

## Improving Smallholder Poultry Productivity:

Drivers of Behaviour Change and Agribusiness Growth in Sub-Saharan Africa

AgDevCo<sup>o</sup>



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## WEST AFRICA

PwC Towers  
1st Floor  
Rangoon Lane, Cantonments  
GL 045 8851  
Accra, Ghana

T: +233 (0) 302 968980

## EAST AFRICA

ABC Towers  
4th Floor  
Waiyaki Way  
Nairobi  
Kenya

T: +44 20 8132 3548

## SOUTHERN AFRICA

Suite 4B  
First Floor  
Madison Place  
Alphen Office Park  
Cape Town  
South Africa

T: +27 021 001 7725

## HEAD OFFICE

Chancery House  
53 – 64 Chancery Lane,  
Holborn, London  
WC2A 1QS  
United Kingdom

T: +44 (0)20 7539 2650

## ENQUIRIES

### General

E: [info@agdevco.com](mailto:info@agdevco.com)

### Investment enquiries

E: [investment@agdevco.com](mailto:investment@agdevco.com)

### Careers

E: [careers@agdevco.com](mailto:careers@agdevco.com)

# Summary

Smallholder poultry farming supports millions of rural households across sub-Saharan Africa, yet most operations remain at subsistence level due to limited access to knowledge, inputs, and support<sup>1</sup>. This case study draws on external M&E assessments of two technical assistance projects in Mozambique and Uganda to examine how targeted training and extension services drive adoption of improved poultry management practices. The findings show that when smallholder farmers (SHF) receive practical, well-designed support, they become more productive and commercially engaged, generating stronger demand for inputs and services in a way that benefits agribusiness investees and farming households alike.

## Overview of impact

### Transurban broiler training school | Mozambique

**235 farmers**

trained by project end

**68% women**

Number of training participants surveyed: **79**

#### Behaviour change

Farmers

**more than doubled**

number of good practices adopted

#### Impact of practice adoption

Average increase

of **44%**

in flock size and number of broilers sold across men and women

Revenue

**increased**

from MZN 57,000 to 86,000 across men and women (+51%)

**~34%**

**increase**

in profit across men and women

### Uzima | Uganda



**4,009 SHF customers and agents**

trained by project end

**36% women**

Number of SHF customers and agents surveyed: **36<sup>2</sup>**

**94% of farmers**

reported an increase in total income<sup>3</sup>

Average of

**76% farmers**

reported improved food and nutrition outcomes<sup>3</sup>

**78% farmers**

reported improved wellbeing<sup>3</sup>

### Transurban extension programme | Mozambique

**1,843 farmers**

trained by project end

**64% women**

Number of training participants surveyed: **132**

#### Behaviour change

Farmers adopted

**1 additional**

good practice on average

#### Impact of practice adoption

**85% of farmers**

purchased day-old-chicks (DOCs) and feed from Transurban

held stable baseline → endline

**8.5/10**

SHF loyalty score

held stable baseline → endline

<sup>1</sup> Mississippi State University. [Poultry industry grows across East Africa, but challenges remain](#). 2025.

<sup>2</sup> The sample size was intentionally small and appropriate for a qualitative study focused on identifying patterns and causal narratives rather than measuring population-level effects. Findings should be interpreted as illustrative rather than generalisable.

<sup>3</sup> SHF customers and agents' self-reported change linked to engagement with Uzima Uganda

# Why backyard poultry? The case for small-scale farming.

Smallholder poultry farming has a multidimensional contribution to the livelihoods of rural households. Its contribution includes its role in generating additional income for the family that can be used to pay for essential household expenses, purchase other agricultural inputs, and enhance resilience against external shocks such as food price spikes. Additional income and the availability of poultry products from production improves household access to high-quality protein<sup>4</sup>.

From an agribusiness perspective, supporting smallholder poultry makes business sense as well. As farmers scale up their flocks and productivity, they become reliable purchasers of inputs (like chicks and feed) and suppliers of poultry products, fuelling the growth of upstream and downstream enterprises.

“One of the main reasons I started the poultry project was to increase my income so that I could be able to meet my family’s basic needs like children’s school fees. After acquiring some knowledge from a poultry management training, I joined poultry [as an agent]. I started by buying one-month-old chicken from Uzima agents.”

