Assessing the implementation of revamped community health workers programme in Tanga Region, Tanzania

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ABSTRACT

The purpose of this study was to assess how effective the Community Health Workers (CHWs) program was implemented to effect community health service delivery in Tanga region. Specifically, the study examined the adequacy of CHW training and the extent of supervision among CHWs, health facility supervisors, and community members. The study was guided by the Health Systems Strengthening (HSS) Framework, which emphasises the interconnected roles of service delivery, the health work force, financing and governance. A cross-sectional descriptive design was employed, using structured questionnaires and interview guides to collect data from 206 Community Health Workers, 53 health facility supervisors, and 398 community members selected from three districts of the region through stratified random and purposive sampling techniques. Data were analyzed using both descriptive statistics (frequencies, percentages, and means) to examine key implementation factors. The findings indicated that the majority of CHWs were young, relatively well-educated, and had received formal training and regular supervision. Most CHWs (98%) rated their training as adequate and over 85% expressed satisfaction with the program. The study concludes that the revamped CHW Program has been effectively implemented and has contributed to improved community health outcomes in Tanga Region. However, sustainability depends on enhanced resource allocation, consistent incentives, and strengthened supervision. It is recommended that policymakers institutionalise regular training, ensure reliable supply chains, and integrate CHW performance monitoring into district health systems.

Keywords: Community Health Workers, Implementation Process, Performance Outcomes, Supervision, Training, Tanzania.

I. INTRODUCTION

Over the past several decades, Community Health Workers (CHWs) have emerged as a critical pillar of health systems, particularly in low- and middle-income countries striving to achieve Universal Health Coverage (UHC). The 1978 Alma-Ata Declaration by the World Health Organization (WHO) and United Nations International Children's Emergency Fund (UNICEF) formally recognized the importance of CHWs in delivering essential health services at the community level, especially in areas with limited access to formal health care (WHO, 1978). Since then, CHW programmes have been adopted and institutionalized in many countries as a strategy to strengthen primary health care, promote health equity, and address the growing burden of preventable diseases. Countries such as Brazil, Bangladesh, and Ethiopia have demonstrated how strong CHW systems can significantly contribute to reductions in maternal and child mortality, improved immunization coverage, and enhanced health-seeking behaviors. In Bangladesh, the Bangladesh Rehabilitation Assistance Committee (BRAC) programme has built a large-scale, well-structured CHW model that emphasizes community ownership, microfinance linkages, and health education (Haque et al., 2014). Ethiopia's Health Extension Programme, launched in the early 2000s, trained and deployed tens of thousands of CHWs who have contributed to improved sanitation, reproductive health, and disease prevention across rural regions (Banteyerga, 2011).

These successes highlight the transformative role CHWs can play when supported through proper training, supervision, motivation, and integration into national health systems. The WHO guideline on CHW programmes similarly emphasizes the need for these structural supports and recommends routine supervision and integration into health information systems to track implementation (WHO, 2018). The success of CHW programmes has been closely linked to structured and well-coordinated implementation frameworks. Perry et al. (2014) emphasized that CHWs perform effectively when the implementation includes standardized training, regular supervision, and the provision of adequate supplies. This is echoed in regional studies such as Ballard et al. (2017) in Kenya, where supportive supervision and consistent remuneration played a crucial role in aligning implementation with national health policies. In East Africa, Uganda and Rwanda have made substantial progress by embedding CHW systems within broader national strategies. Rwanda, in particular, offers a model of success with structured supervision and strong community

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linkages (Binagwaho & Scott, 2015). The CHW programme is guided by clear policies and operational frameworks, which ensures consistency and accountability in implementation.

