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ENHANCING COMPETENCIES OF ANIMAL HEALTH PRACTITIONERS AND AGROVETS THROUGH STRUCTURED MENTORSHIP IN SINGIDA, KONGWA, MPWAPWA, AND IRINGA DISTRICTS, TANZANIA

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ABSTRACT

Donkeys play a critical role in sustaining rural livelihoods in Tanzania's semi-arid regions. Yet, their access to quality animal health services and sound animal welfare handling remains limited due to gaps in technical competencies, governance, and regulatory compliance among service providers. This study evaluated the effectiveness of a structured mentorship program in enhancing the competencies of Animal Health Practitioners (AHP) and Agrovets in Singida, Kongwa, Mpwapwa, and Iringa Districts, Tanzania. A total of 24 AHPs and 22 Agrovets were mentored and their competencies assessed quarterly over 12 months (March 2024-March 2025) using standardized Animal Health and Agrovet Mentorship Framework Tools. Competencies evaluated included clinical expertise, welfare advocacy, communication, legal compliance, governance, and kit management. Results showed that average AHP performance improved from 84.6% at baseline to 92.2% in Quarter 4, reflecting a 7.6 percentage-point increase. Outstanding performance ratings increased from 26% at baseline to 97% by Quarter 4. Among Agrovets, the overall average competency reached 80.2%, with notable improvements in governance (46% to 82%) and pharmacological expertise (93% to 98%). However, kit management and legal compliance remained areas requiring sustained support. These findings demonstrate that structured mentorship, combined with monitoring and evaluation, significantly strengthens technical capacity, governance, and service quality in rural animal health systems, particularly in Donkey

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Health and Welfare. The approach offers a scalable model for improving animal welfare, regulatory compliance, and intersectoral collaboration in underserved agricultural communities.

Keywords: Mentorship, Mentorship Framework Tools, Animal Health Practitioners, Agrovet Service Providers, Donkey Health and Welfare

1. INTRODUCTION

Donkeys (*Equus asinus*) are an important component of Tanzania's livestock production systems, particularly in semi-arid, resource-constrained environments. As working equids, they provide affordable and reliable draught power for transportation of agricultural produce, water, firewood, and other household goods, thereby contributing directly to rural livelihoods and smallholder farming systems (Swai ES, Bwanga S, 2008; 20(5): Article 67; AU-IBAR; 2019. ISBN 978-9966-077-38-7.119p). In central and northern regions of Tanzania - including Dodoma, Singida, Manyara, Shinyanga, and Arusha-donkeys play a significant role in enhancing household income, reducing labour burdens, and improving agricultural productivity, especially among women and vulnerable groups (Swai ES, Bwanga S, 2008; 20(5): Article 67). Their contribution to food security, income diversification, and rural resilience underscores their agricultural and socio-economic importance.

Despite their recognized value, donkey productivity and welfare remain suboptimal due to persistent structural and institutional constraints (AU-IBAR; 2019. ISBN 978-9966-077-38-7.119p). Limited access to veterinary services, inadequate disease prevention strategies, and low awareness of welfare standards continue to compromise their health and working efficiency (Maziku M, Komba EVG, Karimuribo ED 2017;147:1–7).

Furthermore, Tanzania's national livestock development policies have historically emphasized major ruminants, with comparatively limited strategic attention to working equids (Ministry of Livestock Development, 2006.85p).

This imbalance has resulted in gaps in extension services, regulatory oversight, and technical support tailored to donkey health and welfare management.

In semi-arid districts, the effectiveness of animal health service delivery is further constrained by limited technical capacity among Animal Health Practitioners (AHPs) and Agrovet Service Providers (Agrovets), inconsistent service quality, and weak regulatory enforcement mechanisms (Nonga HE, Sungura KH, Ngowi HA2013;28(2):12–21; Maziku M, Komba EVG, Karimuribo ED., 2017;147:1–7; Ministry of Agriculture, Fisheries and Livestock, 2021). Inadequate professional development opportunities and insufficient monitoring systems limit frontline service providers' ability to deliver standardized, welfare-oriented care to these neglected animals.

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Consequently, the productivity of working donkeys and the sustainability of the agricultural systems that depend on them remain vulnerable.