Female Cash Agent from Gomba

## The challenge

Smallholder poultry production in Africa is constrained by interrelated challenges that limit productivity and profitability, keeping many operations at subsistence levels<sup>5</sup>. These challenges also affect the commercial returns of agribusinesses that engage with these farmers.

Disease, particularly Newcastle Disease and Gumboro, causes high mortality due to limited vaccine access and poor biosecurity. This means income loss for farmers and reduced repeat purchases of DOCs, feed, and vaccines from agribusinesses.

Feed access and cost remain significant barriers, with many farmers underfeeding or using low-nutrition alternatives<sup>6</sup>. In Rwanda, farmers reported spending as much on feed as on chicks, highlighting tight margins that constrain scale-up<sup>7</sup>.

For suppliers, this means a smaller addressable market and inconsistent demand.

Knowledge gaps in poultry management are widespread. A baseline assessment done on an AgDevCo poultry investee (Transurban, Mozambique) found only 58% of farmers budgeted before a cycle and just 45% tracked mortality, leading to poor production and inefficient input use. For agribusinesses, this reduces input uptake and creates reputational risk when poor outcomes are blamed on product quality.

Limited access to credit prevents investment in housing, feed, and flock expansion. Without working capital, farmers cannot act on training or adopt better practices, constraining sales volumes and customer growth potential for agribusinesses.

<sup>4</sup> Birhanu, Y. et al. [Smallholder poultry production in the context of increasing global food prices: roles in poverty reduction and food security](#). 2023.

<sup>5</sup> Yusuf & Popoola. [An Evaluation of the Effectiveness of the Training Offered to Smallholder Scavenging Chicken Farmers in Raymond Mhlaba Local Municipality, Eastern Cape Province, South Africa](#). 2022.

<sup>6</sup> Mississippi State University. [Poultry industry grows across East Africa, but challenges remain](#). 2025.

<sup>7</sup> AgDevCo. Uzima Rwanda: [The impact of improved poultry in Rwanda](#). 2020.



A woman in rural Mozambique starts small with fifty broiler chicks raised in a spare room, generating a supplementary income alongside her husband's wage. She attends a four-day training course. She learns about brooding temperatures, vaccination schedules, feeding routines, basic record-keeping. A few cycles later, her flock is larger, her margins are better. A few years later, two of her children are at university.

This is what the evidence from AgDevCo's technical assistance work in Mozambique and Uganda shows: better poultry practices deliver measurable benefits across the value chain.

## Our approach

AgDevCo's portfolio of poultry investees responds to these challenges by supporting smallholder farmers through high-quality inputs, improved market access, and ongoing technical support. Our poultry portfolio spans multiple countries and regions, including Transurban in Mozambique and Uzima Uganda, part of the wider Hatch Africa Group.

Transurban Africa supplies DOCs and feed to smallholder broiler farmers across 14 depots in three southern provinces in Mozambique. Smallholders make up 80% of its customer base, making their performance directly material to the company's commercial trajectory.

Uzima Uganda distributes dual-purpose DOC breeds through a large agent network, who breed birds for four to five weeks before selling them to smallholder customers.

AgDevCo's support goes beyond capital. Between 2021 and 2025, AgDevCo's Technical Assistance Facility (TAF), supported projects with Transurban and Uzima Uganda aimed at equipping smallholder farmers with practical skills and ongoing support to adopt improved poultry management practices. AgDevCo's TAF is funded by various donors including the Foreign, Commonwealth and Development Office (FCDO) whose funding has been instrumental in delivering these two specific TA projects.

This case study examines how technical support influences the adoption of improved poultry management practices among smallholder farmers, and the resulting impact on farming households and the agribusinesses they engage with.

# Triggers of behaviour change: Technical support

Targeted training and extension services are proven mechanisms for helping smallholder poultry farmers overcome persistent production challenges, building the practical knowledge needed to sustain better husbandry practices. When farmers receive hands-on training, observe tangible results, and benefit from ongoing support, meaningful behaviour change follows<sup>8</sup>. When this support is led by the agribusinesses who engage with SHFs, it can generate both commercial returns and measurable development impact.