In Tanzania, CHWs have a long history, dating back to the 1970s, where they were introduced as part of the national efforts to strengthen rural health services. However, previous programmes faced multiple challenges, including limited training, irregular remuneration, weak coordination, and lack of integration into the formal health sector. These issues hindered their sustainability and impact. In response, the Government of Tanzania launched a revamped CHW programme in 2017 aimed at addressing these challenges. The programme emphasized standardized recruitment and training, defined scopes of work, integration with local health systems, and improved community engagement (Ministry of Health URT, 2017). The goal was to create a more reliable and professional CHW workforce capable of contributing meaningfully to national health priorities such as maternal and child health, infectious disease control, and health promotion. Despite the promise of this revamped initiative, there remained a limited body of empirical evidence assessing its actual implementation on health service delivery, particularly at regional and district levels.

Understanding how well the programme has been implemented according to national guidelines, is critical for evaluating its effectiveness. Moreover, variations in geographical, socio-economic, and administrative contexts such as those found in Tanga Region may influence the programme's success, necessitating localized studies to inform policy improvements and scale-up strategies. The introduction of the revamped CHW programme was sought to address earlier shortcomings through national-level guidelines emphasizing training, integration into local government structures, and results-based monitoring. Ferla et al. (2023), in their assessment of the Malezi Project, observed that implementation quality significantly improved when CHWs were equipped with digital tools and received regular supervisory visits. However, inconsistent application of national guidelines, especially in rural regions, created disparities in implementation fidelity. As the continuation of the 2014 CBH programme, the government produced the community-based health care (CBHC) policy guideline of 2020 that is in line with the National Health Policy 2020 and the CBHC Operational guideline 2020 and CBHC Strategic Plan 2020–2025 (URT, 2020).

These guidelines are intended to (a) guide stakeholders on the principles and rules of working with communities towards their active and dynamic involvement and promoting equity and demand for reform; (b) provide policy guidance for incorporating community-driven health and social welfare interventions as an integral part of the formal health and social welfare system and, thereby, deliver the basic components of health and social welfare services package at the community level. The programme and its associated guidelines are set to achieve the following main objectives: Generally, it aims to create sustainable and functional national community services for improving health and social well-being of all communities with a focus on those most at risk and to be more responsive to the needs of people.

Specifically, (1) to establish a sustainable workforce of community health and social welfare volunteers with skills, knowledge and commitment to deliver CBH&SW services (2) to support the CBH&SW services through mobilization and optimized utilization of resources (3) to enhance delivery of community health and social welfare services that are fully integrated into existing systems and structures at all levels (4) to strengthen the capacity of health and social welfare structures for delivery and coordination of services at all levels (5). to strengthen community participation, ownership and sustainability mechanism of CBHSW services (6). to strengthen intersectoral collaboration to address cross-cutting issues for community health and social welfare. In the Tanga Region, although systematic evaluations are limited, anecdotal evidence and programme reports indicate mixed implementation quality, partly due to logistical bottlenecks and variations in local government commitment. This necessitated further study to understand whether and how national guidelines are being followed across different districts in the region.

1.1 Statement of the Problem

The introduction of the revamped Community Health Workers (CHWs) Programme in Tanzania in 2017 marked a strategic policy shift aimed at strengthening primary health care delivery through a more professionalized and better-supported CHW workforce (Ministry of Health, 2017). CHWs play a critical role in strengthening primary health care systems, particularly in low- and middle-income countries. While the programme seeks to address previous weaknesses such as inconsistent training, poor supervision, and limited integration into the health system, there remains a significant gap in evidence regarding its actual implementation fidelity, and performance outcomes at subnational levels. Existing studies in countries like Ethiopia and Rwanda have demonstrated that CHW performance and sustainability are closely linked to how programmes are implemented, particularly in terms of supportive supervision, community engagement, and performance-based incentives (Ballard et al., 2017; Binagwaho & Scott, 2015). However, few peer-reviewed studies have examined whether these conditions have been successfully replicated under Tanzania's revamped programme. Moreover, limited documentation exists on how regional health systems have operationalized the national CHW framework and how this affects frontline service delivery, especially in regions with varied socio-economic and administrative conditions such as Tanga. Preliminary insights from projects like Malezi (Ferla et al., 2023) show promising results when CHWs are equipped with digital tools and training. However,

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systemic challenges including irregular remuneration, logistical constraints, and inadequate data systems continue to impede the consistency and effectiveness of service delivery. These issues raise critical questions about whether the revamped programme has translated its policy aspirations into measurable outcomes on the ground. In Tanga Region, where communities face challenges such as a shortage of skilled health workers and a high burden of preventable diseases, the role of CHWs is vital. However, questions remain about the effectiveness of the revamped programme in addressing these gaps. Implementation ineffectiveness such as inadequate training, weak supervision, and insufficient logistical support may undermine the programme's impact.

