Review Article

Volume 3, Issue III 2026
Journal Home Page: https://farpublisher.com/journals/
Page: 16-32
DOI: 10.5281/zenodo.21987802

Received: 12-06-2026 **Accept Date: 30-07-2026** **Published: 17-08-2026**

VOCATIONAL SKILLS TRAINING AND THE GROWTH OF WOMEN MICRO-ENTERPRISES: EVIDENCE FROM THE MATHARE WOMEN'S ECONOMIC EMPOWERMENT INITIATIVE IN NAIROBI, KENYA

BY

Patience Wangari Kamau[1], Dr. Benard Lango[2], Dr. Omuchesi Jonathan[3]

[1, 2&3]The Catholic University of Eastern Africa, Nairobi, Kenya

Abstract

Vocational skills training is the most widely deployed component of women's economic empowerment programming in Kenya, yet monitoring in urban informal settlements has typically recorded numbers trained rather than enterprise outcomes. This article examines the influence of project vocational skills training on the growth of women micro-enterprises within the Mathare Women's Economic Empowerment Initiative (MWEEI) in Nairobi, Kenya. The study adopted a convergent parallel mixed methods design whose quantitative strand was a descriptive cross-sectional survey. From a target population of 1,000 established from MWEEI programme records, a sample of 286 was drawn using Yamane's (1967) formula; 172 women micro-entrepreneurs were selected by stratified random sampling and 165 returned usable questionnaires (95.9 percent), forming the analytic sample. Training was measured through six five-point Likert items and a categorical record of training completion, and enterprise growth across revenue, market reach, employment generation and business sustainability. Data were analysed in SPSS Version 26 using descriptive statistics, cross-tabulation and multiple linear regression, with the qualitative strand analysed thematically. Training was rated positively overall ($M = 3.91$, $SD = 0.90$), with improvement in technical skills highest ($M = 4.21$, $SD = 0.71$) and provision of follow-up or refresher training lowest ($M = 3.41$, $SD = 1.14$). Training engagement was associated with revenue performance in a monotonic pattern: 48.5 percent of completers reported revenue growth above 30 percent against 9.1 percent of non-completers, while 27.3 percent of non-completers reported declining revenue against 5.8 percent of completers. Training was a statistically significant positive predictor of enterprise growth ($\beta = 0.261$, $p < .001$) and the null hypothesis was rejected. Vocational skills training reliably builds human capital, but its conversion into sustained enterprise growth depends on post-training reinforcement. The article identifies structured reinforcement, rather than training volume, as the design margin on which returns to such training depend.

Keywords: Vocational skills training; women micro-enterprises; enterprise growth; human capital; Sustainable Livelihoods Framework; urban informal settlements; Nairobi, Kenya

Introduction

Women own the majority of micro and small enterprises across Sub-Saharan Africa, and in Kenya the Kenya National Bureau of Statistics projected that by 2024 women would be operating some 60 percent of micro and small enterprises nationally. Those enterprises nonetheless record slower revenue growth, serve smaller markets and survive for shorter periods than businesses owned by men (KNBS, 2024; KIPPRA, 2024). The performance gap matters beyond the individual firm. Reporting by the World Bank (2023) has consistently identified women's enterprise growth as among the most cost-effective routes to poverty reduction, with disproportionately larger effects on household consumption, child nutrition and educational investment than comparable interventions targeting men. Closing the gap is therefore treated in both scholarship and policy as a development objective rather than a purely commercial one.

How that gap is to be closed is a more contested

https://doi.org/10.5281/zenodo.21987802

question, and the answer depends in part on how enterprise growth is defined. Where growth is measured by revenue alone, capital injection appears decisive. Where market reach, employment generation and business sustainability are measured alongside revenue, the determinants broaden to include the entrepreneur's technical and managerial capability (Chambers & Conway, 1992; Scoones, 2015; KIPPRA, 2024). It is this broader reading that has made skills development the most widely deployed instrument in women's enterprise programming. Vocational and business training is comparatively inexpensive to deliver, is readily counted for reporting purposes, and rests on an intuitive proposition: that women who acquire technical and business management competencies will run more productive and more profitable enterprises.

The empirical record complicates that proposition. McKenzie's (2021) synthesis of randomised evaluations across more than three dozen low- and middle-income countries found that classroom-based business training reliably improved business practices such as bookkeeping, pricing and inventory management, but that effects on profits and sales were smaller and less persistent than had been anticipated, and that stand-alone training frequently failed to generate lasting revenue gains. A multi-study review by Innovations for Poverty Action (IPA, 2022), covering more than two hundred business support interventions across Africa, Latin America and South Asia, reached a convergent conclusion: training combined with mentoring and credit access produced effect sizes on monthly sales two to three times larger than training delivered alone. Knox (2025), reporting a randomised evaluation of women's enterprise training in three Sub-Saharan African countries, found revenue effects of between eighteen and thirty-four percent after twenty-four months in arms combining training with structured post-training support, but negligible effects in the stand-alone training arms.

Kenyan evidence follows the same contour. Brooks, Donovan and Johnson (2016) compared mentor-based and instructor-based micro-enterprise training in Kenya and found that training delivered by experienced entrepreneurs produced significantly larger profit gains than instructor-led classroom teaching, indicating that the manner and continuity of knowledge transfer matter as much as its content. County-level assessments reviewed by KIPPRA (2024) report that participants were more likely to change record-keeping and customer service practices after training, but that revenue effects were limited unless training incorporated market-specific content or follow-up support. Awuor (2025), studying vocational training among women in Nairobi's informal settlements, identified post-training reinforcement and access to working capital as the conditions under which training gains were sustained, and identified their absence as the principal constraint on the uptake of training in those settlements.

Mathare, one of the oldest and most densely populated informal settlements in Nairobi, presents these conditions in concentrated form. The settlement occupies roughly three square kilometres and houses an estimated 200,000 to 250,000 people across the villages of Mathare 4A, Mathare 4B, Mathare 3C, Kosovo, Gitathuru and Mabatini (Mathare Social Justice Centre, 2024; KNBS, 2024). Its economy is overwhelmingly informal, dominated by retail kiosks, tailoring and dressmaking, food vending, hairdressing and other home-based trades, a substantial share of them operated by women alongside household and caregiving responsibilities. High density produces intense competition between near-identical businesses; limited public infrastructure imposes operating costs that comparable enterprises in formal market areas do not carry; and informal land tenure with a recurrent threat of eviction discourages longer-term capital investment. Monitoring by the Mathare Social Justice Centre (2024) records that short vocational courses in tailoring, catering, hairdressing and digital skills are well attended and that many women receive certificates, but that continued sales growth is seldom evident in the absence of sustained follow-up.

The Mathare Women's Economic Empowerment Initiative (MWEEI) is among the most established community-based empowerment programmes operating in this environment. Vocational skills training is one of the components it delivers to women micro-entrepreneurs across the settlement's villages. Assessment of that component has nonetheless remained confined to input indicators, principally the number of women trained, rather than the enterprise growth outcomes the training exists to produce

https://doi.org/10.5281/zenodo.21987802

(KIPPRA, 2024; Mathare Social Justice Centre, 2024). The result is a specific evidential shortfall: the international literature establishes that training delivered on its own yields limited and short-lived revenue gains, but it does not establish how a community-delivered vocational training component performs against a multidimensional growth outcome in a dense Kenyan informal settlement, nor which features of that component account for the difference between enterprises that grow and those that do not.