“We need to increase the frequency of these trainings because I have learned a lot; before the trainings, my profits from brooding were small because I was not feeding my birds correctly. Currently I save close to 220,000 UGX [or c.\$60 per cycle] on feeding, because I was taught how to use and mix concentrate feeds after the first two weeks”

Namatovu Eva, Uzima agent in Kayunga, Uganda

This next section explores the effectiveness of technical support across three interventions in two TA projects, one with Transurban in Mozambique and one with Uzima in Uganda, examining how different extension approaches yield different results for farmer livelihoods and investee commercial performance.

## Transurban

In 2023 AgDevCo and Transurban Africa partnered to deliver two complementary technical assistance interventions in southern Mozambique, each designed to improve smallholder poultry management and strengthen commercial relationships. While the approaches differed in intensity, both aimed to equip farmers with practical skills that would enhance productivity and, in turn, increase demand for Transurban's DOCs and feed.

### Broiler Training School

Transurban's Broiler Training School was a 3–4 day, hands-on course delivered at the breeder farm site, aligned to the 6-week broiler production cycle. The programme trained 235 small and medium broiler farmers (68% women) on feed management, vaccination schedules, biosecurity, and basic budgeting. Trainees received follow-up visits and calls from extension officers to reinforce learning.

#### Objective:

Improve farmer performance and income while strengthening customer loyalty to Transurban's product ecosystem.

### Poultry Extension Programme

Transurban's Poultry Extension Programme took a lighter-touch approach. Extension officers provided regular farm visits and remote advisory support, primarily within Maputo province, using printed and digital materials to reinforce good practices in feeding, vaccination, budgeting, and record-keeping. The programme reached 1,843 small- and medium-scale broiler farmers, approximately 64% of whom were women.

#### Objective:

Improve farmer performance and income, enabling larger and more reliable orders for chicks and feed, while fostering customer loyalty in a competitive market.

<sup>8</sup> Mississippi State University. [Poultry industry grows across East Africa, but challenges remain](#). 2025.



## Behaviour change adoption

To understand how these interventions influenced day-to-day farm management, we examine changes in the adoption of core good practices covering brooding, feeding, biosecurity, and basic planning — the behaviours most directly linked to flock health and performance.

Across both interventions, farmers showed clear improvements in these areas, with the strongest gains in low-cost, easy-to-apply practices such as correct brooding, consistent feeding routines, basic hygiene, and record-keeping. The Broiler Training School delivered more intensive behaviour change<sup>9</sup> while the Extension Programme influenced incremental but meaningful shifts in practice adoption. This despite a disrupted input supply environment (see next page for more background).

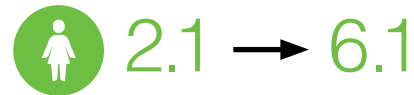
Capital-dependent behaviours, such as biosecurity equipment use and housing upgrades, remained harder to shift, reinforcing that training alone cannot overcome cost and supply barriers. Women made substantial gains across both programmes, often closing gaps with or surpassing men in key management practices.

Together, the two approaches demonstrate that well-designed technical assistance can reliably strengthen foundational management behaviours, supporting better flock health, higher productivity, and more predictable purchasing patterns for Transurban.

### Broiler training school

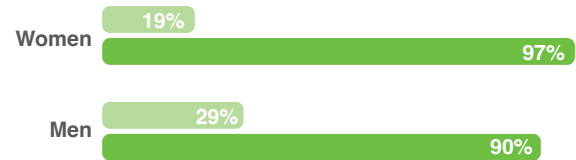
79 farmers interviewed  
61% women

#### Average number of practices adopted

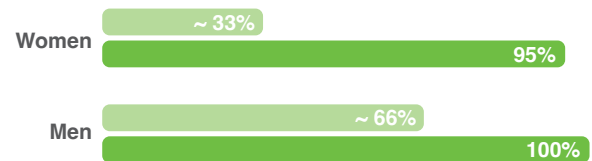


baseline → endline

#### Farmers adhering to feed schedules:



#### Farmers managing chick temperature:



#### Farmers administering recommended vaccines:



Before training After training

<sup>9</sup> The broiler school did not implement a baseline survey, so all comparisons rely on a single post-training survey using retrospective recall.

