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Ben Henson & Delice Twahirwa

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How Demonstration Farms Drive Adoption: Evidence from a 20-Year Scoping Review and Dynamic Payback Analysis

[*1]Ben Henson & [2]Delice Twahirwa

***Email address: blhenson@sacpp.org**

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Abstract

Demonstration farms remain one of the most widely used but unevenly evaluated approaches to agricultural extension. This paper synthesizes evidence from a 20-year scoping review of 57 demonstration-farm interventions conducted between 2005 and 2025 across Sub-Saharan Africa, Southeast Asia, and Europe. Rather than estimating a single pooled effect size, the review maps patterns in yield response, adoption, institutional continuity, and economic performance across heterogeneous contexts. Median yield gains among participating farmers clustered around the mid-teens, with adoption typically increasing over successive seasons as peer observation and local credibility accumulated. To evaluate economic performance over time, the study applies Return on Investment (ROI) and a Dynamic Payback Analysis (DPA) that models cumulative farmer benefit against cumulative program cost across cropping seasons. Results indicate that demonstration farms tend to reach economic break-even within approximately 2–3 seasons, earlier where local governance and in-season troubleshooting support are present. The findings suggest that demonstration farms function less as short-term training events and more as durable learning infrastructure, generating compounding agronomic and economic benefits when embedded in local institutions. The analysis has implications for extension design, evaluation timelines, and funding strategies that seek sustained adoption rather than short-term reach.

Keywords: *Farms Drive, Adoption, 20-Year Scoping, Dynamic Payback, Analysis*

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1.0 Introduction

Agriculture has always been taught best in the field. Long before "extension" became a formal discipline, farmers learned by watching each other's successes and mistakes, adapting through observation rather than prescription (Chambers, 1983; Röling, 1990; Leeuwis & van den Ban, 2004). Demonstration farms formalized that process, turning what was once informal, neighbor-to-neighbor learning into a structured method for technology transfer (Anderson & Feder, 2007). Given the heterogeneity of crops, contexts, and outcome measures in the demonstration-farm literature, this study adopts a scoping-review approach rather than a formal meta-analysis. Over the last century, the model has reappeared under different names and institutions "model farms," "pilot sites," "learning plots," and "innovation hubs" (Hermans, Klerkx & Roep, 2015; PROLINNOVA, 2015). Yet the logic remains unchanged: people believe what they can see (Bandura, 1977; Rogers, 2003) and remember what they have done, both the successes and the failures, along with the things that are just too complex and "iffy." Adoption, like most economic decision-making in agriculture, is shaped by local context, cost, labor, and perceived risk (Feder, Just, & Zilberman, 1985; Jack, 2013). In an era of smartphones, satellite imagery, and remote advisory services, that simple fact still holds. Demonstration farms endure not because they are cheap or modern but because they speak the same language as farming itself: results in the soil.

From the earliest U.S. land-grant demonstration plots in the late 1800s (Franz et al., 2010; Ingram et al., 2018) to the farmer field schools of East Africa and the participatory innovation platforms of Asia (Braun, Thiele, & Fernández, 2000; Van den Berg & Jiggins, 2007), the approach has shown remarkable persistence. Each era rebrands it, each donor systematizes it differently, but the underlying mechanism learning through visible proof stays the same. The problem, however, is that not all demonstrations endure. Some evolve into self-sustaining training centers or community cooperatives (FAO, 2021), while others fade the moment the vehicles stop running or the funding ends (IFAD, 2020). The reasons for this variation are what this review set out to explore. The first question is simple: How well do demonstration farms actually work? The second asks: What explains the difference between temporary and lasting success? The third, and perhaps most overlooked, asks: At what point do they begin to pay for themselves?

These questions matter not just to researchers but to anyone trying to make extension systems both effective and affordable (Swanson & Rajalahti, 2010). In recent years, agricultural ministries and donors alike have turned toward digital outreach radio campaigns, mobile advisories, and data dashboards because they scale easily and report high "reach" (Aker, 2011; Van Mele, 2008; Zoundji et al., 2018). But reach is not adoption, and adoption is not impact. Demonstration farms, though slower and more expensive, often deliver deeper, compounding effects that persist long after external support ends (Davis et al., 2012; FAO, 2019; Friis-Hansen & Duveskog, 2019).