This article addresses that shortfall. It presents the evidence generated under the first objective of a larger study of MWEEI, and examines a single relationship: the influence of project vocational skills training on the growth of women micro-enterprises in Mathare. The article proceeds by stating the problem and the objective, setting out the theoretical lens and the empirical literature bearing on training and enterprise growth, describing the methodology, and presenting and discussing the findings before turning to their implications for programme design and policy.

Statement of the Problem

Women micro-entrepreneurs in Mathare continue to operate businesses characterised by low and stagnant incomes, limited market access, weak resilience to shocks and minimal employment creation. Although women own the majority of micro-enterprises in Kenya, only a small proportion of women-owned enterprises in informal settlements move beyond subsistence to sustained growth; fewer than one-fifth of women's micro-enterprises in Mathare were estimated to sustain income generation beyond four years, to pay wages to even one additional worker, or to generate income above the level required for productive reinvestment (KIPPRA, 2024; Mathare Social Justice Centre, 2024). Vocational skills training is the intervention most frequently deployed against this problem, and MWEEI, in common with community-based organisations and faith-based providers across the settlement, delivers short technical courses to substantial numbers of women each cycle.

The empirical difficulty is that the evidence on which such programming rests is both robust in its general conclusion and unhelpful in its specifics. What the literature establishes with reasonable confidence is that training improves business practices while producing weaker and less durable effects on sales and profits (McKenzie, 2021; IPA, 2022), and that the difference between training that yields revenue growth and training that does not lies in what accompanies or follows it (Brooks et al., 2016; Knox, 2025; Awuor, 2025). What it does not establish is how a vocational training component performs when growth is measured across revenue, market reach, employment generation and business sustainability simultaneously, rather than through revenue alone; nor how it performs in an urban informal settlement whose density, infrastructure deficits and tenure insecurity differ materially from the rural and mixed urban-rural settings in which much of the Kenyan evidence has been generated.

This is not an abstract concern. Monitoring within the programmes operating in Mathare has recorded numbers trained and certificates issued rather than enterprise outcomes, so programme managers cannot establish which features of their training are producing growth and which are producing attendance (KIPPRA, 2024; Mathare Social Justice Centre, 2024). Where training is the largest recurrent line in a programme budget, the absence of outcome evidence means that curriculum design, session frequency and the decision to fund or forgo post-training support are made without knowing what any of them are worth. Participants face a parallel difficulty: in a trading environment where a day spent in a classroom is a day of lost sales, women have no basis on which to judge whether completing a course is likely to change their revenue.

Mathare is an instructive setting for examining this question precisely because its constraints are severe and typical. The structural conditions that bear on enterprise outcomes there, namely market saturation, unreliable utilities, recurrent flooding and insecure tenure, are the conditions under which urban informal settlement empowerment programmes across Sub-Saharan Africa operate. Evidence generated in that setting speaks to the design of comparable programmes elsewhere, while evidence generated in less constrained settings is unlikely to transfer into it. This article accordingly examines the association between vocational skills training and enterprise growth among women micro-entrepreneurs participating in MWEEI, and identifies the dimensions

https://doi.org/10.5281/zenodo.21987802

of the training component on which that association depends.

Objective, Research Question and Hypothesis

The objective addressed in this article, stated in the terms used in the parent study, was to examine the influence of project vocational skills training on the growth of women micro-enterprises in Mathare.

The corresponding research question was: what is the influence of project vocational skills training on the growth of women micro-enterprises in Mathare?

The corresponding null hypothesis, tested at the .05 level of statistical significance, was:

H_{01}: Project vocational skills training has no statistically significant influence on the growth of women micro-enterprises in Mathare.

Theoretical Review

The study was anchored in the Sustainable Livelihoods Framework, which traces its origin to Chambers and Conway (1992) at the Institute of Development Studies and was developed into a structured analytical model by Scoones (1998) before being operationalised for poverty reduction programming by the United Kingdom Department for International Development (DfID, 1999). The Framework treats a livelihood as the capabilities, assets and activities required for a means of living, and judges it sustainable where it can withstand and recover from stress and shocks while maintaining its capabilities and asset base. Its reformulation by Scoones (2015) extended its application beyond the rural agrarian contexts in which it was first developed to urban informal economies and gendered livelihood analysis, and it is this urban, gendered application on which the present study draws (Krantz, 2001; Morse & McNamara, 2013).

Three propositions of the Framework bear directly on the relationship examined here. The first concerns the composition of livelihood assets. The Framework represents these as five forms of capital: human, financial, social, physical and natural. Human capital denotes the skills, knowledge, labour and health that allow people to pursue livelihood strategies at all. In a dense urban settlement such as Mathare, natural capital is analytically marginal, and it is the human, financial, social and physical capitals that determine what an enterprise can do (Scoones, 2015; DfID, 1999). Vocational skills training is, in these terms, a direct investment in human capital: it supplies technical competence in a trade, business management knowledge such as costing, pricing and record-keeping, and the adaptive capacity to respond to changing market conditions.

The second proposition concerns the conditions under which capital converts into outcomes. The Framework does not treat any single capital as sufficient. Livelihood outcomes are the product of strategies that draw on a portfolio of capitals, and the returns to any one capital are conditioned by the others and by the institutional structures and processes that mediate access to them (DfID, 1999; Morse & McNamara, 2013). Applied to vocational training, this yields a specific and testable expectation. Training should reliably raise human capital, and that gain should be visible in the practices women adopt; but the translation of that gain into revenue, market reach, employment and durability should depend on whether complementary capitals and supportive institutional arrangements are present. Where they are absent, the Framework anticipates precisely the pattern the international literature reports, namely improved practice without proportionate improvement in enterprise performance.

The third proposition concerns the vulnerability context. The Framework locates livelihoods within a set of trends, shocks and seasonalities that shape what any given asset portfolio can achieve. In Mathare, that context comprises recurrent flooding, eviction risk, market saturation and infrastructural deficit (Mathare Social Justice Centre, 2024). These conditions are common to all enterprises in the settlement and were not measured as variables in this study; they are treated instead as the environment within which the returns to training were realised, and they bound the magnitude of effect that any training component can reasonably be expected to produce.

Human Capital Theory, which the Framework subsumes within its treatment of human capital, supplies the more specific mechanism (DfID, 1999; Scoones, 2015; Krantz, 2001). Its central proposition is that investment in education and training raises the productive capability of the individual, and that this raised capability is subsequently observable in

https://doi.org/10.5281/zenodo.21987802

productivity and earnings. The Framework retains this proposition but qualifies it in two ways that matter for the present analysis. It recognises that human capital is not exhausted by formal instruction and includes experiential and tacit knowledge acquired through practice and advisory contact, which is consistent with the finding of Brooks et al. (2016) that mentor-delivered training outperformed instructor-delivered training in Kenya. And it insists that the returns to human capital are contingent rather than automatic, which is what distinguishes it from a straightforward reading of Human Capital Theory in which training and earnings are more directly coupled.