Triggers of behaviour change: Technical support continued

**Supply disruptions during the review period**

The review of the Extension Programme outcomes coincided with a phase of heightened instability in Mozambique following the October 2024 elections. This was marked by intermittent closures along the Mozambique–South Africa border, a key corridor for trade and the movement of agricultural inputs. In parallel, ongoing insecurity in Cabo Delgado contributed to broader uncertainty and disruption to logistics. Together, these factors constrained the availability and reliability of essential inputs such as DOCs, feed, and vaccines, while also delaying transport and market access. The resulting supply-side disruptions had knock-on effects across the poultry sector, contributed to reduced production volumes, smaller flock sizes, and declining revenues over the period, even where farm-level practices were improving.

The broiler school influenced meaningful behaviour change among participating farmers, with average adoption of key poultry management practices more than doubling following training. The most significant gains were recorded in chick temperature management, adherence to recommended feeding schedules and the uptake of core vaccines<sup>10</sup>. These practices are critical determinants of flock performance and as a result, directly impact the earning potential of SHFs. This is of commercial relevance to Transurban’s business model. Farmers who adhere to structured feeding schedules place more predictable orders for feed, and those who see improved flock outcomes are more likely to remain loyal, repeat customers.

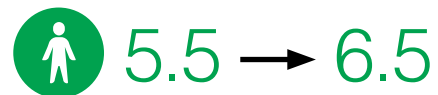
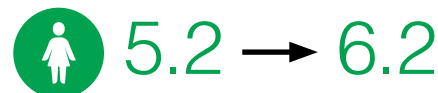
Practices requiring dedicated equipment and consumables, such as disinfectant tools and personal protective equipment (PPE), saw more modest gains, reflecting the barrier posed by upfront capital costs. Notably, the training had a pronounced influence on practice adoption among female farmers, underscoring the programme’s role in building more equitable capacity across the farming community.

Overall, the shifts suggest that farmers have integrated the more accessible and low-cost practices into their routines, while equipment-dependent measures have improved, but remain areas where further support or provision of materials would be needed to effect change.

**Extension programme**

260 farmers interviewed  
~75% women

**Average number of practices adopted**



baseline → endline

**Farmers feeding complete feed mix**



**Farmers using age-specific feed**



Before training After training

<sup>10</sup> Core schedule of vaccines promoted in training: Newcastle booster; Newcastle 7 days; Gumboro 14 days.

Despite disruptions from political unrest and input supply constraints in late 2024, the programme delivered meaningful behaviour change among participating farmers. On average, farmers adopted one additional good poultry practice as a result of the extension support, with feeding, budgeting, and record-keeping showing the strongest and most consistent gains. These areas are well-suited to the programme's light-touch model, which prioritises low-cost behavioural shifts over capital-intensive changes. Gumboro vaccination reached near-universal coverage, though Newcastle Disease vaccination declined due to nationwide supply shortages, highlighting that training alone cannot overcome systemic input access barriers. In comparison to male farmers, women showed strong improvements in budgeting and mortality tracking, but remained smaller at scale, which shaped their revenue trajectories.

Housing improvements remained limited, though farmers made incremental adjustments where feasible, often shaped by gendered priorities in resource allocation. Women farmers were found to incrementally invest in the capacity of aviaries, while men would invest efforts into optimising their existing structures by increasing the number of feeders and drinkers.

The improvements seen in feeding and planning are mutually beneficial for both the farmer and Transurban. For farmers, this means enhanced productivity and greater confidence to run regular, well-planned batches. For Transurban, farmers with well-managed poultry businesses are more reliable customers who place steadier orders for chicks and feed, thereby improving demand consistency and supporting long-term commercial growth. As supply conditions normalise, the behavioural foundation built through this programme is well-positioned to translate into broader performance gains.

### **Gender dynamics in smallholder poultry farming**

Female farmers made the largest absolute behaviour change gains across both interventions. In some cases, surpassing male counterparts after training. Women were more likely to invest incrementally in expanding aviary capacity, signalling growth ambition when given the opportunity.