To strengthen veterinary service delivery and improve donkey welfare outcomes, Brooke East Africa introduced a structured mentorship programme targeting Animal Health Practitioners (AHPs) and Agrovet service providers in selected semi-arid districts. The program aimed to enhance knowledge, attitudes, and practices related to animal health management, welfare standards, and regulatory compliance (Fimbo AM, Maganda BA, Mwamwitwa KW, Mwanga IE, Mbekenga EB, Kisenge S, Shewiyo DH 2022;18:216:1-10; Mkala RS, Mdegela RH, Mmbaga EJ, Nonga HE2022;12(4):150-158).

The intervention was implemented in collaboration with INADES-Formation Tanzania across project villages in four district councils: Singida, Iringa, Kongwa, and Mpwapwa. A total of 24 Animal Health Practitioners and 22 Agrovets participated in the mentorship program, which employed standardized Animal Health and Agrovet Mentorship Tools for training, monitoring, and evaluation.

Although capacity-building initiatives for livestock service providers are increasingly promoted to improve agricultural productivity and environmental sustainability (Maziku M, Komba EVG, Karimuribo ED., 2017;147:1–7; Fimbo AM, Maganda BA, Mwamwitwa KW, Mwanga IE, Mbekenga EB, Kisenge S, Shewiyo DH 2022;18:216:1–10), limited empirical evidence exists on their effectiveness in strengthening donkey health service delivery in Tanzania's semi-arid regions (Swai ES, Bwanga S, 2008; 20(5): Article 67). Therefore, this study evaluated the competencies and performance improvements of Animal Health Practitioners and Agrovets after participating in the structured mentorship program The (Brooke,2013. 528 p. ISBN: 978-1873580875). The evaluation also sought to generate practical lessons on the role of mentorship in strengthening frontline animal health service delivery in underserved rural livestock systems. Specifically, the study assessed changes in technical knowledge, service quality, regulatory compliance, and animal welfare practices in the targeted districts (Mkala RS, Mdegela RH, Mmbaga EJ, Nonga HE2022;12(4):150–158; Nonga HE, Sungura KH, Ngowi HA,2013;28(2):12–21.). The findings are intended to inform policy, veterinary extension strategies, and sustainable livestock development interventions in semi-arid agricultural systems (Maziku M, Komba EVG, Karimuribo ED,2017;147:1–7; The Brooke,2013. 528 p. ISBN: 978-1873580875).

2. MATERIALS AND METHOD

2.1 Study Area

The study was conducted across selected project villages in four district councils in Tanzania, namely Iringa District (Migori, Makatapola, Kinyali and Mbweleli); Kongwa District (Nguji,

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Mautya "A," and Makole villages), Mpwapwa District (Kingiti and Gulwe villages), and Singida District (Ghata, Endesh, and Kinyamwenda villages) because they have sizeable donkey populations and are areas where Brooke East Africa operates. These areas are characterized by mixed crop–livestock production systems and rely substantially on community-based animal health service providers, including Animal Health Practitioners (AHPs) and Agrovets.

The mentorship, monitoring, and evaluation activities were implemented over a 12-month period from March 2024 to March 2025.

2.2 Study Design

A longitudinal work-based assessment design was adopted to evaluate the competencies and professional performance of AHPs and Agrovets. This design allowed continuous tracking of competency development over time while reflecting real-world service delivery conditions within rural veterinary practice. The approach integrated structured mentorship, routine monitoring, and periodic evaluation.

Mentorship activities included interactive learning sessions, case-based discussions, supervised clinical practice, and structured feedback. Monitoring involved tracking practitioner performance and compliance with professional and regulatory standards, while evaluation focused on measuring competency development across successive assessment rounds. Assessments were conducted quarterly (every three months), resulting in four evaluation rounds during the study period (AU-IBAR, 2019. ISBN 978-9966-077-387-1; The Brooke, 2013. 528 p. ISBN: 978-1873580875).

2.3 Target Population

The study targeted:

1. Animal Health Practitioners (AHPs) operating within the selected project villages.
2. Agrovets and Agrovet attendants **who** provide animal health-related products and advisory services within the same communities.

All eligible practitioners in the designated project areas enrolled in the mentorship program were included in the assessment.

2.4 Data Collection Tools and Frameworks

- Data were collected using digital assessment tools developed by Brooke East Africa, namely the following: Animal Health Mentoring Framework Tool (AHMF)
- Agrovet Mentoring Framework Tool (AMF)

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2.4.1 Animal Health Mentoring Framework Tool (AHMF)

The AHMF is a structured, competency-based, work-integrated assessment tool adapted from the Brooke Veterinary Competency Framework. It is designed to identify skill and resource gaps among AHPs and to facilitate case-based mentoring as part of continuous professional development (The Brooke,2013. 528 p. ISBN: 978-1873580875).

