

EVIDENCE REVIEW:
FARMER FIELD SCHOOLS

SUMMARY OF FARMER FIELD SCHOOLS

Farmer field schools provide in-person agricultural training and technical assistance to smallholder farmers

- Since the 1980s, hundreds of farmer field schools have been implemented in more than 90 countries
- Schools are intensive in nature (8 – 52 weeks), with hands-on training sessions using new inputs such as improved seeds and technologies such as integrated pest management (IPM)¹

Evidence demonstrates that many of these programs increased productivity and income; some programs also report improved empowerment outcomes

- There are few truly randomized studies on farmer field schools to date, but a wealth of quasi-experimental and anecdotal evidence exists (337 studies)¹
- The most rigorous evidence shows productivity gains of 13% – 41%,² and income gains up to 46%³
- Programs designed to measure empowerment found qualitative evidence of increased confidence and decision-making ability among men and women SHFs as well as evidence of participants taking leadership positions
- Successful programs are local, taught by high-quality instructors, and offer incentives for participation (e.g., seed loans)

Despite these successes, farmer field schools are not always cost-effective and are difficult to scale without tailoring curriculum to the local context

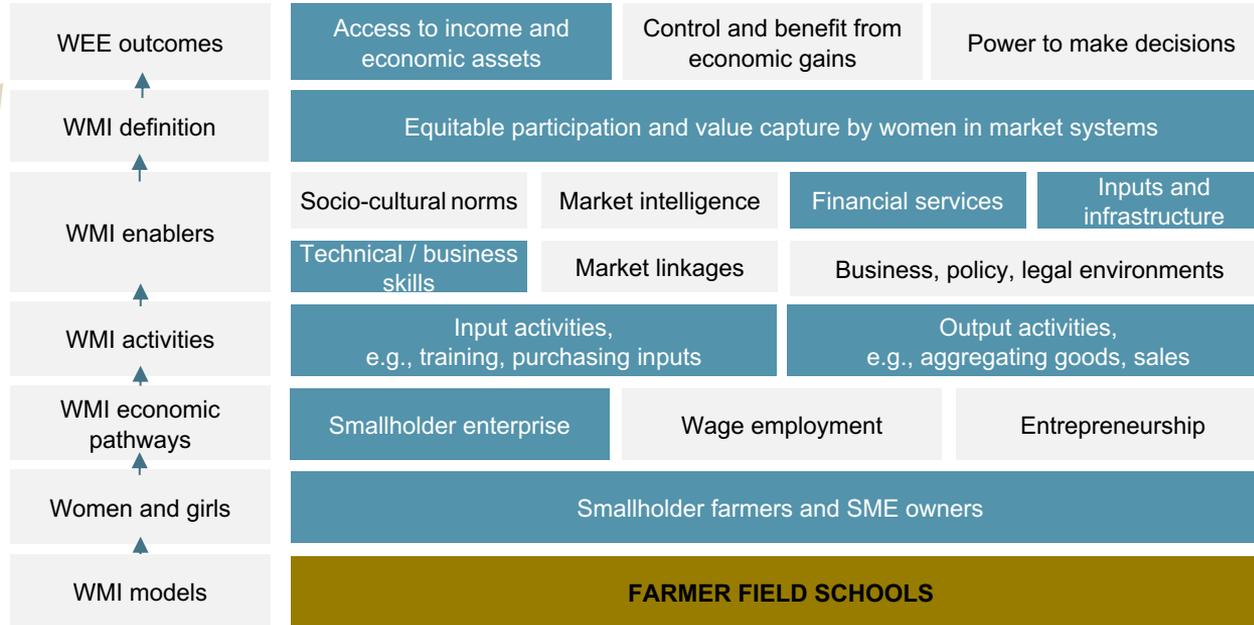
- Farmer field schools are most successful when class sizes are small (20-25) and course content is tailored to local conditions (e.g., crops, soil, weather)¹
- Farmer field schools are expensive compared to other forms of agricultural extension (typical costs are \$20 – \$40 per participant each growing season) and thus should be reserved for teaching more complex agricultural procedures¹
- Farmer field schools do not produce a “dispersion effect” for non-participants; studies confirmed that participants did not pass on increased knowledge or benefits to non-participant farmers¹