Most smallholder poultry farmers across both initiatives were women, operating within households where formal income is held by the husband and poultry is treated as secondary income. This has direct consequences: when household pressures arise, poultry revenue is redirected rather than reinvested; women do not always see the operation as a business with growth potential; and training attendance is constrained by spousal resistance (especially for multi-day trainings at a venue that is not close to home) and domestic obligations.

The Transurban broiler school saw a 27% trainee dropout rate. According to Transurban's General Manager, this was driven primarily by gender dynamics. Husbands were uncomfortable with wives staying away from home during the training period, and domestic obligations pulling participants back mid-course even after daily transport was provided to facilitate the combination of training attendance and domestic responsibilities. This finding is corroborated by the Uzima Uganda TAF project, which identified comparable gender-related barriers limiting women's access to and participation in agricultural training.

In response to this challenge, both Transurban and Uzima Uganda have since moved to a training model that is more village-based rather than bringing farmers to a central venue, which has helped to increase the inclusion of women.

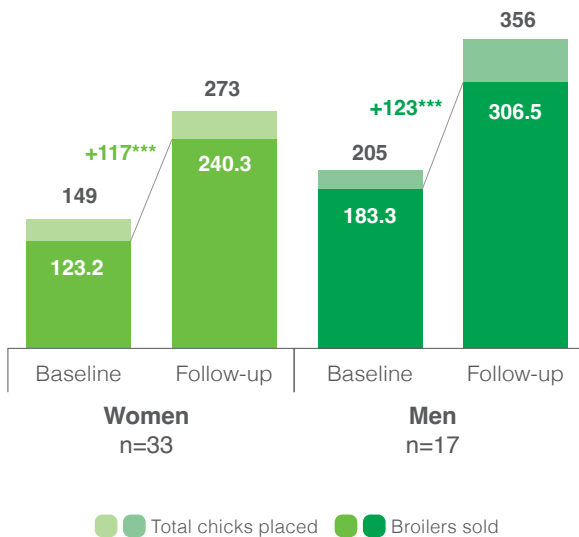
Triggers of behaviour change: Technical support continued

### Impact of improved poultry management practices

Purchasing patterns, productivity levels and income trends are critical indicators of whether improved farm management translates into stronger commercial engagement and better economic outcomes for smallholder farmers.

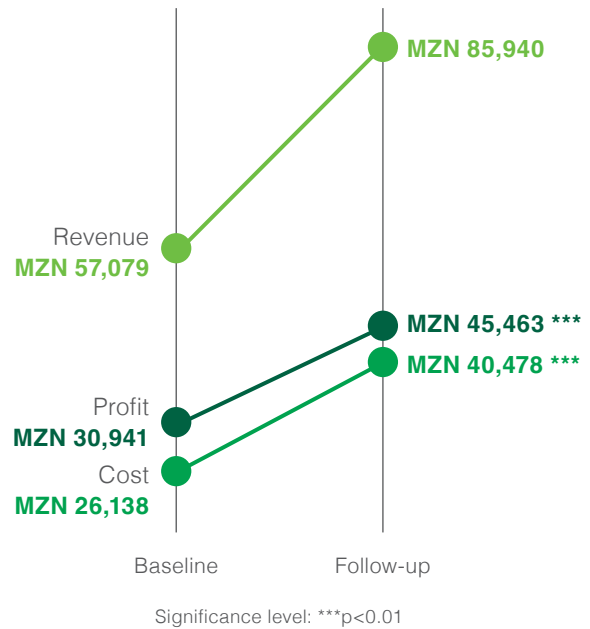
The timing of data collection and review period differed significantly across the two Transurban interventions, supporting why SHF revenue outcomes diverged despite both programmes operating within the same broader environment. The Extension Programme endline was completed in March 2025, coinciding with a period of significant political instability and supply disruptions. The Broiler School endline, by contrast, was completed in November 2025, by which point conditions had begun to stabilise.