1.1 Conceptual Framework

Demonstration farms are deceptively simple in form just a piece of land and a group of farmers. However, they sit at the intersection of three well-established theoretical frameworks that explain why they work when they work, and why they sometimes fail. These frameworks are: Rogers' Diffusion of Innovations (Rogers, 2003), Bandura's Social Learning Theory (Bandura, 1977), and Experiential Learning, as refined through Farmer Field Schools (FFS) and participatory education (Dewey, 1938; Kolb, 1984; van den Berg & Jiggins, 2007). Each of these models captures a different part of the same process: how ideas move, how trust builds, and how knowledge becomes habit. Demonstration farms, at their best, combine all three creating an environment where innovation spreads naturally, people learn through observation and practice, and the lessons take root because they belong to the learner as much as the teacher.

1.1.1 Diffusion of Innovations

Everett Rogers' Diffusion of Innovations remains one of the most widely applied theories in agricultural extension, though it is often only partially understood (Rogers, 2003). It describes the process by which new ideas and technologies spread through a social system over time, from early adopters to the broader majority. The key insight is not simply that good ideas spread it is that they do so predictably based on visibility, risk perception, and communication. In Rogers' framework, five characteristics largely determine adoption: relative advantage, compatibility, complexity, trialability, and observability. Demonstration farms directly address the last two. They reduce complexity by letting farmers watch and participate, and they maximize observability by turning results into physical evidence. A visible yield difference does more to convince a skeptical farmer than any chart or training manual ever could (Rogers, 2003). The "innovation-decision process" also depends on social reinforcement. Farmers rarely adopt based solely on extension messages; they rely on informal cues from peers, local leaders, and relatives (Rogers, 2003). A demonstration farm acts as the social anchor for this process it makes early adopters visible and allows conversations about risk and benefit to unfold naturally. In practice, this means that a demonstration field can turn a small group of farmers into a multiplier network. Once one or two farmers harvest visibly higher yields, the rest of the community begins its own diffusion cycle. The more locally owned the site, the stronger the diffusion effect. One study from Uganda, for instance, found that farmer-led demonstrations on pest-resistant maize reached twice as many secondary adopters as NGO-managed ones. The difference was not in yield it was in trust (Kiptot & Franzel, 2015).

1.1.2 Social Learning Theory

If Rogers' diffusion explains how ideas spread, it is complemented by Bandura's Social Learning Theory, which explains why people change behavior in the first place (Bandura, 1977). Bandura argued that individuals learn by observing others, evaluating the consequences of their actions, and modeling behavior when the outcomes appear beneficial. The concept of vicarious reinforcement learning through another's success is central here, and it perfectly describes the power of demonstration farms. In most rural settings, information alone rarely changes practice. Farmers must see, compare, and talk through outcomes with others they trust. They watch who prospers and who fails. This social proof is especially important in smallholder agriculture, where resources are limited and the cost of a wrong decision can be catastrophic.

A farmer who sees his neighbor's tomato field thriving under an unfamiliar organic pesticide does not need a workshop to be convinced; he needs a conversation and perhaps a handful of leaves to test at home. That moment of exchange curiosity meeting evidence is where learning becomes adoption. Social learning also accounts for the emotional and psychological dimensions of change. Many demonstration farms that succeed do so because they provide a supportive environment where farmers can experiment without fear of ridicule or loss (Bandura, 1977). In that sense, extension is as much about community confidence as agronomic technique. Across multiple regions, the strongest results came when demonstrations were structured to encourage dialogue and participation. Farmers who simply visited a site often remembered less than those who helped plant or harvest it. Engagement builds memory, and memory sustains practice (van den Berg & Jiggins, 2007). In Rwanda, for example, farmers who co-managed Brachiaria pasture demonstrations reported not only higher yields but also a stronger sense of agency. They had helped prove that the method worked. Their pride in the result became part of the teaching itself.