The AHMF Tool assessed competencies across multiple domains, including

i. Pharmacological knowledge
ii. Clinical examination and diagnostic accuracy
iii. Communication skills and client engagement
iv. Animal welfare advocacy
v. Clinical governance and ethical practice
vi. Legal and regulatory compliance
vii. Veterinary kit content and medicine management

2.4.2 Agrovet Mentoring Framework (AMF) Tool

The AMF Tool is a structured assessment framework designed to strengthen the performance, service delivery, and regulatory compliance of Agrovets and Agrovet attendants. The tool supports a broader mentorship and backstopping approach aimed at improving sustainable animal health service provision, particularly in rural and underserved communities (AU-IBAR; 2019. ISBN 978-9966-077-38-7.119p; WOAH, 2018 P25; Veterinary Council of Tanzania, 2023. P5).

The AMF Tool assesses both regulatory and professional competencies that include:

(a) Regulatory compliance parameters:

i. Level of education
ii. Professional registration status
iii. Registration of Agrovet premises
iv. Licensing for pest control operations
v. Proper shop labelling and location compliance

(b) Professional practice competencies:

i. Effective client history taking

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ii. Appropriate questioning and case summarization
iii. Development of treatment plans
iv. Explanation of preventive measures and potential drug side effects
v. Referral practices
vi. Provision of follow-up advice
vii. Professional conduct during service delivery

2.5 Mentorship and Field Assessment Procedures

2.5.1 Assessment of Animal Health Practitioners

Mentorship sessions for AHPs were conducted using real donkey cases encountered in the respective project villages. These cases were used to evaluate procedural competence and clinical decision-making under routine field conditions (Food and Agriculture Organization of the United Nations, 2020; WOAH, 2018.p25; WOAH. p17, VCT, 2023.p18); The Brooke,2013. 528 p. ISBN: 978-1873580875).

The following competencies were assessed:

i. Appropriate animal handling and restraint
ii. Consideration of basic animal welfare needs
iii. Comprehensive history taking
iv. Systematic clinical examination
v. Accurate interpretation of findings and diagnosis
vi. Appropriate drug selection, dosage calculation, and route of administration
vii. Follow-up planning and preventive advisory services

Additional parameters included maintenance of a well-equipped veterinary kit, proper storage of medicines, monitoring of expiry dates, hygiene and sterility standards, waste management practices, and accurate clinical record keeping (The Brooke,2013. 528 p. ISBN: 978-1873580875; AU-IBAR; 2019. ISBN 978-9966-077-38-7.119p; Veterinary Council of Tanzania, 2022. p5).

2.5.2 Assessment of Agrovets and Agrovet Attendants

Agrovet mentorship assessments were conducted using real-life livestock cases presented by livestock keepers from the surrounding communities. Monitoring and evaluation focused on both regulatory compliance and service delivery performance.

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Practitioners were observed during client interactions and evaluated on case management, advisory services, and adherence to established standards.

2.6 Data Collection Procedure

Data were captured digitally using the AHMF and AMF platforms during each quarterly assessment round. The tools generated quantitative scores for each competency domain.

All collected data were exported to Microsoft Excel® for cleaning, coding, and aggregation before statistical analysis.

2.7 Data Analysis

Descriptive statistical analyses were performed using Microsoft Excel®. The use of descriptive statistics was appropriate for monitoring performance trends within the mentorship programme and for evaluating practical improvements in service delivery competencies. Individual competency scores were expressed as percentages.

Performance levels were categorized according to the Brooke Animal Health Guidance Notes (Brookes East Africa) as follows: 0-59% (Unsatisfactory); 60-69% (Requires Improvement); 70-89% (Good), and 90-100% (Outstanding). These categorical rankings were used to monitor practitioner progression over time and to identify priority areas requiring targeted mentorship interventions.

2.8 Ethical Considerations

Participation of AHPs and Agrovets in the mentorship and evaluation program was conducted as part of routine professional capacity strengthening. Informed consent was obtained before assessments. Data was anonymized during analysis to ensure the confidentiality of individual practitioners.