#### Effect of Broiler Training on SHF Flock Size and Sales (per cycle)



Significance levels: (\*p<0.10, \*\*p<0.05, \*\*\*p<0.01)

#### SHF Financial Performance Indicators at Baseline and Follow-up (per cycle)



#### Broiler training school

Farmers participating in the broiler training school demonstrated clear signs of scaling up their operations, reflected in larger flock sizes, higher sales volumes and stronger financial performance. The figure to the left shows how both women and men expanded their flock sizes and sales volumes after the broiler school, with farmers placing noticeably larger orders of chicks and selling more broilers per cycle<sup>11</sup>.

The figure above illustrates how these larger orders translated into higher production costs, driven primarily by greater spending on chicks and feed as farmers adopted improved feeding schedules. Critically, higher outlays were matched by significantly higher revenues, with women registering the largest gains in absolute terms due to their greater expansion in flock size (albeit from a lower base). Despite higher costs, both men and women reported an increase in average profits overall, with women’s profits increasing more than men’s in absolute terms. Profit margins held steady, indicating that farmers’ higher earnings stemmed from scaling production rather than margin improvements.

<sup>11</sup> Values rely on self reported recall and may include inaccuracies. Seven responses were removed because the number of broilers sold was higher than the number of chicks initially placed. Incorporating an automatic consistency check in future surveys would help prevent such errors.



**Farmer perspectives<sup>12</sup> reinforce findings:** farmers credit the broiler school with strengthening their day to day management and improving flock day-to-day performance, with many also taking the initiative to upgrade housing, equipment and overall capacity. These experiences mirror the quantitative results and add valuable insight into how and why farmers are applying the practices introduced through the training.

### Extension programme

The endline results show that purchasing behaviour, productivity and incomes all contracted during the review period, driven largely by sector-wide supply disruptions rather than changes in farmer engagement or loyalty. While the proportion of farmers buying DOCs and feed remained stable at around 85%, the volumes purchased declined sharply: farmers bought on average 222 fewer chicks from Transurban and 267 fewer from other suppliers, reflecting intermittent hatchery availability and border-related transport delays. Feed purchases from Transurban held steady, suggesting resilient loyalty, while purchases from other suppliers declined.

Supply constraints fed into production outcomes, with flock sizes shrinking (from 221 at baseline to 200 at follow-up) and the number of birds finished at the end of the cycle declining by 12%, accompanied by a small rise (3% compared to baseline) in mortality. As a result, revenues also contracted by roughly 15%. Overall, despite meaningful improvements in management practices, external shocks curtailed farmers' ability to purchase inputs, maintain production levels, and grow income during the period.

As conditions normalise, the stronger management foundation is expected to translate into significant performance gains, fuelling a virtuous cycle where farmers earn more and, in turn, buy more chicks and feed.

This aligns with Transurban's commercial strategy: the extension programme has created a more capable and committed customer base, enhancing Transurban's revenue and market position while delivering lasting benefits to farming families.

In Q4 2025, Transurban reported that 47% of farmers engaged in the extension programme experienced an increase in revenue from MZN 8,873 to MZN 12,987 per cycle, with 51% of participants improving record-keeping and 45% of participants increasing their DOC order size per cycle.

The study measured loyalty through a recommendation score, with Transurban performing strongly with scores averaging 8.5/10 at baseline and follow-up. This stability signals a positive perception that farmers have of the quality and reliability of poultry inputs from Transurban.

<sup>12</sup> Qualitative data collected through an open-ended question on what the most important change was that farmers experienced after attending the broiler training school.

Triggers of behaviour change: Technical support continued

**Case study: Uzima Uganda**

In 2021, AgDevCo’s TAF launched a project with Uzima Uganda to strengthen the capacity of smallholder farmer customers and agents. Training programmes were delivered across multiple districts, covering poultry rearing, disease management, and marketing strategies.

In 2023, AgDevCo collaborated with Bath Social and Development Research on a Qualitative Impact Protocol (QuIP) study to assess how the TA project and broader engagement with Uzima Uganda had influenced farmer livelihoods. The figure below provides an overview of the positive change respondents attribute to their engagement with Uzima Uganda. The study interviewed 36 respondents<sup>13</sup> across Masaka and Gomba districts and found consistent evidence of positive change across five key areas.