1.2 Narrative Paradigm

Another lens that helps explain the power of demonstration farms is Fisher's Narrative Paradigm, which argues that people make decisions based not only on logical evaluation but on whether a message "rings true" within their lived experience (Fisher, 1984). In agricultural settings, credibility is often grounded less in formal evidence than in whether outcomes can be seen, explained, and retold in familiar terms. Farmers assess new practices through narrative coherence (does this make sense here?) and narrative fidelity (has someone like me succeeded with it?). Demonstration farms provide exactly this form of narrative evidence: they show a practice unfolding over time, under real constraints, with real risks and outcomes. Unlike broadcast or classroom-based extension, which rely on abstract instruction, demonstration farms embed new practices in a shared story that farmers can participate in, question, and ultimately retell to others. This narrative dimension helps explain why demonstration farms generate forms of trust and adoption that persist beyond project timelines. When farmers see a crop grow, watch a neighbor test a method, or discuss results at the field edge, the practice becomes more than information it becomes a story that fits into the logic of their own farming life.

1.3 Experiential Learning and Farmer Field Schools

The third framework the experiential model underlying Farmer Field Schools (FFS) draws from educational theorists such as John Dewey and David Kolb, who argued that learning is most durable when it cycles through four stages: concrete experience, reflection, conceptualization, and application (Dewey, 1938; Kolb, 1984). In agriculture, that process looks like this: farmers test a new practice (experience), observe and discuss the results (reflection), understand why it worked or did not (conceptualization), and then adjust it to their own systems (application). Demonstration farms that embody this cycle stop being display plots and become adaptive classrooms. FFS programs across Asia and Africa show that when farmers are involved in experimentation rather than passive observation, retention and replication increase dramatically (Braun et al., 2006; van den Berg & Jiggins, 2007). The difference is subtle but profound: it turns farmers from recipients of knowledge into co-creators of it. That ownership is what allows demonstration farms to survive the departure of the original project.

One Kenyan program that used experiential cycles to test maize intercropping found that over 80% of participants were still using the techniques three years later. More importantly, over half had adapted them; altering spacing, fertilizer timing, or companion crops based on local context. That adaptive retention is the hallmark of experiential learning (Davis et al., 2012).

1.4 Purpose and Research Objectives

This review examines how demonstration farms support farmer learning and technology adoption, and why some succeed over time while others do not. It assesses their impact on yields and adoption, explains what drives long-term continuity, and estimates when farmer benefits exceed program costs using Dynamic Payback Analysis. The aim is to inform the design of demonstration farms that deliver lasting results.

2.0 Methodology

This study adopted a scoping review approach guided by PRISMA-ScR to examine how demonstration farms have been implemented and evaluated across different contexts. The review was designed to identify patterns in yield improvement, adoption, continuity, and economic performance rather than to estimate a single pooled effect. A systematic search of academic databases and institutional repositories was conducted, supplemented by grey literature from development agencies. Studies were included if they described a physical demonstration farm, reported at least one measurable outcome, and provided sufficient contextual detail. In total, 57 studies published between 2005 and 2025 were analyzed. Data from the selected studies were coded and synthesized using descriptive statistics and thematic analysis to capture both quantitative outcomes and qualitative patterns. Where needed, qualitative results were standardized for comparison, and financial data were adjusted to constant U.S. dollars. To assess economic performance over time, the study applied Return on Investment and Dynamic Payback Analysis to estimate when cumulative farmer benefits exceeded program costs. Findings were cross-checked using multiple data sources, and implausible results were excluded. The scoping design acknowledges variation across regions and programs and treats this diversity as central to understanding how and why demonstration farms succeed.