2.9 Data management and Assessment Bias.

Data **were** systematically collected during clinical events, with quality control maintained through assessor standardization. Two veterinarians independently evaluated the same cases without discussion, and their percentage scores were compared to determine inter-assessor variance. Variance was kept below 10% (ideally under 5%), with consistently higher variance prompting additional training. Standardization, peer review, and supervision by senior trainers helped minimize potential bias, ensuring that the data collected was reliable, objective, and comparable across assessors and districts.

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3.0 RESULTS

3.1 Performance Trends of Animal Health Practitioners for the Period March 2024 to March 2025, assessed quarterly (Q1-Q4).

During the assessment period from Quarter 1 (Q1) to Quarter 4 (Q4), Animal Health Practitioners' performance on the five competencies among the seven listed in 2.3.1 showed an increasing trend from 84.6% to 92.2%, representing a 7.6 percentage-point improvement, as indicated in Table 1 and Figure 1 Excel Analysis Sheets Images for Quarter 1 and Quarter 4.

Strengths were particularly evident in communication and clinical expertise. Kit contents require improvement, with distribution amongst 23 AHPs at 74% Good and 26% Outstanding in Q1, and a general decline in Q2, especially in communication, governance, and clinical performance. Kit contents remained persistently low. In Q3 and Q4, Governance and welfare advocacy reached optimal performance, with clinical competence improving substantially, but the distribution ranking showed 17% Good and 83% Poor. Outstanding in Q3 and 8% Good against 92% Satisfactory in Q4. The 83% in Q3 reflects reclassifications rather than a pure change in the performance score. The quarterly competency assessments provided an overview of practitioner performance trends across the mentorship period.

Table 1: Performance Scores for Animal Health Practitioners Competencies March 2024-March 2025.

S/N	Competency	Quarterly Performance Scores in %				
		Quarter 1 (Q1)-baseline	Quarter 2 (Q2)	Quarter 3 (Q3)	Quarter 4 (Q4)	Annual Average(Q1+Q2+Q3+Q4)
1	Welfare Advocacy	87	85	100	100	93
2	Communication	99	88	99	99	96
3	Clinical Expertise	89	81	93	94	89
4	Kits Contents	68	65	68	68	67
5	Clinical Governance	80	70	100	100	86
Average /quarter		**84.6**	**77.8**	**86.8**	**92.2**	

Table 1 presents quarterly performance scores across five core competencies for Animal Health Practitioners (AHPs). Overall, the results demonstrate strong professional capacity, with notable improvements over time in several domains. Along the five competencies it showed an increasing

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trend from 84.6% to 92.2%, representing a 7.6 percentage point improvement as indicated in Table 1. At baseline (Q1), the overall average competency score was 84.6%, indicating a generally high level of performance at project inception. Communication (99%) and clinical expertise (89%) emerged as key strengths, reflecting strong practitioner, client engagement and sound technical capacity. Welfare advocacy (87%) and clinical governance (80%) also demonstrated solid foundational performance. However, kit contents recorded the lowest baseline score (68%), highlighting deficiencies in equipment completeness and supply consistency.

In Q2, a temporary decline in overall performance was observed (average quarterly: 77.8%). Reductions were particularly evident in communication (88%), clinical governance (70%), and clinical expertise (81%). This decline may reflect transitional adjustments following baseline assessment, stricter evaluation criteria, or operational constraints. Kit contents further declined to 65%, confirming persistent structural challenges in equipment availability and standardization.

Substantial recovery and improvement were documented in Q3 and Q4. Welfare advocacy and clinical governance achieved optimal performance (100%) in both quarters, indicating strengthened compliance with professional standards and enhanced animal welfare promotion. Clinical expertise improved progressively to 93% in Q3 and 94% in Q4, demonstrating sustained technical capacity development. Communication performance rebounded to 99% in both Q3 and Q4, reaffirming it as a consistent area of strength.

Despite these improvements, kit content remained comparatively low and static (68% in Q3 and Q4), suggesting systemic limitations rather than practitioner competency gaps. Distribution data further supports this interpretation: Furthermore, the findings reveal strong and improving competencies in communication, welfare advocacy, clinical governance, and clinical expertise over the study period. However, the consistently lower performance in kit contents underscores a structural area requiring strategic support to ensure comprehensive service delivery standards of service. The upward trajectory of performance scores demonstrates the effectiveness of the Agrovets Mentorship.

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Table 2: Performance rankings (Grading) distributions of the Animal Health Practitioners for the Period of 2024 March-2025 March.