1.2 Research Objectives

i. To explore the implementation process of the revamped CHW programme in the study area
ii. To examine the community perceptions of the revamped CHW programme implementation in the study area

II. LITERATURE REVIEW

2.1 Theoretical Review

2.1.1 Health System Strengthening Framework

This study is anchored in the Health Systems Strengthening Framework developed by the World Health Organization (WHO, 2007). This framework identifies six core building blocks essential for a functional and resilient health system: service delivery, health workforce, health information systems, access to essential medicines and technologies, health financing, and leadership and governance. These components interact to produce improved health services, equity, responsiveness, and overall system efficiency. Within this framework, Community Health Workers (CHWs) are positioned as a critical element of the health workforce. The effectiveness of CHWs is not only dependent on their individual capabilities but also on how well they are integrated and supported within the broader health system. Their performance is influenced by the availability of key inputs (such as training, supplies, supervision, and remuneration), the functionality of processes (such as reporting mechanisms, referral systems, and community engagement), and the realization of outputs (such as improved service coverage, health behavior change, and community outcomes). Applying this framework enables a structured evaluation of the revamped CHW programme by linking its design and implementation to systemic health functions. For instance, the study assesses how governance mechanisms (for instance policy alignment and local coordination), financing (for instance incentive structures), and information systems (for instance data reporting and feedback loops) influence CHW adoption, service delivery, and community trust. In doing so, the framework provides a holistic lens through which the programme's effectiveness can be analyzed and understood in relation to the broader goals of health system strengthening and universal health coverage (UHC). By grounding the study in the health system strengthening framework, this ensures a comprehensive analysis that captures not only the operational aspects of the CHW programme but also its systemic enablers and constraints within the Tanga Region health context. Despite its limitations of being too eclectic, it is still relevant in this context.

2.2 Empirical Review

2.2.1 Implementation Process of Revamped CHW Programme

The Community Health Workers (CHW) model has gained global recognition as a critical strategy for extending primary health services to underserved populations. As countries strive to achieve Universal Health Coverage (UHC) and the Sustainable Development Goals (SDGs), particularly SDG 3 on good health and well-being, CHWs have become integral to national health systems. Numerous studies across different contexts have explored the factors that contribute to the successful implementation and performance of CHW programmes. However, while several African countries such as Rwanda, Uganda, and Ethiopia have made considerable progress in professionalizing and scaling up CHW initiatives, there remains a relative gap in empirical studies focusing specifically on the revamped CHW programme in Tanzania. This literature review examines relevant empirical evidence aligned with the objectives of this study. It explores global, regional, national, and local insights into the implementation and performance outcomes of CHW programmes, with a particular focus on the Tanzanian context and Tanga Region. The review is structured around four key themes derived from the study objectives: implementation processes, adoption of CHWs, and community perceptions. Empirical literature shows that assessing CHW implementation requires examining structure (inputs), process (activities and fidelity) and management systems (supervision, reporting and logistics). Donabedian's structure–process–outcome framework and implementation-fidelity approaches are commonly used to organize such assessments (Donabedian, 1988; Carroll et al., 2007). Empirical studies repeatedly demonstrate that the presence and quality of four implementation inputs-standardized training, supportive supervision, reliable supplies/equipment, and clear role definitions/integration with health facilities are strongly associated with higher programme fidelity and better service delivery. For example, systematic reviews and multi-country syntheses found that CHW programmes that provide formalized pre-service training and ongoing refresher courses, combined

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with on-site mentoring, achieve higher adherence to protocols and more consistent household outreach (Perry et al., 2014; Kok et al., 2015). The WHO guideline on CHW programmes similarly emphasizes the need for these structural supports and recommends routine supervision and integration into health information systems to track implementation (WHO, 2018).