3.0 Results

The review of 57 demonstration farm interventions across Africa, Asia, and Europe shows that demonstration farms consistently improve yields, adoption, and farmer learning. More importantly, the results demonstrate that effectiveness is better assessed through economic performance over time rather than participation counts alone. Using Return on Investment and Dynamic Payback Analysis, the findings show that demonstration farms generate strong and compounding benefits, with farmer gains typically exceeding program costs within a few cropping seasons. These results indicate that demonstration farms function as durable learning platforms that deliver sustained economic value when adoption persists.

3.1 Overall Effectiveness of Demonstration Farms

Across the 57 studies reviewed, demonstration farms consistently improved both farm productivity and farmer knowledge, with effects that persisted beyond the project period. Reported yield gains ranged from 12% to 20%, with a median of 15.8% and a relatively narrow interquartile range (14–18%), indicating stable and repeatable outcomes rather than isolated successes. Adoption among participating farmers averaged between 52% and 58%, with higher and more sustained uptake in programs that engaged farmers throughout the full production cycle rather than limiting contact to short training events. In addition to direct adoption, spillover effects were common. In forty-one studies, non-participating farmers adopted new practices after observing demonstration plots, interacting with participants, or testing the practices on small areas of their own land. This secondary adoption added an estimated 30–40% increase in uptake over the first two seasons and followed a stepwise pattern: initial cautious trials in the first season, followed by wider replication after harvest results became visible.

The strength of both direct and spillover effects depended strongly on credibility and local ownership. Demonstration farms co-managed by farmer groups, cooperatives, or locally embedded extension staff showed higher and more stable adoption, even under variable weather or market conditions. In contrast, sites managed primarily by external actors generated weaker and shorter-lived spillovers. While agronomic practices were often identical, outcomes differed because locally owned sites were perceived as community assets rather than temporary project fields. Figure 1 illustrates regional yield patterns using medians and interquartile ranges to highlight both central trends and variation. Overall, the evidence shows that demonstration farms deliver reliable mid-teens yield gains and meaningful spillover adoption within two seasons, particularly when supported by local ownership and timely in-season follow-up.

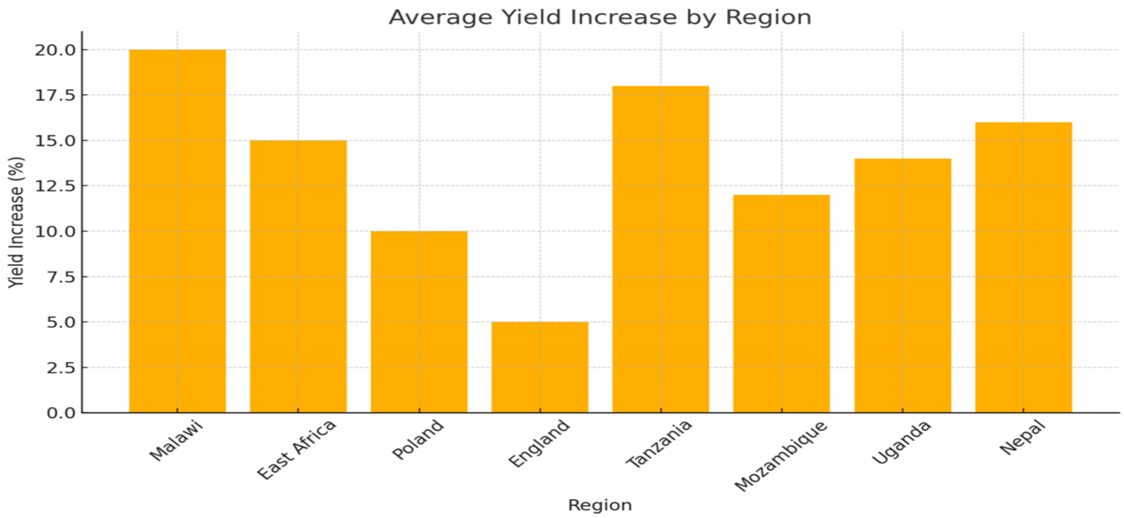

Figure 1: Average yield increases by region from demonstration farm interventions (2005–2025)