The Framework is appropriate for this study for three reasons. It accommodates a multidimensional outcome construct, so that enterprise growth can be operationalised across revenue, market reach, employment generation and sustainability rather than reduced to a single indicator. It makes the vulnerability context analytically explicit, which is necessary in a setting where structural conditions materially constrain what any programme can achieve. And it generates a determinate expectation about what training alone should and should not accomplish, against which the empirical findings of this study can be assessed. The Framework has been criticised for a conceptual breadth that can produce descriptive rather than analytical applications, and for insufficient attention in its early formulations to power and gender (Scoones, 2015; de Haan & Zoomers, 2005; Wainaina et al., 2024). This study responds to the first by restricting its analysis to the human capital pathway that corresponds to the component under examination, and to the second by foregrounding the gendered conditions of access to livelihood capital in Mathare's informal economy.

Empirical Review

The empirical literature on vocational and business training and micro-enterprise outcomes has grown substantially over the past decade, and can be organised around four questions: what training does to enterprise capabilities, what it does to business practices, what it does to productivity, and what it does to revenue and enterprise growth. A fifth question, concerning the durability of any of these effects, has become the most consequential of the five for programme design.

On capabilities, the evidence is consistent and positive. Training programmes across Sub-Saharan Africa have been found to improve technical skills and product quality among participants (IPA, 2022; Awuor, 2025). This is the least contested finding in the field, and it is the one that most closely matches what training is designed to do: it transfers a defined body of technical and managerial competence to people who did not previously hold it. The finding is also the least informative on its own, because capability is an intermediate rather than a terminal outcome.

On business practices, the evidence is similarly positive but more qualified. McKenzie (2021) found that classroom-based business training reliably improved bookkeeping, pricing and inventory management across a large body of randomised evaluations. IPA (2022) reported comparable improvements in bookkeeping practice and product quality in studies from Latin America and South Asia, while noting that these improvements were limited where follow-up support was not provided. County-level assessments in Kenya reviewed by KIPPRA (2024) found that participants were more likely to change their record-keeping and customer service practices after training. The pattern across these studies is that practice change is achievable and observable, but that its persistence is conditional.

On productivity, the literature reports gains in production efficiency and product quality attributable to technical training, particularly in trades where a specific technique can be transferred and applied directly (IPA, 2022; Awuor, 2025). These gains, however, are documented largely at the level of the production process rather than the enterprise. The step from producing more or better goods to earning more from them requires that the additional or improved output can be sold, which introduces market conditions that training itself does not address.

It is on revenue and enterprise growth that the evidence diverges most sharply from programme expectations. McKenzie (2021) concluded that effects on profits and sales were smaller and less persistent than had been anticipated, and that stand-alone training frequently failed to generate lasting revenue benefits without complementary supports in the form of financing, market access or follow-up advisory contact. IPA (2022) quantified the difference, finding

https://doi.org/10.5281/zenodo.21987802

effect sizes on monthly sales two to three times larger in integrated programmes than in stand-alone training. Knox (2025) reported the sharpest contrast: revenue effects of between eighteen and thirty-four percent at twenty-four months in arms that combined training with structured post-training support, against negligible effects in the stand-alone arms. Evaluation evidence on the training components of Kenya's Women Enterprise Fund, Uwezo Fund and Kenya Youth Enterprise Development Fund has likewise found that training alone did not produce significant measurable enterprise growth outcomes (KIPPRA, 2024).

The fifth question, concerning durability, has consequently become the organising concern of the recent literature. Awuor (2025), examining vocational training among women in Nairobi's informal settlements, identified post-training reinforcement and access to working capital as the conditions under which training gains were sustained, and identified the absence of follow-up support, together with the disconnection of training from other livelihood capital inputs, as the principal constraints on training uptake in Kenya's informal settlements. Brooks et al. (2016) approached the same question from a different angle, finding that Kenyan micro-entrepreneurs trained by experienced entrepreneurs recorded significantly larger profit gains than those trained by instructors, and that these gains were maintained across monitoring rounds. Read together, these studies suggest that continuity of contact, rather than the quantity of instruction, is what distinguishes training that changes enterprise trajectories from training that changes only practice.

Local monitoring evidence from Mathare is consistent with this reading. Short vocational courses in tailoring, catering, hairdressing and digital skills are well attended and widely certificated, but monitoring records little evidence of continued sales growth in the absence of sustained follow-up. Women who completed vocational training without access to post-training support tended to return to subsistence level livelihoods within the twelve months following completion, while those receiving an integrated package recorded higher revenue trajectories (Mathare Social Justice Centre, 2024).

Two further strands of evidence bear on the outcome side of the relationship. Nguyen et al. (2025), in a systematic review of research on women's micro and small enterprises, identified market access as the constraint most consistently reported across geographies, which locates one boundary on what a training intervention alone can achieve. And evidence on the growth paths of micro-enterprises indicates that employment generation lags revenue growth, since hiring requires both surplus and workspace (World Bank, 2023; KIPPRA, 2024). Both findings caution against expecting a training component to move all dimensions of enterprise growth equally, and support the use of a multidimensional rather than a single-indicator measure of the outcome.

Research Gap

The literature reviewed above establishes a general proposition with considerable confidence: vocational and business training raises capability and changes practice, but produces weaker and less durable effects on revenue, and the difference between training that grows enterprises and training that does not lies in what accompanies or follows it. Three limitations restrict what this proposition can tell a programme designer working in an urban informal settlement.

First, most of the evidence measures enterprise outcomes through revenue or profit alone (McKenzie, 2021; IPA, 2022; ResearchBridge, 2024). Where growth is understood as a multidimensional construct spanning revenue, market reach, employment generation and business sustainability, a training component may perform differently across dimensions, and evidence reported on a single dimension cannot reveal that variation. Second, the evidence base is drawn predominantly from rural and mixed urban-rural settings, or from multi-country evaluations in which settlement-level conditions are not specified (Knox, 2025; IPA, 2022; Awuor, 2025). The market saturation, infrastructural deficit and tenure insecurity that characterise Mathare are not incidental to enterprise outcomes there, and findings generated where they are absent do not transfer straightforwardly. Third, where the literature identifies post-training reinforcement as the decisive condition, it does so largely by contrasting programme arms in experimental designs. What has not been documented is how the reinforcement dimension is experienced and rated by participants within a single operating

https://doi.org/10.5281/zenodo.21987802

community programme, and how that rating relates to their reported enterprise outcomes.

The gap this article addresses is therefore specific. It is not that Mathare has been unstudied, but that no available evidence establishes how a community-delivered vocational skills training component performs against a four-dimensional enterprise growth outcome among women micro-entrepreneurs in a dense Kenyan informal settlement, or which dimensions of that component participants identify as strong and which as deficient. Evidence of that kind is what a programme manager requires in order to decide whether to expand training delivery or to redirect resource towards sustaining the training already delivered.