Women’s access to and benefit from these programs has been mixed; targeted interventions can benefit women but gender-blind programs leave them behind

- Targeted advertising, efforts to reduce time and mobility constraints to attend farmer field schools, and ensuring lessons cover crops (e.g., staple crops) women are more likely to cultivate can increase women’s involvement in farmer field schools. However, they often achieve mixed results for women’s empowerment.
- Programs that do not explicitly target women lack high female participation (often because they recruit through community groups without women members)
- While nearly a quarter of all farmer field schools programs target women, farmer field schools have been most effective for well-off farmers with the land, literacy, and time to take full advantage of the schools’ programming; few of these farmers tend to be women¹

FARMER FIELD SCHOOLS AIM TO INCREASE YIELDS AND INCOME THROUGH AGRICULTURAL TRAINING

Outcomes:
 Programs demonstrated increased agricultural yields (13% - 41%)¹ and higher household income (up to 46%)²
 Some programs have also demonstrated positive impacts on household nutrition³ and empowerment outcomes⁴

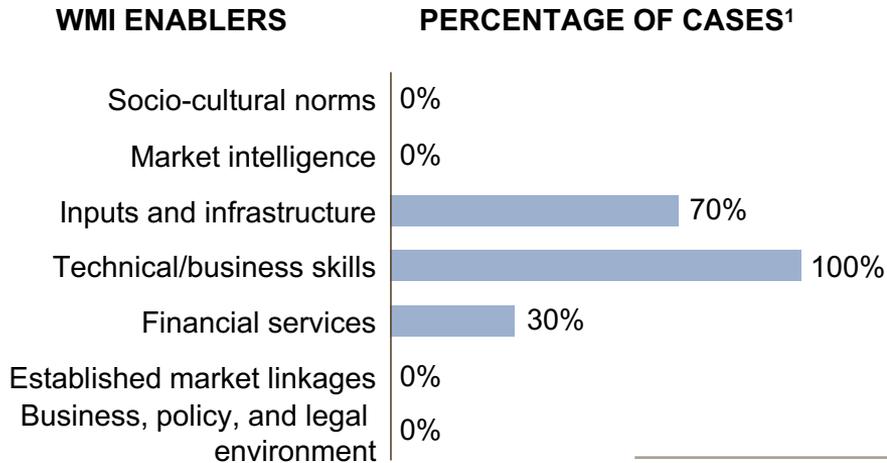


Farmer field schools: a form of agricultural extension, these schools provide smallholder farmers with advanced inputs and hands-on training to increase smallholder productivity

WMI Enablers:
 Most field schools only provide inputs (e.g., improved seeds) and technical skills (e.g., IPM, flow planting, plant grafting); a few models also offer access to financial services

THE MAJORITY OF FARMER FIELD SCHOOLS PROVIDE TECHNICAL SKILLS AND ACCESS TO INPUTS

Percentage of studies and cases in which the model targeted a particular WMI enabler



ILLUSTRATIVE¹

Key insights

- Fundamentally, farmer field schools are designed to teach technical skills to smallholder farmers
- Larger programs also offer inputs such as seeds and technology to complement program learnings
- Some programs provide financial services in the form of loans to help SHFs purchase inputs
- Some schools have broadened the curriculum to include business / financial literacy workshops²

EVIDENCE SUGGESTS FARMER FIELD SCHOOLS GENERATE INCREASES IN FARMER YIELDS AND INCOMES (1/2)

Outcome (women's economic empowerment / inclusive agricultural transformation)	Impact	Range of impact observed
Higher smallholder farmer labor and land productivity	✓	13% - 41% increased yields ²
Increased equitable consumption of a safe, affordable, nutritious diet year-round	✓	24% less likely to experience hunger ³
Higher smallholder farmer incomes	✓	Up to 46% increase in household income ⁴
(Women's) access to income and economic assets ⁵	✓	See above
(Women's) control and benefit from economic gains	?	N/A
(Women's) power to make decisions	✓✗	<i>Qualitative evidence only</i>

EXPERIMENTAL RANGES ONLY¹

Proven - positive effect	✓
Promising - positive effect	✓
Mixed	✓✗
Proven - limited effect	✗
Lack of evidence	?