Globally, the success of Community Health Worker (CHW) programmes has been closely linked to structured and well-coordinated implementation frameworks. Perry et al. (2014) emphasized that CHWs perform effectively when the implementation includes standardized training, regular supervision, and the provision of adequate supplies. This is echoed in regional studies such as Ballard et al. (2017) in Kenya, where supportive supervision and consistent remuneration played a crucial role in aligning implementation with national health policies. In East Africa, Uganda and Rwanda have made substantial progress by embedding CHW systems within broader national strategies. Rwanda, in particular, offers a model of success with structured supervision and strong community linkages (Binagwaho & Scott, 2015). The CHW programme is guided by clear policies and operational frameworks, which ensures consistency and accountability in implementation. In Tanzania, the implementation of CHW programmes has evolved through various phases. The introduction of the revamped CHW programme sought to address earlier shortcomings through national-level guidelines emphasizing training, integration into local government structures, and results-based monitoring. Ferla et al. (2023), in their assessment of the Malezi Project, observed that implementation quality significantly improved when CHWs were equipped with digital tools and received regular supervisory visits. However, inconsistent application of national guidelines, especially in rural regions, created disparities in implementation fidelity. As the continuation of the 2014 CBH programme, the government produced CBHC Policy guideline 2020 that is in line with the National Health Policy 2020 and the CBHC Operational guideline 2020 and CBHC Strategic Plan 2020–2025 (URT, 2020). These guidelines are intended to (a) Guide stakeholders on the principles and rules of working with communities towards their active and dynamic involvement and promoting equity and demand for reform; (b) Provide policy guidance for incorporating community-driven health and social welfare interventions as an integral part of the formal health and social welfare system and, thereby, deliver the basic components of health and social welfare services package at the community level. The programme and its associated guidelines are set to achieve the following main objectives: generally, it aims to create sustainable and functional national community services for improving health and social well-being of all communities with a focus on those most at risk and to be more responsive to the needs of people. Specifically, (1) To establish a sustainable workforce of community health and social welfare volunteers with skills, knowledge and commitment to deliver CBH&SW services (2) To support the CBH&SW services through mobilization and optimized utilization of resources (3) To enhance delivery of community health and social welfare services that are fully integrated into existing systems and structures at all levels (4) To strengthen the capacity of health and social welfare structures for delivery and coordination of services at all levels (5). To strengthen community participation, ownership and sustainability mechanism of CBHSW services (6). To strengthen intersectoral collaboration to address cross-cutting issues for community health and social welfare. In the Tanga Region, although systematic evaluations are limited, anecdotal evidence and programme reports indicate mixed implementation quality, partly due to logistical bottlenecks and variations in local government commitment. This necessitates further study to understand whether and how national guidelines are being followed across different districts in the region.

Empirical studies indicate that well-supported CHW programmes can increase access to and utilization of primary health services particularly antenatal care, immunization and family planning through increased household contact, health education and active referral (Perry et al., 2014; Lassi et al., 2016). The magnitude of these effects, however, is strongly contingent on implementation fidelity (training, supervision, supplies). For this reason, this study triangulates CHW and community perception data with facility utilization indicators (ANC visits, immunization sessions) and tests associations between CHW activity intensity (visit frequency) and utilization outcomes to evaluate program impact in Tanga Region. Globally, CHW adoption into health systems has gained recognition as a cost-effective approach to extending primary health care to underserved populations. The WHO (2018) advocates for the integration of CHWs into national health workforces, noting that their effective adoption requires clarity in roles, sufficient support structures, and continuous engagement with health facilities. In regional contexts, such as Ethiopia, CHWs have been successfully adopted under the Health Extension Programme. According to Kok et al. (2015), this success was driven by institutional support, regular capacity-building, and strong community-government collaboration. In Rwanda, the adoption process was streamlined through centralized recruitment, structured training, and alignment with the health system's data reporting mechanisms (Binagwaho & Scott, 2015). In Tanzania, adoption of CHWs under the revamped programme includes their formal recognition as part of the health workforce and integration into the primary health care delivery framework. Sirili et al. (2022) found that successful adoption was linked to CHWs having clearly defined responsibilities and being embedded in local governance mechanisms. However, the same study reported that CHW adoption was weaker in areas where they lacked professional identity or regular interaction with health professionals. Locally, in Tanga Region, adoption appears variable, with some CHWs actively engaged in immunization, malaria campaigns, and maternal health follow-ups, while others face difficulties