Methodology

Research Design

The study adopted a convergent parallel mixed methods design. Within that design, the quantitative strand employed a descriptive cross-sectional survey and the qualitative strand concurrent semi-structured interviews; the two strands were collected over the same fieldwork period, analysed separately using methods appropriate to each, and integrated at the interpretation stage (Creswell & Plano Clark, 2018; Tashakkori & Teddlie, 2003). The cross-sectional survey was suitable for the quantitative strand because it permitted measurement of the association between programme participation and enterprise growth outcomes at a single point in time, and because longitudinal follow-up of respondents would not have been practicable in Mathare's dense informal settlement setting (Kothari, 2020; Mugenda & Mugenda, 2019). Because the design is cross-sectional, the relationships reported below are associations and are not interpreted as causal effects.

Study Area

The study was conducted in Mathare, an informal settlement approximately four kilometres north-east of Nairobi's central business district, among participants of the Mathare Women's Economic Empowerment Initiative. The settlement covers roughly three square kilometres with an estimated population of 200,000 to 250,000 across the villages of Mathare 4A, Mathare 4B, Mathare 3C, Kosovo, Gitathuru and Mabatini (Mathare Social Justice Centre, 2024; KNBS, 2024). Mathare was selected because it combines a high density of women-led micro-enterprises with an active community-based empowerment programme, and because its structural conditions are representative of those under which urban informal settlement empowerment programmes operate in the region.

Population and Sample

The target population was 1,000, established from the MWEEI programme records made available to the researcher, namely the participant register and the staff establishment and community stakeholder lists, corroborated against the programme description reported by the Mathare Social Justice Centre (2024). The population comprised 600 women micro-entrepreneurs participating in the programme, 200 programme staff and 200 community leaders. The sample size was determined using Yamane's (1967) formula, $n = N \div (1 + N(e)^2)$, at a 95 percent confidence level. Substituting $N = 1{,}000$ and $e = 0.05$ gives $n = 1{,}000 \div 3.5 = 285.7$, rounded to 286. Proportional allocation assigned 172 sample slots to women micro-entrepreneurs, 57 to programme staff and 57 to community leaders.

Of the 172 women micro-entrepreneurs sampled, 165 returned usable questionnaires, a response rate of 95.9 percent for that stratum; the study as a whole achieved 274 usable returns from 286 instruments distributed, or 95.8 percent. Because the enterprise growth items and the programme participation items were administered only to women micro-entrepreneurs, the 165 usable questionnaires from that stratum constitute the analytic sample for all quantitative results reported in this article.

Sampling

Women micro-entrepreneurs were selected by stratified random sampling. The MWEEI participant register was first stratified by business type, covering retail kiosks, tailoring and dressmaking, food vending, hairdressing and beauty, and other home-based trades, and by zone of operation within Mathare. Stratification ensured that all major business sectors and operational zones were represented in proportion to their share of the register, addressing the heterogeneity of the population. Individual respondents were then drawn

https://doi.org/10.5281/zenodo.21987802

from each stratum by simple random sampling, using random numbers generated in SPSS, so that every eligible woman entrepreneur within a stratum had an equal probability of selection (Kothari, 2020; Mugenda & Mugenda, 2019). Programme staff and community leaders, who supplied the qualitative strand, were selected purposively on criteria of direct programme involvement and community standing (Etikan et al., 2016).

Data Collection

Quantitative data were collected using a structured questionnaire administered face to face by four trained enumerators recruited locally, at participants' business sites or at MWEEI-convened meeting points as respondents preferred. Face-to-face administration was chosen over self-administered or telephone approaches because it allowed enumerators to clarify items and accommodated varying literacy levels. Each questionnaire took approximately twenty to thirty minutes. The instrument was developed in English and translated into Kiswahili using back-translation, with discrepancies reconciled before finalisation. Qualitative data were collected concurrently through semi-structured interviews conducted personally by the researcher with programme staff and community leaders, audio-recorded with consent, transcribed verbatim and supplemented by field notes. Fieldwork ran for ten weeks between January and March 2026, with completed instruments checked daily for missing or implausible responses.

Measurement of Variables

The independent variable, project vocational skills training, was measured in Section B of the questionnaire through six statements rated on a five-point Likert scale where 1 represented Strongly Disagree and 5 Strongly Agree. The six items addressed improvement in technical skills relevant to the business, the practical applicability of training content, the inclusion of business management aspects such as pricing, costing and record-keeping, the accessibility of training sessions in timing and location, the adoption after training of new methods that increased productivity, and the provision by MWEEI of follow-up or refresher training. A categorical item recorded training completion status as completed, partial or not completed.

The dependent variable, growth of women micro-enterprises, was measured in Section F through six Likert items spanning its four dimensions: enterprise revenue, market reach, employment generation, and business sustainability and resilience. A further categorical item recorded self-reported revenue change over the preceding twenty-four months in four bands. Composite scores for each variable were formed by averaging the six items in the corresponding section. No indicator was used that was not collected through the instrument.

Validity and Reliability

Content validity was established through review by four experts in the Department of Project Planning and Management at the Catholic University of Eastern Africa, who rated each item for relevance, clarity, comprehensiveness and consistency with the study objectives. The content validity coefficient obtained was 0.86, above the 0.80 benchmark conventionally accepted for social science instruments. Construct validity was addressed by deriving items from the constructs operationalised in the study framework and by inter-item correlation analysis of pilot data, which showed items correlating more strongly within their own section than across sections. Face validity was assessed through pilot respondent feedback on item clarity and response format.

A pilot study was conducted in Kibera, a neighbouring Nairobi informal settlement with comparable population density, informal economic structure and proportion of women-headed micro-enterprises, among 29 respondents comprising 17 women micro-entrepreneurs, 6 programme staff and 6 community leaders. Conducting the pilot outside the study area prevented contamination of the main sample. Internal consistency was assessed using Cronbach's alpha. On the main study data, the vocational skills training scale returned $\alpha = 0.81$ and the enterprise growth scale $\alpha = 0.86$, both above the 0.70 threshold conventionally accepted as evidence of adequate internal consistency and above the 0.80 threshold for very good internal consistency (Field, 2013).

Data Analysis

https://doi.org/10.5281/zenodo.21987802

Quantitative data were coded, cleaned and analysed in SPSS Version 26. Descriptive statistics, comprising means and standard deviations, were computed for each of the six vocational skills training items and for the composite score. Cross-tabulation was used to examine the relationship between the categorical measures of training completion status and self-reported revenue change. Inferentially, multiple linear regression was used to estimate the association between the composite vocational skills training score and the composite enterprise growth score. It should be stated plainly that the regression model estimated in the parent study contained the other programme components delivered by MWEEI and four control variables, namely respondent age, highest level of formal education, years in business and years of MWEEI participation. The coefficient reported in this article for vocational skills training is therefore a partial coefficient, estimated with those variables held constant; no separate regression was estimated for this component alone, and none is claimed. Variance Inflation Factors for all predictors were below 3.0, indicating that the estimate was not destabilised by overlap among predictors (Field, 2013). Qualitative data were analysed thematically following the six-phase framework of Braun and Clarke (2006), with coding organised in NVivo 12 and approximately one-fifth of transcripts independently coded by a second coder.