(1) Experimental evidence included RCTs, natural experiments, quasi-experimental, or meta-analysis results. Impact ranges from case studies are not shown here (2) 3IE 2014; Godtland et al. 2004; Pretty & Bharucha 2008 (3) Todo & Takahashi 2011 (4) Larsen & Lilleor 2014 [5] Assumes similar potential for women's incomes, unless evidence showed otherwise

EVIDENCE SUGGESTS FARMER FIELD SCHOOLS GENERATE INCREASES IN FARMER YIELDS AND INCOMES (2/2)

Outcome	Impact	Description
Higher SHF labor and land productivity		<p>There is clear experimental evidence demonstrating positive impact on farmers' yields</p> <ul style="list-style-type: none"> • Best evidence from high-quality programs and studies points to productivity gains of 13% – 41% for farmers¹ • The low and high estimates of this range come from meta-analyses of 377 and 85 studies, respectively, meaning this range represents the average program effect (<i>very successful programs may have more impact</i>)¹
Higher smallholder farmer incomes		<p>These productivity gains clearly improve farmers' incomes</p> <ul style="list-style-type: none"> • Farmers saw up to a 46% increase in income as a result of both higher crop yields and lower costs (e.g., reduced pesticide usage)²
Increased equitable consumption of a safe, affordable, nutritious diet year-round		<p>Impacts on nutrition and food security are less common but a few studies have reported positive results</p> <ul style="list-style-type: none"> • Many programs also focus on food security as an objective, with one study of a farmer field school in Tanzania finding that participants were 24% less likely to experience hunger, more likely to consume animal proteins, and more likely to eat three meals per day compared to control groups³
(Women's) power to make decisions		<p>Some studies measure empowerment outcomes but results are inconclusive</p> <ul style="list-style-type: none"> • Male and female participants in programs across nine countries (including India, Kenya, and Tanzania) reported qualitative improvements in self-confidence and those in programs in Uganda and Kenya reported increased adoption of leadership roles in the community⁴ but other studies report no effect for women⁵

SUCCESS FACTORS INCLUDE KEEPING PROGRAMS LOCAL AND OFFERING INCENTIVES

Challenges

Retaining high-quality instructors: Attracting and retaining high-quality instructors / facilitators has been a challenge across programs. Many facilitators come from outside of the community and leave after programs end¹

High attrition: Farmer field schools suffer from high attrition, with some programs reporting 25% – 50% dropout rates¹

The most common reason for dropout was participants' failure to receive anticipated inputs / cash / loans for their attendance; in non-incentivized programs, competing time commitments were the most common reason for dropout¹

Success factors

Localized training: Local, highly trained extension agents can offer agricultural training that is directly relevant to the community (i.e., crop, soil type, weather conditions)

Incentives for participation: Financial and in-kind incentives for attending sessions, such as improved inputs (i.e., seed varieties) or loans for agricultural products, can encourage individuals to participate in and complete programs in the face of competing time demands¹

Hands-on instruction: Intensive hands-on training, longer program duration, and treatment vs. control plots allow participants to train and see productivity gains firsthand

A year-long program in Ethiopia with ~150 contact hours, control plots, and certification tests saw the largest income gains for farmers²

THESE PROMISING “HIGH TOUCH” PROGRAMS ARE NOT COST-EFFECTIVE OR SUSTAINABLE AT LARGE SCALE

What do we see?

COST-EFFECTIVENESS

Farmer field schools are expensive

Farmer field school programs cost more (\$20 – \$40 per participant)¹ than other extension programs (< \$20 per participant)²

What drives current success / failures

and how does this apply to implementation?