S/N	Rankings/Grading descriptions	Quarterly Rankings in %				
		Quarter 1 (Q1-baseline)	Q Quarter 2 (Q2)	Quarter 3 (Q3)	Quarter 4 (Q4)	Annual Average(Q1+Q2+Q3+Q4)
1	Unsatisfactory (%)	0	0	0	0	0
2	Requires improvement (%)	0	0	0	0	0
3	Good (%)	74	17	2	13	84
4	Outstanding (%)	6	83	92	87	86

Table 2 represents the evaluation of the performance grading of Animal Health Practitioners (AHPs) from March 2024 to March 2025 using quarterly evaluations. Across the entire assessment period, no AHPs were rated as Unsatisfactory or Requires Improvement, indicating consistent adherence to minimum professional standards.

At baseline (Q1), performance was predominantly graded as Good (74%), with a smaller proportion achieving Outstanding (6%). Following the implementation of structured mentorship and performance monitoring, a marked improvement was observed in Q2, where 83% of AHPs attained Outstanding status. This upward trend was sustained in Q3 and Q4, with Outstanding ratings reaching 92% and remaining above 85% thereafter. Notably, the shifts in ranking distribution between quarters partly reflect reclassification effects, the overall trend indicates genuine performance strengthening. The annual average (Q2-Q4) confirms sustained high performance, with the majority of AHPs maintaining Outstanding status. Overall, the findings demonstrate significant and sustained improvements in AHP performance over the study period, underscoring the effectiveness of the mentorship and monitoring framework in enhancing professional standards and service delivery quality. See the Performance Trends of Animal Health Practitioners for the Period March 2024 to March 2025, assessed quarterly Excel analysis images (Q1-Q4) in Figure 1.

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Figure 1: Quarter 1 and 4 Mentorship Results-Trends in Animal Health Practitioners.

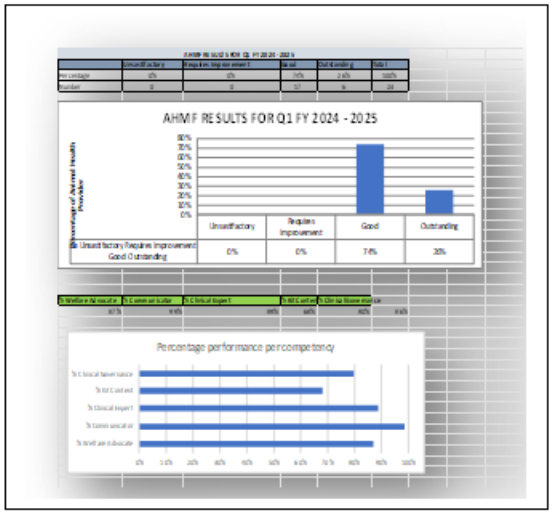

Table 3: Performance Scores/trends for Agrovets Competencies for the Period of March 2024-March 2025

S/N	Competency	Quarterly Performance Scores in %				
		Quarter 1 (Q1)-baseline	Q Quarter 2 (Q2)	Quarter 3 (Q3)	Quarter 4 (Q4)	Annual Average(Q1+Q2+Q3+Q4)
1	Pharmacological Expertise	**93**	99	97	**98**	97
2	Legal Compliance	69	67	72	70	70
3	Communication	72	74	81	90	79
4	Contents of Agrovets	74	86	85	86	83
5	Governance	46	60	74	82	66
6	Average/quarter	**71.2**	**79.4**	**82**	**85.2**	**80**

Table 3 presents quarterly performance scores across five core competency domains for Agrovets. Overall, the findings demonstrate progressive improvement throughout the assessment period, with notable gains in both technical and governance-related capacities.

At baseline (Q1), the overall quarterly average score was 71.2%, reflecting moderate performance with clear areas for strengthening. Pharmacological expertise was already strong at 98%, indicating sound knowledge in drug selection, dosage determination, and product handling. In contrast, governance recorded the lowest baseline score (46%), highlighting weaknesses in waste

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management, record keeping, and internal management systems. Communication, legal compliance, and kit contents were moderate, suggesting partial adherence to regulatory and operational standards.

By Q2, overall performance improved to 79.4%, with pharmacological expertise increasing to 99%, demonstrating rapid consolidation of technical competencies. Governance also improved to 60%, indicating early positive effects of mentorship and compliance monitoring. Communication and Agrovets contents showed improvement, while legal compliance, though progressing, remained comparatively lower.