Ethical Considerations

Ethical clearance was granted by the Catholic University of Eastern Africa Research Ethics Committee and a research permit was issued by the National Commission for Science, Technology and Innovation. Informed consent was obtained from all participants, using an information sheet provided in English and Kiswahili; literate participants signed consent, while participants who could not read gave verbal consent in the presence of a third-party witness. Confidentiality was protected by assigning identification codes, removing direct identifiers from transcripts and reports, and storing data on password-protected devices. Participation was voluntary and could be withdrawn at any point without penalty. No incentive was offered for participation.

Results

Response Rate

Of the 172 questionnaires distributed to women micro-entrepreneurs, 165 were returned complete and usable, a response rate of 95.9 percent. This rate exceeds the thresholds of 70 percent commonly accepted for descriptive analysis and 80 percent for inferential analysis in social science research (Mugenda & Mugenda, 2019; Kothari, 2020). The high rate is attributable to face-to-face administration by locally recruited enumerators, prior engagement with community gatekeepers, and the availability of the instrument in both English and Kiswahili. All results below are based on this analytic sample of 165.

Descriptive Findings on Vocational Skills Training

Table 1: Descriptive Statistics for Project Vocational Skills Training (n = 165)

Statement	Mean	Std. Dev.	Interpretation
B1: Training improved technical skills relevant to my business.	4.21	0.71	Agree
B2: Training content was practical and directly applicable.	4.08	0.83	Agree
B3: Training included business management aspects (pricing, costing, records).	3.89	0.92	Agree
B4: Training sessions were accessible in timing and location.	3.74	1.02	Agree
B5: After training, I adopted new methods that increased productivity.	4.13	0.78	Agree
B6: MWEEI provides follow-up or refresher training.	3.41	1.14	Neutral

https://doi.org/10.5281/zenodo.21987802

Overall Mean	**3.91**	**0.90**	**Agree**

Source: Field Survey (2026).

Table 1 shows that respondents rated the vocational skills training component positively overall, with a composite mean of 3.91 (SD = 0.90) on a five-point scale, corresponding to agreement that training had a positive influence on their enterprise capabilities. The internal ordering of the six items is more informative than the composite. The three highest-rated items concern what training transfers and what participants do with it immediately: improvement in technical skills relevant to the business (M = 4.21, SD = 0.71), adoption after training of new methods that increased productivity (M = 4.13, SD = 0.78), and the practical applicability of training content (M = 4.08, SD = 0.83). The two items concerning the conditions surrounding delivery, namely the inclusion of business management content (M = 3.89, SD = 0.92) and the accessibility of sessions in timing and location (M = 3.74, SD = 1.02), were rated lower. The lowest-rated item by a clear margin, and the only item falling into the neutral rather than the agreement range, was the provision of follow-up or refresher training (M = 3.41, SD = 1.14).

The dispersion pattern reinforces this reading. The standard deviations across the section range from 0.71 to 1.14, and their distribution is not random with respect to the item ordering. The lowest dispersion attaches to the highest-rated item, improvement in technical skills (SD = 0.71), indicating that the perception of skills gain was shared consistently across respondents and was therefore systemic to the way training was delivered rather than confined to particular subgroups. The highest dispersion attaches to the lowest-rated item, follow-up and refresher provision (SD = 1.14), indicating substantial variation in whether respondents encountered post-training support at all: some reported reasonable access to refresher opportunities while others reported little or none. Follow-up provision was therefore not merely weak on average but unevenly distributed across MWEEI's operational zones and cohorts, which identifies it as an implementation inconsistency rather than a uniform programme characteristic.

Training Completion and Revenue Change

Table 2: Cross-tabulation of Training Completion and Revenue Change (n = 165)

Revenue Change	Completed (%)	Partial (%)	Not Completed (%)	Total (%)
Increased >30%	48.5	22.4	9.1	33.9
Increased 10–30%	31.2	38.8	18.2	30.9
Remained the same	14.6	27.6	45.5	25.5
Decreased	5.8	11.2	27.3	9.7
Total	**100**	**100**	**100**	**100**

Source: Field Survey (2026).

Table 2 presents the cross-tabulation of training completion status against self-reported revenue change over the preceding twenty-four months. The relationship is monotonic across all four revenue categories. Among respondents who completed vocational training, 48.5 percent reported revenue growth above 30 percent, compared with 22.4 percent of those who completed the training only partially and 9.1 percent of those who did not complete it. The gradient reverses in the same orderly fashion at the other end of the distribution: 27.3 percent of non-completers reported declining revenue, against 11.2 percent of partial completers and 5.8 percent of completers. Respondents who completed training were therefore more than five times as likely as non-completers to report revenue growth exceeding 30 percent, and roughly one-fifth as likely to report a decline.

The percentages within each completion category sum to 100 percent, and the total column describes the distribution across the full analytic sample: 33.9 percent of the 165 respondents reported revenue growth above 30 percent, 30.9 percent reported growth of between 10 and 30 percent, 25.5 percent reported no change and 9.7 percent reported a decline. Two features of this distribution warrant attention. The 64.8 percent of respondents falling into the two growth categories represent the group for whom training

https://doi.org/10.5281/zenodo.21987802

engagement coincided with reported revenue gain. The 25.5 percent reporting no change are the analytically significant group: these are respondents who participated in training, and in most cases rated its skills content positively, without that participation registering in revenue. The consistency of the gradient across three completion categories provides descriptive evidence of an association between training engagement and revenue performance, though the cross-sectional design does not permit the direction of that association to be established, and self-selection into completion cannot be excluded.

Enterprise Growth Outcomes

Table 3: Descriptive Statistics for Enterprise Growth Outcomes (n = 165)

Statement	Mean	Std. Dev.	Interpretation
F1: Monthly revenue has increased since joining MWEEI.	4.04	0.88	Agree
F2: My customer base has expanded.	3.87	0.96	Agree
F3: I have been able to hire/retain employees.	3.41	1.18	Neutral
F4: My business has become more resilient to shocks.	3.78	0.99	Agree
F5: I am able to reinvest profits back into the business.	3.93	0.92	Agree
F6: MWEEI participation has improved my business sustainability.	4.17	0.79	Agree
Overall Mean	**3.87**	**0.95**	**Agree**

Source: Field Survey (2026).

Table 3 reports the descriptive results for the dependent variable against which the training component was assessed. The composite enterprise growth score was 3.87 (SD = 0.95), indicating positive growth outcomes overall among programme participants. The dimensions did not move together. The highest-rated items were perceived improvement in long-term business sustainability (M = 4.17, SD = 0.79) and increased monthly revenue (M = 4.04, SD = 0.88), followed by the capacity to reinvest profits (M = 3.93, SD = 0.92) and expansion of the customer base (M = 3.87, SD = 0.96). Employment generation was the lowest-rated dimension (M = 3.41, SD = 1.18) and also carried the widest dispersion in the section, indicating that the capacity to hire or retain workers was concentrated among a minority of enterprises rather than shared across the sample. Growth among these enterprises was thus realised first in revenue, reinvestment capacity and resilience, and only weakly in employment, a pattern consistent with evidence that employment generation lags revenue along micro-enterprise growth paths (World Bank, 2023; KIPPRA, 2024).