- Farmer field schools are high-touch and require extensive time and resources
- Benefit-cost ratios for farmer field schools are highest for more complex techniques (e.g., IPM, plant grafting)³
- Farmer field schools can focus on high-value-added techniques, with shorter and less expensive programs (i.e., field days) used to teach simpler procedures

SUSTAINABILITY

Few programs have become self-sustainable

Few participants passed on their knowledge to other SHFs, limiting potential impact⁴

- The experience-based nature of farmer field schools makes diffusion from participants to non-participants difficult
- One solution may be to train previous participants to become facilitators. This approach could encourage dispersion and ensure program continuity

SCALABILITY

Farmer field schools can be replicated across countries, but individual schools tend to be small

Farmer field schools have been implemented in more than 90 countries, but class sizes remain small (20 – 25)⁴

- Most farmer field schools have small class sizes for a variety of reasons (e.g., programs are under-resourced, rural communities are sparsely populated, curriculum needs to be tailored to the local context)
- The farmer field school model is best suited to replication across communities; it has been implemented in local communities in 90+ countries

(1) Average program costs were higher at \$56 per participant due to more expensive outliers (up to \$200 per participant), IE3 2014. (2) Evidence from Bolivia shows that farmer field schools cost-per-participant were \$76 compared to \$26 for community workshops and \$1 for radio coverage of agriculture methods. Bentley et al. 2002 (3) Ricker-Gilbert et al. (2008) estimated that farmer field schools had a benefit-cost ratio of 6.8 complex techniques compared to 0.92 and 3.92 for simple and intermediate techniques, respectively (4) 3IE 2014

WOMEN HAVE NOT ALWAYS PARTICIPATED EQUALLY IN FARMER FIELD SCHOOLS AND THEIR BENEFITS

Women are not equally included in farmer field schools

ACCESS:

- **Women tend to be excluded from groups targeted for outreach.** In Kenya, female-headed households can be ostracized from social and community groups and thus missed by outreach efforts¹
- Women are precluded from enrollment because **they do not fulfill informal and formal criteria** such as sufficient influence to earn a spot within the program, prior agronomic knowledge, access to land or farming tools, or literacy / numeracy²
- **Women face gendered constraints to participation.** They often face significant time constraints due to household responsibilities
- Pregnancies or health complications can prevent women from completing programs⁴

RELEVANCE:

- **Farmer field school content is often not relevant to the commodities that women produce.** These schools often place emphasis on cash crops but women disproportionately engage in staple farming³

When women are included, they do not always benefit

BENEFITS

- **Farmer field school teachers may be predominantly male,** but evidence shows that women farmers learn and retain information more effectively in gender-balanced environments²
- **Due to mobility constraints, women are sometimes excluded from traveling to workshops** outside of the village for off-farm lessons (e.g., sales / marketing)²

TARGETED ADVERTISING AND PROGRAM DESIGN ARE CRITICAL FOR INVOLVING MORE WOMEN

Solving for women's inclusion

ACCESS

Target women with gender-specific marketing

- Advertising among groups in which women are already active could increase awareness and shift norms around these programs, encouraging more women to sign up for farmer field schools
- A program in Kenya channeled outreach through existing women's mutual aid organizations in order to improve female representation in the program¹

Alleviate time and mobility constraints

- Gender-sensitive programs could take into account women's disproportionately higher time and mobility constraints, making it easier for women to attend and reducing risk of dropouts
- A program in southeastern Bangladesh reduced mobility constraints by using an all-female staff to alleviate concerns of male household members, who were reluctant to let women participate in public³

RELEVANCE

Offer relevant curriculum

- A stronger focus on agricultural areas where women are already active (e.g., staple crops, smaller livestock such as poultry) could increase productivity among those who attend
- A study in Zimbabwe saw a greater degree of program satisfaction among women when it offered specific programming on growing staple crops²

Solving for women's gains

BENEFITS

Train female instructors

- Female instructors could improve women's learning environment and tailor lessons to maximize women's benefit from the program
- *Most farmer field schools do not offer an option for female-led instruction*