as simple as spacing. My crops, especially my groundnut are doing better, and I feel more confident that I can provide for my family.”* **Sandu Fofanah, a farmer from Robathsaint.**

*“For years I relied on traditional methods of farming, and I could only harvest 1 bushel on average of groundnuts each season. After participating in the Farmer Field School and learning new techniques, my yield has increased to 16 bushels (320kg) in the last harvest. I never thought my farm could produce this much. The new methods have truly changed our life and given me hope for the future.”* **Mariatu, a farmer from Majehun.**

*“The training we received from the Farmer Field School changed the way we farm. Before, we struggled with low yields, but this year we harvested more than in previous seasons. We learned how to space our crops properly, use organic compost, and manage pests more effectively. As a result, our harvest increased compared to what we were used to. Now, we have enough food for our families and extra to sell. We are proud of what we have achieved through the Farmer Field School, organised through the Yoti Yoti project.”* **Pa Bangura, the town chief and a member of the FFS group in Mathaineh, Masimira Chiefdom, Port Loko District.**

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