**Overview of impact**

**Total income**



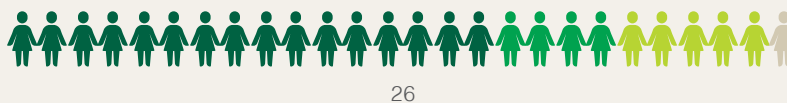
**Poultry income**



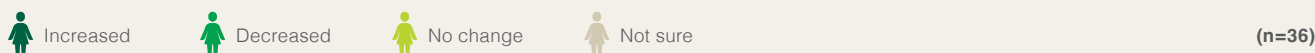
**Food production**



**Food consumption**



**Wellbeing**



The results from the closed-ended questions reveal the number of respondents reporting ‘increased’, ‘decreased’, ‘no change’, or ‘not sure’ responses across different aspects of their lives over the last three years.

<sup>13</sup> The sample size was intentionally small and appropriate for a qualitative study focused on identifying patterns and causal narratives rather than measuring population-level effects. Findings should be interpreted as illustrative rather than generalisable.



In total

4,009 farmers  
and agents

were trained (36% women)

Training built practical skills that translated into improved flock health, lower mortality, and stronger business discipline. Many respondents spoke of applying new knowledge and seeking ongoing advice from Uzima Uganda staff when challenges arose. While the QulP methodology makes direct attribution difficult, respondent narratives consistently pointed to training as a driver of improved outcomes.

These farm-level gains also delivered commercial benefits for Uzima Uganda. Improved farmer performance, stronger loyalty, and higher flock survival rates drove increased demand for DOCs and feed, supporting Uzima's growth as subsistence farmers shift to more productive repeat customers.



[Read more on the study methodologies and limitations](#)

Farmers described poultry as a reliable, fast-returning enterprise. Unlike seasonal crops, Uzima's dual-purpose birds provided regular monthly income. Some farmers reported reinvesting profits from the sale of birds to expand their flocks within a single season. Higher incomes translated into tangible household improvements, with farmers meeting school fees, managing daily expenses, and launching side businesses.

Women reported increased confidence, greater visibility in household financial decision-making and diversified incomes through investing in side enterprises. One female SHF customer described expanding into event equipment rental using profits earned from poultry.

**Increased production improved household diets** directly, with families consuming more chicken and eggs, and using poultry income to diversify food purchases.

*"I also earn money from events management; I hire out tents, chairs and cook at event[s]... I managed to start up my functions hire business using the profits from poultry. I was able to purchase three 100-seater tents, 10 big saucepans and 300 chairs."*

Female SHF Customer from Masaka



## Conclusion

Improving smallholder poultry practices is a high-impact strategy that can transform subsistence operations into thriving micro-enterprises. The benefits, from additional income and improved nutrition to women's empowerment, are well documented and achievable at scale<sup>14 15</sup>. By addressing key challenges through training, extension services and input access, smallholder farmers can meaningfully increase productivity and profits.

The two technical assistance projects examined in this case study provide evidence that targeted training and extension support can be an effective catalyst for this transformation. As SHFs adopt improved management practices, their productivity and commercial engagement strengthen, generating more consistent demand for inputs and services and producing outcomes that are mutually reinforcing for farm households and agribusiness investees alike.

Women, who make up the majority of beneficiaries across these projects, respond strongly to training yet continue to face structural barriers including mobility constraints, and competing household responsibilities that restrict their participation and ability to scale. Broader systemic factors such as input supply reliability and market access can also constrain outcomes regardless of the quality of farmer preparation. Sustained impact therefore depends on combining behaviour-change support with a stable enabling environment and deliberate efforts to reach marginalised groups.

Realising this potential across Africa requires continuous learning: understanding why some farmers fall behind, ensuring women and marginalised groups are included, fostering sustainable business models, and measuring long-term impact. With the right support, smallholder poultry can be a catalyst for rural prosperity where improvements at farm level reverberate throughout the value chain, benefitting families and businesses alike.

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<sup>14</sup> Birhanu, Y. et al. [Smallholder poultry production in the context of increasing global food prices: roles in poverty reduction and food security](#). 2023.

<sup>15</sup> Gladys Kopto, Poultry News Africa. [Poultry Farming in Developing Nations to Promote Food Security and Economic Development in Africa](#). 2024.