Further gains were observed in Q3, where the quarterly average rose to 82%. Governance strengthened substantially to 74%, reflecting improved documentation practices and regulatory adherence. Pharmacological expertise remained consistently high (98%), while communication and legal compliance continued gradual improvement.

In Q4, overall performance reached its highest level (85.2%). Governance improved markedly to 82%, representing a significant increase from the baseline of 46%. Similarly, pharmacological expertise rose from 93% at baseline to 98% in Q4, confirming sustained technical excellence. Communication, legal compliance, and Agrovets contents achieved satisfactory performance levels, though they demonstrated comparatively moderate growth relative to governance.

The most notable improvements over the study period were observed in governance (46% to 82%) and pharmacological expertise (93% to 98%), indicating strengthened institutional management and sustained technical competence. While communication, legal compliance, and Agrovets contents reached satisfactory standards, continued attention to regulatory compliance and inventory management will be essential to achieve optimal and sustained performance. Furthermore, the results reflect meaningful and sustained capacity development among Agrovet service providers, demonstrating the effectiveness of structured mentorship and performance monitoring interventions.

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Table 4: Performance rankings distributions (Grading) of the Agrovets for the Period of 2024 March-2025 March.

S/N	Rankings/Grading descriptions	Quarterly Rankings in %				
		Quarter 1 (Q1-baseline)	Q Quarter 2 (Q2)	Quarter 3 (Q3)	Quarter 4 (Q4)	Annual Average(Q1+Q2+Q3+Q4)
1	Unsatisfactory (%)	0	0	0	0	0
2	Requires improvement (%)	56	0	0	0	28
3	Good (%)	44	95	91	82	78
4	Outstanding (%)	0	5	9	18	8

Table 4 presents the quarterly grading distribution of Agrovets over the assessment period. The findings indicate substantial and sustained improvements in performance following the baseline evaluation. At baseline (Q1), performance levels were moderate to low. As for the Agrovets assessed, 56% were graded as *Requires Improvement*, while 44% achieved a *Good* rating. No Agrovet was classified as *Outstanding* or *Unsatisfactory in performances*. This distribution suggests that although minimum operational standards were being met, more than half of the Agrovets required structured support to strengthen service delivery, regulatory compliance, and professional practices.

A marked improvement was observed in Q2. The proportion of Agrovets rated as *Requires Improvement* dropped to 0%, while 95% achieved a *Good* rating and 5% attained *Outstanding* status. This shift indicates the early positive impact of mentorship, supervision, and performance monitoring interventions implemented after the baseline assessment. Performance gains were sustained in Q3, with 91% graded as *Good* and 9% as *Outstanding*. The continued absence of Agrovets in the *Requires Improvement* and *Unsatisfactory* categories reflects strengthened operational capacity and adherence to professional standards. Further progress was documented in Q4, where 82% were rated as *Good* and 18% as *Outstanding*. The increasing proportion of *Outstanding* ratings demonstrates qualitative improvements beyond basic compliance, suggesting enhanced competence in stock management, advisory services, and regulatory alignment. The annual average (Q2-Q4) indicates that 78% of Agrovets consistently performed at the *Good* level, while 8% achieved *Outstanding* status. Importantly, no Agrovet reverted to the lower performance

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categories after Q1, underscoring sustained improvement. The results demonstrate a clear shift from baseline performance gaps to sustained and progressively improved service standards. The grading trends indicate that capacity-building interventions effectively strengthened Agrovet performance and enhanced the reliability of animal health service delivery. See the Performance Trends of Agrovets for the Period March 2024 to March 2025, assessed quarterly Excell analysis images (Q1-Q4) in **Figure 2.**

Figure 2: Quarter 1 and 4 Mentorship Results-Trends in Agrovets Performances.

4.0 DISCUSSION

4.1. Impact of the Mentorship Framework

The progressive improvement in both agrovets and AHP performance demonstrates the effectiveness of structured mentorship. For AHPs, the 7.6 percentage-point increase in overall performance reflects strong gains in governance, welfare advocacy, and clinical competence. For agrovets, governance improved dramatically from 46% to 82%, indicating successful institutional strengthening. Mentorship interventions appear particularly effective in strengthening clinical governance, record keeping, professional communication, technical expertise, and institutional operational standards. These findings are consistent with previous studies indicating that structured mentorship and supervision can significantly enhance competency development and professional accountability among frontline animal health providers

4.2. Governance as a Transformational Outcome

Both agrovets and AHPs showed major improvements in governance. This suggests that governance responds well to structured supervision, standardized tools, and accountability mechanisms. The early weakness in governance highlights that technical knowledge alone is insufficient without operational systems. Strengthening documentation, waste management, and procedural compliance significantly enhanced overall service quality.