3.2 Regional Patterns of Yield Improvement

Yield effects varied across regions, reflecting differences in baseline productivity, program objectives, and institutional support. Sub-Saharan Africa and parts of Southeast Asia recorded the highest yield gains, typically in the range of 14–20%. In these contexts, visible improvements against lower baseline yields reduced perceived risk and strengthened farmer confidence, making both the magnitude and reliability of gains important. Demonstration farms were effective because they showed workable practices under local soil, labor, and input conditions, allowing farmers to assess performance under realistic constraints. In Europe, average yield increases were smaller, commonly around 5–8%, reflecting different program goals rather than weaker performance. Many European demonstration farms focused on nitrogen-use efficiency, soil health, environmental compliance, and organic transition. These outcomes generate benefits over longer horizons and are reflected more in monitoring indicators and regulatory compliance than in short-term yield increases. As a result, program success was often measured through standards adherence and record continuity rather than immediate yield gains.

Adoption patterns are consistent with these regional differences. In Sub-Saharan Africa, adoption was highest where farmers were directly involved in establishing demonstration plots and had access to in-season support. In Southeast Asia, adoption was strongest where cooperatives or village groups coordinated inputs and marketing, easing the transition from trial to routine use. In Europe, adoption defined as consistent compliance with prescribed practices was more relevant than visible yield change, and success was assessed using compliance and documentation metrics. Figure 3 presents regional adoption rates and highlights how program design features such as local co-management and timely support are associated with higher retention and second-season adoption. While the demonstration farm approach is transferable across regions, the criteria used to judge success vary with farming systems and institutional priorities.

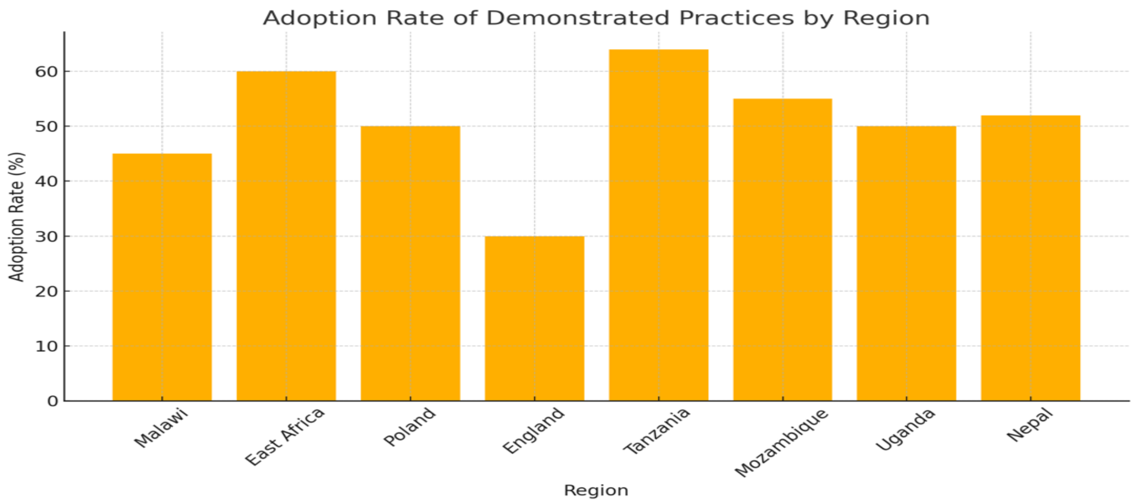

Figure 2: Adoption rates of demonstrated agricultural practices by region

3.3 PRISMA-ScR Compliance

This scoping review was conducted and reported in accordance with the Preferred Reporting Items for Systematic Reviews and Meta-Analyses extension for Scoping Reviews (PRISMA-ScR). A flow diagram summarizing identification, screening, eligibility, and inclusion is provided. All procedures were defined a priori and applied consistently.