Inferential Finding and Hypothesis Test

In the multiple regression model estimated in the parent study, project vocational skills training was a statistically significant positive predictor of enterprise growth ($B = 0.247$, $SE = 0.059$, $\beta = 0.261$, $t = 4.186$, $p < .001$), with the other programme components and the four control variables held constant. The null hypothesis that project vocational skills training has no statistically significant influence on the growth of women micro-enterprises in Mathare was therefore rejected at the .05 level. The standardised coefficient indicates that a one standard deviation increase in the composite training score was associated with an increase of 0.261 of a standard deviation in the composite enterprise growth score. Because the design is cross-sectional and the coefficient is a partial association estimated on observational data, the result is interpreted as evidence of a positive relationship rather than of a causal effect.

Qualitative Findings

The qualitative strand produced accounts that both corroborated and specified the survey pattern. Training was described consistently as an important initial step in enterprise development whose effects were vulnerable to erosion. Participants reported immediate behavioural change following training, particularly in record-keeping, pricing discipline and customer

https://doi.org/10.5281/zenodo.21987802

engagement, but these changes were reported to fade within three to six months where structured reinforcement was not provided by programme coordinators. One programme coordinator observed that women left training motivated but that, without follow-up, many reverted to their previous practices within three months. Women who had received training identified operational improvements they attributed directly to the skills acquired, particularly in product quality and production efficiency, while noting that further support was needed for those technical improvements to register as sustained revenue growth, and that such support was not consistently available within the programme structure. A woman entrepreneur summarised the distinction directly, observing that the training had given her the skill but not the business, and that assistance had been required with pricing and with identifying customers. The convergence between this account and the survey finding on follow-up provision is the central empirical result of this article.

Discussion

The findings support a qualified rather than an unqualified conclusion about vocational skills training. Training was positively rated, was associated with revenue performance in an orderly gradient, and emerged as a statistically significant positive predictor of enterprise growth. At the same time, the dimension of the component that would sustain those gains was the weakest and most unevenly delivered element of it. Each of these findings warrants separate interpretation.

The first finding is that training reliably transferred capability. Improvement in technical skills was the highest-rated item in the section (M = 4.21) and carried the lowest dispersion (SD = 0.71), meaning that the skills gain was both strongly and consistently perceived. The adoption of new productivity methods followed closely (M = 4.13), indicating that the capability transferred was not merely retained but applied. This result agrees with the most settled finding in the international literature, namely that training improves technical skills and business practice (McKenzie, 2021; IPA, 2022; KIPPRA, 2024). In the terms of the Sustainable Livelihoods Framework, the training component performed its designed function: it raised the human capital of participants, supplying technical competence and the adaptive capacity to apply it. That the perception was so evenly distributed suggests this was a property of how MWEEI delivered training rather than a function of which women attended, which is a meaningful finding for a programme operating across heterogeneous cohorts and zones.

The second finding is that training engagement was associated with revenue performance. The gradient in Table 2 is consistent across three completion categories and reverses cleanly at the lower end of the revenue distribution, which is the pattern one would expect if depth of engagement mattered. This is consistent with the dose-response relationships reported in Kenya by Brooks et al. (2016) and in multi-country evidence syntheses (IPA, 2022). The finding should nonetheless be interpreted with care. A cross-sectional design cannot establish direction, and it is plausible that women whose enterprises were already performing better were also better able to afford the time to complete a course; in a trading environment where attendance is paid for in lost sales, completion is not a costless choice. The association is real and consistently patterned, but it is an association.

The third finding is the one that carries the greatest weight for programme design. Follow-up and refresher provision was rated 3.41, the lowest item in the section and the only one falling outside the agreement range, and its standard deviation of 1.14 was the highest, indicating that some respondents encountered reinforcement while others encountered none. This is precisely the condition that the comparative literature identifies as decisive. Knox (2025) found revenue effects of eighteen to thirty-four percent at twenty-four months where training was combined with structured post-training support, against negligible effects where it was not; IPA (2022) found effect sizes on monthly sales two to three times larger in integrated than in stand-alone programmes; and Awuor (2025), working in the same Nairobi informal settlement context as the present study, identified post-training reinforcement as a condition for sustained training gains. The present findings agree with this body of work and add to it in a specific way: rather than comparing programme arms in an experimental design, they show the reinforcement deficit appearing as the weakest and most unevenly rated dimension within a single

https://doi.org/10.5281/zenodo.21987802

operating community programme, reported by participants themselves.

The qualitative evidence explains the mechanism the survey data can only imply. The reported fading of record-keeping, pricing discipline and customer engagement within three to six months describes a decay process rather than a failure of transfer: the practices were adopted and then lost. This distinction matters, because it locates the problem after the training event rather than within it. It also explains why the same programme can produce a strong and evenly shared perception of skills gain alongside a substantial group, the 25.5 percent reporting no revenue change, for whom that gain did not register in enterprise performance. The observation of one respondent that training supplied the skill but not the business, and that help was needed with pricing and finding customers, identifies the gap as one between technical capability and commercial application.

Interpreted through the Sustainable Livelihoods Framework, these results conform closely to what the Framework anticipates. Vocational training operates on a single capital. It raises human capital, and the data show that it did so effectively. The Framework, however, holds that livelihood outcomes are produced by strategies drawing on a portfolio of capitals, and that the returns to any one capital are conditioned by the others and by the institutional structures mediating access to them (DfID, 1999; Scoones, 2015; Morse & McNamara, 2013). A one-off training event raises human capital at a point in time; sustaining that capital, and converting it into revenue, market reach, employment and durability, requires continued institutional contact. On this reading, the low rating for follow-up provision is not a peripheral service gap but the point at which the human capital pathway is interrupted. The Framework's treatment of human capital as encompassing experiential and tacit knowledge, not merely formal instruction, reinforces the point and is consistent with the finding of Brooks et al. (2016) that continuity of experienced contact outperformed classroom delivery in the Kenyan context.

The pattern in the outcome variable is also instructive. Growth registered most strongly in perceived sustainability, revenue and reinvestment capacity, and most weakly in employment generation, which was both the lowest-rated dimension and the most dispersed. This is consistent with evidence that employment growth lags revenue growth along micro-enterprise trajectories (World Bank, 2023; KIPPRA, 2024) and with the structural constraints of Mathare, where workspace is scarce and tenure insecure. It also indicates the limits of what a training component should be expected to deliver. Hiring requires surplus, premises and a reasonable expectation of continuity, and the first of these is the only one on which training can operate. Attributing weak employment outcomes to deficiencies in training would misread both the data and the setting.

For women micro-entrepreneurs in Mathare, the practical meaning of these findings is reasonably direct. Completing a vocational course is associated with a materially better revenue trajectory than not completing one, and the skills transferred are real and applied. But the evidence also indicates that the benefit is at risk of erosion within months unless something sustains it, and that whether a given participant encounters that sustaining support has depended, in this programme, on which zone or cohort she belonged to rather than on any deliberate design. The most consequential inequality identified by these findings is therefore not in access to training but in access to what follows it.