4.3 Persistent Kit Management Gap

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During the mentorship programme, mentors assessed the kits that Animal Health Practitioners (AHPs) brought when attending animal cases, using a binary scoring system based on Brooke guidelines. Essential components included species-appropriate oral and injectable broad-spectrum antibiotics, oral and injectable NSAIDs, steroids, antibiotic eye preparations, and antiseptic solutions. Kits containing all required items were scored 1, indicating that the Animal Health Practitioners (AHPs) successfully had all essential components during attending the case, while a score of 0 indicated that the AHP failed to have at least one required item during case attendance. This practical assessment provided an objective measure of kit completeness, enabling analysis of the proportion of AHPs scoring 1 versus 0 across successive quarters as an indicator of compliance and kit management performance. kit content remained comparatively low and static (68% in Q3 and Q4), suggesting systemic limitations rather than practitioner competency gaps, this suggested structural constraints such as limited supplier access, high costs of injectables, irregular availability of medicines, or weak regulatory enforcement.

4.4 Grading distributions of Animal Health Practitioners (AHPs)

Grading distributions further reinforced these findings. At baseline, 74% of AHPs were rated as *Good* and 6% as *Outstanding*, with no practitioners categorized as *Unsatisfactory* or *Requires Improvement*. Following intervention, the proportion achieving *Outstanding* status increased substantially, reaching 83% in Q2 and peaking at 92% in Q3. Although some variation reflects reclassification effects, the sustained dominance of *Outstanding* ratings confirms genuine performance strengthening. Importantly, no AHP fell into the lower performance categories throughout the study period, indicating consistent maintenance of minimum professional standards.

4.5 Content of the Agrovets performances

During the mentorship programme, mentors normally visited Agrovets while they were attending to clients presenting animal cases by the client, and it was during these interactions that the assessments began. Agrovets were expected to stock a range of essential items, including steroids, antibiotic eye preparations, dewormers for all species, antiseptics (preferably iodine), animal pesticides, pain relief medications (oral and injectable for all species), injectable and oral antibiotics, and other animal-related products such as hoof picks, ropes, and nutritional supplements. Each item on the mentorship checklist was verified for availability. A score of 1 was assigned if the item was present, while a score of 0 indicated it was absent. This hands-on approach provided an objective evaluation of the Agrovets' preparedness and the comprehensiveness of their inventory in supporting proper animal health management. Agrovets Contents achieved satisfactory performance levels, though they demonstrated comparatively moderate growth relative to governance (74%-86%).

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4.6 Grading distributions of Agrovets

Grading distributions align with competency trends. At baseline, 56% of Agrovets were classified as *Requires Improvement* and 44% as *Good*, with none rated *Outstanding*. By Q2, the *Requires Improvement* category had been eliminated, and performance stabilized within the *Good* and *Outstanding* categories. The proportion achieving *Outstanding* increased progressively to 18% in Q4. Importantly, no Agrovet reverted to lower performance categories after baseline, demonstrating sustained improvement.

4.7 Legal Compliance Vulnerability

Agrovets demonstrated fluctuations in legal compliance, particularly in Q2 due to staff turnover. This suggests regulatory compliance is highly sensitive to personnel changes and to sustain the mentorship results of these Agrovets it is recommended to instill standardized induction training, compliance checklists, and continuous monitoring systems.

4.8 Sustainability of Performance Gains

The absence of "Unsatisfactory" ratings in later quarters reflects institutional maturity, improved professional standards, and the sustainability of performance score gains. Sustained mentorship, periodic supervision, and institutional support will therefore be essential to maintain these performance gains beyond the duration of externally funded programmes.

4.9 Scalability and cost implications

The study involved resource requirements including personnel, mentorship time, essential kits, and transport for both mentors and Animal Health Practitioners (AHPs), who are widely distributed across districts. Assessments also necessitated daily allowances for AHPs, district council officials, and village leaders, while follow-up visits to identified cases within each district further increased transport and operational costs. Institutional capacity requirements encompassed trained staff, coordination mechanisms, and effective supply chain management to ensure quality and sustainability during scale-up. Potential cost implications were substantial: the annual budget for these activities was approximately TZS 13 million, depending on donor funding, and wider implementation would be highly resource intensive. These considerations provide a realistic perspective on the feasibility and financial demands of expanding the programme.