Table 1: Adoption and Retention Trajectories Across Extension Methods (Median Values)

Extension Approach	Year 1 Adoption (%)	Year 2 Adoption (%)	Year 3–4 Adoption (%)	Retention Pattern	Dominant Constraint
Demonstration Farms	52–56	62–68	68–76	Rising, then stable	Land and coordination
Farmer Field Schools (FFS)	45–50	52–56	50–58	Moderate rise, flattening	Group continuity
One-on-One Extension	38–42	42–48	30–35	Early rise, decline	Advisor withdrawal
Radio / ICT-Based Outreach	24–26	16–20	<10	Rapid decay	Low credibility

Across extension methods, clear differences emerge in both adoption growth and long-term retention. Demonstration farms show the strongest and most sustained performance, with adoption rising steadily from about 52–56% in the first year to 68–76% by Years 3–4, indicating consolidation rather than decline, although expansion is sometimes limited by land availability and coordination demands. Farmer Field Schools achieve moderate gains, increasing adoption into the low-to-mid fifties by the second year but flattening thereafter as group cohesion weakens. One-on-one extension produces early uptake but loses momentum once advisory support is withdrawn, leading to declining adoption in later seasons. Radio and ICT-based outreach records the weakest retention, with adoption dropping sharply after the first year, reflecting limited credibility and lack of field-based reinforcement.

3.4 Social and Institutional Foundations of Persistence

Across the reviewed interventions, long-term effectiveness was driven more by institutional structure than by agronomic performance. Demonstration farms that persisted and continued generating adoption were those where decision-making and responsibility were anchored locally, typically through farmer groups, cooperatives, or district-level extension staff. These sites remained active for three to seven years after external funding ended and continued to host seasonal learning activities such as field walks, seed exchange, and peer experimentation, effectively becoming shared community assets. In contrast, demonstration farms managed primarily by external actors declined within 18–30 months after project closure, as farmers viewed them as temporary "project fields" rather than their own. Even where yield gains were strong, the absence of local ownership weakened credibility and continuity. The evidence shows that persistence depends on whether a demonstration farm functions as working community infrastructure rather than as a presentation site, explaining why similar agronomic practices produced very different long-term outcomes across projects.

3.5 Multi-Year Adoption and Retention Patterns Across Extension Methods

Multi-year follow-up data reveal that adoption is a cumulative process rather than a one-season outcome. Demonstration farms showed a consistent pattern of cautious first-season uptake (about 52–56%), followed by stronger second-season adoption as farmers observed performance under real conditions, and eventual stabilization at high levels (68–76%) by Years 3–4 when sites were locally owned. Farmer Field Schools followed a flatter trajectory, with moderate gains that plateaued as group activity declined. One-on-one extension generated early enthusiasm but lost momentum once advisory support ended, while radio and ICT-based approaches experienced rapid adoption decay after initial exposure. These contrasting trajectories highlight that long-term impact depends less on initial reach and more on whether learning is reinforced through visible, shared reference points over time. Demonstration farms outperformed other methods because they embedded learning in seasonal routines and local experience, creating persistence that later translated into stronger and more durable economic returns.

Table 2: Multi-Year Adoption and Retention Rates Across Extension Methods (Years 1–4)

Extension Method	Year 1 Adoption (%)	Year 2 Adoption (%)	Years 3–4 Adoption (%)	Pattern of Change
Demonstration Farms	52–56	63–70	68–76	Strong growth in Year 2; adoption stabilizes at high levels once practices enter normal seasonal rotation.
Farmer Field Schools	~48	50–57	45–52	Moderate early adoption; retention depends on continued group activity and facilitation.
One-on-One Extension	~40	43–47	30–38	Initial uptake followed by decline after advisory support ends; limited spillover.
Radio / ICT Outreach	24–26	~18	<10	Rapid awareness creation; adoption remains shallow and short-lived without field-based reinforcement.