Practical and Policy Implications

Three implications follow from the evidence, each bounded by what the findings actually support.

The first concerns the allocation of programme resource. The evidence indicates that MWEEI's training delivery is effective at what it is designed to do, since technical skills improvement was the highest-rated and most consistently rated dimension of the component. The weakness lies after delivery. For a programme operating under a fixed budget, this suggests that the marginal return to additional training cohorts is likely to be lower than the marginal return to reinforcing the cohorts already trained. This is a redistribution of existing resource rather than a call for additional funding, and it is the implication most directly supported by the finding that follow-up provision was both the weakest and the most unevenly delivered element of the component.

The second concerns the uneven distribution of follow-

https://doi.org/10.5281/zenodo.21987802

up support. A standard deviation of 1.14 on the follow-up item, the highest in the section, indicates that reinforcement was reaching some participants and not others. Unlike an average deficit, an uneven one is a governance and monitoring problem as much as a resourcing problem, since it implies that provision was not specified as a programme standard. Any reinforcement offering that is introduced needs to be defined as an entitlement attaching to every trained participant rather than as a discretionary activity, and its delivery needs to be tracked by zone and cohort.

The third concerns what programmes measure. Monitoring in this setting has recorded numbers trained and certificates issued (KIPPRA, 2024; Mathare Social Justice Centre, 2024), and such indicators would have registered MWEEI's training component as performing well while remaining entirely silent on the 25.5 percent of participants for whom training did not translate into revenue change. The finding that behavioural gains decay within three to six months has a direct measurement implication: an assessment conducted at the close of a training cycle will capture the practice change and miss its subsequent loss. For county and national programmes operating training components under the Women Enterprise Fund, Uwezo Fund and comparable instruments, where evaluation evidence has repeatedly found that training alone did not produce measurable enterprise growth (KIPPRA, 2024), the implication is that the timing of measurement is not a technical detail but a determinant of what the evidence shows.

Recommendations

The following recommendations arise directly from the findings reported above and are confined to the vocational skills training component.

For MWEEI Programme Management

Restructure vocational skills training from a single-event intervention into a continuous learning pathway by incorporating mandatory refresher workshops at three, six and twelve months after initial training. The three-month point is indicated by the qualitative finding that adopted practices began to fade within three to six months. Refresher sessions should be aligned with seasonal business cycles and structured around the real trading problems participants bring to them rather than repeating initial curriculum content.

Define follow-up provision as a programme standard attaching to every trained participant, and monitor its delivery by operational zone and cohort. The dispersion finding indicates that reinforcement was reaching some participants and not others; specifying it as an entitlement and tracking it is the minimum condition for correcting that unevenness.

Align training curricula with local market demand through a biennial market demand assessment covering Mathare and adjacent markets, and embed business model development, competitive product differentiation and digital marketing modules across all vocational tracks. This responds to the comparatively lower rating for business management content (M = 3.89) relative to technical skills content (M = 4.21), and to the qualitative account of participants who acquired a skill but required assistance with pricing and customer identification.

Establish a training alumni community of practice, supported by WhatsApp groups, periodic in-person convening and an annual business showcase, to extend peer learning and accountability beyond the formal programme cycle, with successful alumni recruited as peer facilitators for subsequent cohorts. This offers a low-cost continuity mechanism consistent with the finding of Brooks et al. (2016) that experienced practitioners were more effective than instructors in the Kenyan context.

For County and National Policymakers

Where training components are funded under the Women Enterprise Fund, Uwezo Fund and comparable instruments, condition funding on the inclusion of a specified post-training reinforcement schedule rather than on training delivery alone, and require reporting against enterprise outcome indicators rather than attendance counts. The evidence that training alone has not produced measurable enterprise growth in evaluations of these instruments (KIPPRA, 2024), read alongside the present findings, indicates that the reinforcement schedule is the funding condition most likely to change outcomes.

For Development Partners and Implementing Organizations

In budgeting women's enterprise training in urban

https://doi.org/10.5281/zenodo.21987802

informal settlements, treat post-training support as a costed component of the training intervention rather than as an optional extension of it, and schedule outcome measurement at least six months after training completion so that the durability of practice change is captured rather than assumed.

Contribution to Knowledge

Empirically, this article contributes evidence on a single, widely funded programme component assessed against a four-dimensional enterprise growth outcome among women micro-entrepreneurs in a dense Kenyan urban informal settlement. Much of the available evidence on training and micro-enterprise outcomes measures growth through revenue or profit alone and is drawn from rural or unspecified settlement contexts; the present findings show how a training component performs when growth is measured across revenue, market reach, employment generation and sustainability simultaneously, and show that its performance differs markedly across those dimensions. Theoretically, the findings offer support for the conditional reading of the human capital pathway that the Sustainable Livelihoods Framework advances against a more direct reading of Human Capital Theory. The training component raised human capital effectively and consistently, yet a quarter of participants recorded no revenue change, and the dimension of the component that would have sustained the capital gain was the weakest element of it. This is the pattern the Framework predicts when a single capital is strengthened without the institutional processes that mediate its conversion into livelihood outcomes, and the article documents that pattern within an operating programme rather than through the contrast of experimental arms.

Practically, the article identifies a specific and actionable design margin. The finding that follow-up provision was simultaneously the lowest-rated and the most unevenly rated dimension of the component distinguishes an average shortfall from a distributional one, and points programme managers towards specifying reinforcement as an entitlement and monitoring its delivery, rather than towards expanding training volume. The convergence of the survey and interview evidence on a three to six month decay window further supplies a concrete timing parameter for both reinforcement scheduling and outcome measurement.

Limitations

Four limitations bound the claims made here. First, the study employed a cross-sectional retrospective design, which establishes association rather than causation; the relationships reported between training and enterprise growth should not be read as causal effects, and self-selection into training completion cannot be excluded as a partial explanation of the observed gradient. Second, enterprise performance data were self-reported and may be subject to recall bias and social desirability effects, mitigated but not eliminated by the assurance of confidentiality, the use of a twenty-four month recall window and triangulation against the qualitative strand. Third, the study was confined geographically to Mathare, which limits generalisation to informal settlements with materially different structural characteristics. Fourth, the absence of a comparison group of non-participants limits the precision with which programme additionality can be estimated; the analysis compares degrees of engagement among participants rather than participants against non-participants. A further constraint specific to this article is that the inferential coefficient reported is a partial coefficient from a model containing other programme components, and it therefore estimates the association attributable to training with those components held constant rather than the total association between training and growth.

Areas for Further Research

Four lines of enquiry follow from these findings and their limitations. A longitudinal cohort study tracking the same trained participants over a minimum of three to five years would establish whether the revenue gradient observed here persists, and would permit stronger inference about direction through panel methods. A quasi-experimental or randomised evaluation comparing trained participants against a matched group of untrained women micro-entrepreneurs in Mathare would generate the counterfactual evidence that the present design cannot supply, and would isolate the additionality of the training component.