4.10 LIMITATION NOTE

We acknowledge the reviewer's concern regarding the absence of a control group and the reliance on descriptive analysis. Owing to the project-based implementation design, inclusion of a control group was not feasible; consequently, the analysis was primarily based on descriptive statistics.

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We also recommend future studies to include inferential statistical analysis for broader understandings.

5. CONCLUSION

The Animal Health Mentorship Framework (AHMF) and Agrovets Mentorship Framework (AMF) significantly improved professional performance during FY 2024–2025 with the following key achievements and one challenge.:

- 7.6% improvement in AHP overall performance
- Major governance strengthening among Agrovets (46%→82%)
- Sustained excellence in communication and clinical competence
- Elimination of "requires improvement" ratings in later quarters.

The key remaining challenge is persistent weakness in kit management due to structural and logistical constraints. For continued successes in mentorship, future program phases should include and integrate the following: - Supply chain strengthening, Regulatory induction programs, Inventory management systems and Continuous supervision.

Overall, the findings demonstrate that structured mentorship, when consistently implemented, leads to measurable improvements in technical, operational, and governance competencies in animal health service delivery. The study therefore highlights mentorship as a practical and scalable capacity-building strategy for strengthening rural animal health systems in resource-constrained settings.

REFERENCES

[1]. Fimbo AM, Maganda BA, Mwamwitwa KW, Mwanga IE, Mbekenga EB, Kisenge S, Shewiyo DH. Post-marketing surveillance of selected veterinary medicines in Tanzania Mainland. *BMC Veterinary Research*. 2022; 18:216:1–10.

[2]. Nonga HE, Sungura KH, Ngowi HA. Assessment of veterinary drug use and determination of antimicrobial residues in broiler chicken meat in Urban District, Zanzibar, Tanzania. *Tanzania Veterinary Journal*. 2013;28(2):12–21.

[3]. Mkala RS, Mdegela RH, Mmbaga EJ, Nonga HE. Antibiotic prescription practice at veterinary pharmaceutical shops and its potential impact on the development of antimicrobial resistance in Moshi, Northern Tanzania. *Journal of Drug Delivery and Therapeutics*. 2022;12(4):150–158.

[4]. The United Republic of Tanzania. Ministry of Livestock Development. National Livestock Policy. Dar es Salaam: Ministry of Livestock Development; 2006. 85 p.

[5]. Maziku M, Komba EVG, Karimuribo ED. Assessment of veterinary services delivery in

 Copyright © 2026 by the authors. Licensed under CC BY-NC-SA 4.0

ISSN: 2455-6939

Volume: 12, Issue: 02 "March-April 2026"

pastoral communities of Tanzania. *Preventive Veterinary Medicine*. 2017; 147:1–7.

[6]. World Organisation for Animal Health. OIE Competency Guidelines for Veterinary Paraprofessionals. Paris: WOAH; 2018.p25.

[7]. Veterinary Council of Tanzania (VCT). *Standards and Guidelines for Animal Health Practice in Tanzania*. Dodoma: Veterinary Council of Tanzania; 2022. p.5.

[8]. Veterinary Council of Tanzania (VCT). *Code of Conduct and Practice Guidelines for Agrovets and Animal Health Service Providers*. Dodoma: Veterinary Council of Tanzania; 2023. p. 18.

[9]. Swai ES, Bwanga S. Donkey keeping in the Kilimanjaro region, northern Tanzania: socio-economic roles and reported husbandry and health constraints. *Livestock Research for Rural Development*. 2008;20(5): Article 67.

[10]. The Brooke. The Working Equid Veterinary Manual. Stansted, Essex (UK): Whittet Books Ltd; 2013. 528 p. ISBN: 978-1873580875.

[11]. African Union – Inter African Bureau for Animal Resources (AU IBAR). Animal Health Strategy for Africa (AHSA) 2019 2035: A Framework for Delivering a Sustainable Animal Health System that Meets Global Standards. Nairobi, Kenya: AU IBAR; 2019. ISBN 978 9966 077 38 7.119p.

[12]. World Organisation for Animal Health (OIE). Strengthening Veterinary Services in Africa: A Summary of the Strengthening Veterinary Services in Developing Countries (SVSDC) Project, 2016–2019 – project summary PDF. Implemented by the OIE and funded by the European Union, European Parliament and the European Commission. Published December 2019. p17.

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