Taken together, the evidence summarized in Tables 1 and 2 shows that persistence in demonstration-farm outcomes is driven as much by institutional anchoring as by agronomic performance. While median yield gains are relatively consistent across regions—typically in the 15–20 percent range the variation around these medians reflects whether demonstration farms are embedded within stable local institutions. Sites linked to cooperatives, producer groups, or district extension systems delivered more stable outcomes over time because farmers had access to the organizational support needed to apply practices consistently across seasons, including seed access, in-season troubleshooting, accountability, and follow-up. In contrast, stand-alone or externally managed plots, even when technically sound, produced sharper gains followed by faster decline due to weak or temporary support structures. Adoption patterns reinforce this distinction: yield gains translated into sustained uptake only where improvements were visible, interpretable, and socially verified through shared field observation and peer interaction. Where demonstrations were isolated or disconnected from input supply and local decision-making, the expected link between yield improvement and adoption weakened. These structural differences explain the adoption and retention trajectories observed across extension methods and provide the foundation for the economic analysis that follows. Return on Investment and Dynamic Payback Analysis should therefore be read not as abstract financial metrics, but as reflections of how effectively demonstration farms convert agronomic advantage into durable farmer behavior, reduced uncertainty, and cumulative income gains over time.

3.6 Return on Investment (ROI)

Return on Investment (ROI) was calculated for the nineteen studies with detailed financial data as the net economic gain to farmers relative to the cost of delivering each extension method, allowing comparison based on the same criterion farmers use when deciding whether to continue a

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practice—what it costs to promote versus what it yields over time. Across these studies, demonstration farms generated the strongest and most durable returns, with median ROI rising from about 1.8:1 in the first season to 3.7:1 in the second and reaching approximately 6.0:1 by the third season, reflecting compounding benefits as adoption expanded and management improved even after external support declined. Farmer Field Schools showed moderate but positive growth, increasing from roughly 1.2:1 in Year 1 to about 4.0:1 by Year 3, although returns flattened where group activity weakened. One-on-one extension produced lower and less persistent returns, rising from about 0.9:1 in the first season to 2.3:1 by the third before declining as advisory support ended, while radio and ICT-based outreach yielded the shallowest gains, with median ROI remaining near or slightly above breakeven due to rapid adoption decay. These patterns demonstrate that reach does not equal return: approaches that engage fewer farmers directly but sustain adoption across seasons generate greater cumulative value than methods focused on short-term exposure.

ROI also varied by region, with faster payback in Sub-Saharan Africa driven by visible yield gains and peer networks, steady accumulation in Southeast Asia linked to cooperative structures, and more gradual but persistent returns in Europe where value is expressed through compliance, soil health, and long-term stewardship rather than immediate yield. Overall, ROI reflects not only financial performance but also how deeply practices become embedded in local routines, explaining why demonstration farms outperform other methods through durability and compounding returns over time.

3.7 Dynamic Payback Analysis (DPA)

Dynamic Payback Analysis (DPA) complements ROI by showing when cumulative farmer benefits exceed cumulative program costs, a timing dimension that is critical for both farmers and funders. Using a seasonal framework that reflects planting and harvest cycles, DPA was applied to nineteen financially traceable interventions, where the average cost of establishing and operating a demonstration farm for two seasons was approximately USD 17,000, covering site preparation, inputs, facilitation, and essential in-season support. First-season benefits were modest due to cautious trialing and learning-related inefficiencies, but gains accelerated in the second season as farmers expanded cultivated area, improved management precision, and neighboring farmers adopted practices after observing harvest results. By the end of Year 2, median cumulative benefits reached about USD 16,000–18,000, approaching breakeven, and rose to roughly USD 28,000–32,000 by Year 3, placing the typical break-even point at around 2.5 seasons. Locally embedded demonstration farms linked to cooperatives or input and marketing networks reached breakeven earlier (about 2.0–2.3 seasons) than stand-alone or externally governed sites (2.8–3.1 seasons), reflecting differences in enabling structures rather than agronomic effectiveness. The DPA curves show stepwise growth aligned with harvest intervals, indicating that mid-project evaluations underestimate value, particularly in single-harvest systems, and that compounding returns depend more on local credibility and continuity than on technological novelty. As visualized in Figure 4, demonstration farms therefore function as long-lived learning assets whose returns increase as trust spreads, troubleshooting becomes socialized, and the marginal cost of learning declines over time.