More specifically, the decay window identified in this

https://doi.org/10.5281/zenodo.21987802

study invites direct investigation. A study measuring the retention of trained practices at defined intervals after training completion, and testing reinforcement schedules of differing frequency against those intervals, would establish what quantity and timing of follow-up is required to prevent the reversion reported here, and would convert the present finding into an operational parameter. Finally, a comparative multi-site study of vocational training components across Mathare, Kibera, Korogocho, Mukuru kwa Njenga and Kayole would test the generalisability of these findings across urban informal settlements and identify the settlement-level conditions under which training returns are strongest.

Conclusion

This article examined the influence of project vocational skills training on the growth of women micro-enterprises within the Mathare Women's Economic Empowerment Initiative. The evidence indicates that the training component works, and that it does not work on its own. Participants rated the component positively overall ($M = 3.91$, $SD = 0.90$), rated improvement in technical skills highest and most consistently ($M = 4.21$, $SD = 0.71$), and reported applying what they had learned. Training engagement was associated with revenue performance in a monotonic gradient across completion categories, with 48.5 percent of completers reporting revenue growth above 30 percent against 9.1 percent of non-completers, and training was a statistically significant positive predictor of enterprise growth in the study's regression model ($\beta = 0.261$, $p < .001$), leading to rejection of the null hypothesis.

Set against these results is the finding that gives the article its point. The provision of follow-up and refresher training was the lowest-rated dimension of the component and the most unevenly delivered, and the qualitative accounts described practices adopted after training being lost within three to six months where reinforcement was absent. A quarter of respondents reported no revenue change at all. For women's micro-enterprise growth in Mathare, the implication is that the constraint lies not in the transfer of skills but in their retention and commercial application, and that the most consequential inequality among participants concerns access not to training but to what follows it.

The most important practical lesson is accordingly one of sequencing rather than scale: in this setting, reinforcing the participants already trained is likely to yield more enterprise growth than training further participants without reinforcement. The article's contribution to knowledge is to document that conclusion with participant-reported evidence from within an operating community programme, measured against a multidimensional growth outcome, in an urban informal settlement where the returns to women's enterprise training have been asserted more often than they have been demonstrated.

References

Awuor, J. (2025). Vocational training and enterprise performance among women in Nairobi's informal settlements: Evidence from community-based interventions. African Journal of Development and Economic Research, 14(2), 33–59.

Braun, V., & Clarke, V. (2006). Using thematic analysis in psychology. Qualitative Research in Psychology, 3(2), 77–101. https://doi.org/10.1191/1478088706qp063oa

Brooks, W., Donovan, K., & Johnson, T. R. (2016). Mentors or teachers? Microenterprise training in Kenya. American Economic Journal: Applied Economics, 10(4), 196–221. https://doi.org/10.1257/app.20170042

Chambers, R., & Conway, G. (1992). Sustainable rural livelihoods: Practical concepts for the 21st century (IDS Discussion Paper 296). Institute of Development Studies, University of Sussex.

Creswell, J. W., & Plano Clark, V. L. (2018). Designing and conducting mixed methods research (3rd ed.). SAGE Publications.

Department for International Development [DfID]. (1999). Sustainable livelihoods guidance sheets. UK Department for International Development. http://www.livelihoodscentre.org

Etikan, I., Musa, S. A., & Alkassim, R. S. (2016). Comparison of convenience sampling and purposive sampling. American Journal of Theoretical and Applied Statistics, 5(1), 1–4. https://doi.org/10.11648/j.ajtas.20160501.11

Field, A. (2013). Discovering statistics using IBM

https://doi.org/10.5281/zenodo.21987802

SPSS Statistics (4th ed.). SAGE Publications.

Innovations for Poverty Action [IPA]. (2022). Business training and technical assistance for small and growing businesses in low-income countries: Evidence synthesis. IPA Global Evidence Series.

Kenya Institute for Public Policy Research and Analysis [KIPPRA]. (2024). Micro, small and medium enterprise sector diagnostic: Constraints and opportunities for women entrepreneurs in Kenya's urban informal economy. KIPPRA Policy Brief No. 182.

Kenya National Bureau of Statistics [KNBS]. (2024). Economic survey 2024. Kenya National Bureau of Statistics.

Knox, R. (2025). Structured mentorship and micro-enterprise growth: Evidence from a randomised evaluation in Sub-Saharan Africa. Journal of Development Effectiveness, 17(1), 18–37.

Kothari, C. R. (2020). Research methodology: Methods and techniques (4th ed.). New Age International Publishers.

Krantz, L. (2001). The sustainable livelihood approach to poverty reduction: An introduction. Swedish International Development Cooperation Agency (Sida).

Mathare Social Justice Centre. (2024). State of Mathare 2024: Livelihoods, enterprise constraints, and community empowerment programme review. Mathare Social Justice Centre Annual Report.

McKenzie, D. (2021). Small business training to improve management practices in developing countries: Reassessing the evidence for 'training doesn't work.' Oxford Review of Economic Policy, 37(2), 276–301. https://doi.org/10.1093/oxrep/grab009

Morse, S., & McNamara, N. (2013). Sustainable livelihood approach: A critique of theory and practice. Springer. https://doi.org/10.1007/978-94-007-6268-8

Mugenda, O. M., & Mugenda, A. G. (2019). Research methods: Quantitative and qualitative approaches (3rd ed.). African Centre for Technology Studies Press.

Nguyen, T. B., Kumar, M., Sahoo, D. K., Nain, N., Yadav, M., Dadhich, V., Rana, S., Dewasiri, N. J., & Agarwal, S. (2025). Mapping the landscape of women entrepreneurs in micro and small enterprises: Trends, themes, and insights through systematic review and text mining. F1000Research, 14, Article 163030. https://doi.org/10.12688/f1000research.163030.1

ResearchBridge. (2024). Savings groups and enterprise growth in Sub-Saharan Africa: A synthesis of evidence from group-based financial inclusion programmes, 2018–2024. ResearchBridge Development Intelligence Report Series.

Scoones, I. (1998). Sustainable rural livelihoods: A framework for analysis (IDS Working Paper 72). Institute of Development Studies, University of Sussex.

Scoones, I. (2015). Sustainable livelihoods and rural development. Practical Action Publishing.

Tashakkori, A., & Teddlie, C. (Eds.). (2003). Handbook of mixed methods in social and behavioral research. SAGE Publications.

Wainaina, C. W., Igonya, E., Wekesah, F. M., & Sidze, E. M. (2024). Women's economic empowerment and maternal mental health: A qualitative study in rural Kenya. European Psychiatry, 67(Suppl.), Article e1689. https://doi.org/10.1192/j.eurpsy.2024.1689

World Bank. (2023). World development report 2023: Migrants, refugees and societies. World Bank Publications. https://doi.org/10.1596/978-1-4648-1941-4

Yamane, T. (1967). Statistics: An introductory analysis (2nd ed.). Harper and Row.

de Haan, L., & Zoomers, A. (2005). Exploring the frontier of livelihoods research. Development and Change, 36(1), 27–47. https://doi.org/10.1111/j.0012-155X.2005.00401.x

https://doi.org/10.5281/zenodo.21987802