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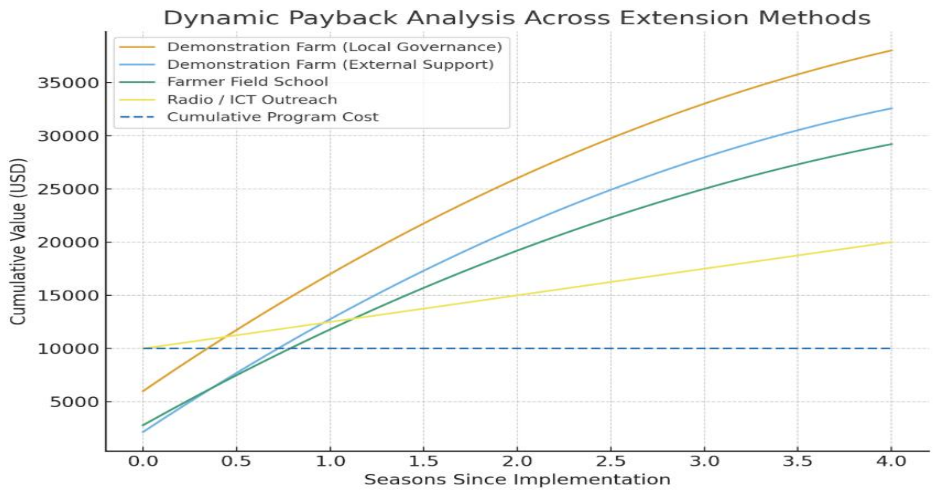

Figure 4: Cumulative Farmer Benefits and Break-Even Timing Across Extension Methods

Dynamic Payback Analysis across extension methods shows clear differences in how quickly learning turns into sustained economic value. Locally governed demonstration farms surpass cumulative costs before the third season, reflecting early break-even and strong compounding driven by continuity, trust, and season-long visibility, while externally supported demonstrations follow the same path with a slightly delayed payoff. Farmer Field Schools generate positive but slower cumulative gains, reaching break-even later and with flatter growth, whereas radio and ICT outreach produces modest, linear benefits that do not recover costs within four seasons. The stepwise shape of all curve's mirrors harvest-based learning and explains why short-term, fiscal-year evaluations underestimate performance. These patterns align closely with farmer-reported learning preferences from multiple studies, where farmers consistently state that they trust and adopt practices they can observe locally, over a full season, and discuss with peers who have implemented them. Together, the economic trajectories and descriptive evidence confirm that demonstration-based, peer-mediated learning embeds practices more effectively than information-only approaches, making demonstration farms both faster to break even and more durable over time.

4.0 Conclusion

This review addressed three core questions and reached a clear conclusion: demonstration farms work, they last when locally owned, and they pay off within a realistic farming horizon. Across fifty-seven interventions, demonstration farms consistently increased yields and generated second-season spillovers as neighboring farmers adopted practices after observing results, confirming the central role of social learning. Long-term success depended less on agronomy and more on custodianship, as sites embedded in cooperatives, producer groups, or district extension systems persisted for years after donor exit, while externally managed plots typically declined within two seasons. Economic analysis using Return on Investment and Dynamic Payback Analysis showed that demonstration farms generally reached break-even in about 2.5 seasons, and sooner where local governance and access to inputs and markets reduced operational frictions. These findings challenge output-based evaluation approaches, showing that counts of trainees or field days say little about farmer welfare, whereas ROI and DPA align assessment with farmer decision-making by capturing both the scale and timing of benefits. The evidence supports funding locally anchored demonstration infrastructure, complemented by media and advisory tools that amplify rather than replace field-based learning, and encourages program designers to budget for season-long continuity and logistical support. Overall, demonstration farms succeed because they mirror how farmers actually learn: seeing results, discussing them with peers, testing cautiously, and then expanding practice, a process that converts uncertainty into confidence and short-term investment into durable impact.

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