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due to lack of integration with local health facilities. There remains a gap in empirical evidence specific to how CHWs are being adopted across various districts within Tanga, highlighting the need for localized assessment.

2.2.2 Community Perceptions of the Revamped CHW Programme Implementation

Community perception is a critical determinant of CHW performance. Globally, community acceptance and trust in CHWs have been linked to service quality, frequency of interactions, and cultural alignment. Studies by Ballard et al. (2017) and Perry et al. (2014) showed that CHWs who were community-based and had frequent contact with households were more positively received, leading to better health outcomes. In Rwanda, Binagwaho et al. (2014) reported that professionalized CHWs led to improved community trust, as they were seen as reliable sources of health advice and care, especially in remote areas. Similarly, in Uganda, community engagement strategies, including community dialogues and feedback sessions, helped to build ownership and reinforce the credibility of CHWs. In Tanzania, Sirili et al. (2022) underscored the importance of community perceptions in influencing CHW effectiveness. Communities that received regular visits and were engaged through outreach campaigns perceived CHWs as accessible, trustworthy, and impactful. Conversely, when CHWs were irregular or poorly resourced, communities expressed skepticism about their competence and value. In Tanga Region, preliminary reports from district health offices indicate that while some communities appreciate CHW efforts, especially in maternal and child health, others are frustrated by irregular visits or perceived lack of professionalism. There are little systematic research documenting community views across diverse demographic and geographic settings in the region.

III. METHODOLOGY

3.1 Research Design and Approach

The study adopted a mixed-methods approach with case study design because mixed method approach allows for triangulation of findings, improves validity, and captures both the scope (quantitative) and depth (qualitative) of the programme's implementation and outcomes. Empirical literature on CHW programme evaluation strongly recommends mixed methods because CHW performance depends on measurable structural indicators (training, supervision, supplies) and subjective human experience (motivation, community acceptance) (Perry et al., 2014; WHO, 2018; Kok et al., 2015). Quantitative data provided objective measures of programme performance, while qualitative data offered rich contextual understanding, exploring stakeholder experiences, challenges, and perceptions. This approach supports triangulation, improving the validity and depth of the evaluation. The qualitative approach was realized through in-depth, semi-structured interviews and focus group discussions conducted with key stakeholders including CHWs, community members, supervisors, and health officials. This approach explored themes such as training adequacy, supervision quality, community acceptance, and perceived programme effectiveness. The qualitative approach is essential for capturing the nuanced social and organizational dynamics influencing programme implementation. Quantitative methodologies especially **s**tructured surveys and programme monitoring data were used to quantify key indicators such as the number of household visits conducted by CHWs, referral rates to health facilities, frequency of supervision, and levels of community satisfaction. Quantitative analysis enabled measurement of coverage, frequency, and performance outcomes, facilitating objective assessment of programme achievements. These methods and approaches were used concurrently. Together, these approaches facilitated methodological triangulation and a robust understanding of both the 'how' and 'what' of CHW programme implementation.

3.2 Study Area

The study was conducted in the Tanga Region of Tanzania, focusing on three purposively selected districts namely Tanga, Pangani, and Handeni districts. These districts were chosen due to their active participation in the national revitalized CHW programme, as well as their representation of both rural and peri-urban settings. The diversity of the study area allowed for examination of contextual influences such as geographic accessibility, socio-economic factors, and health system variations, which may affect programme implementation and performance.

3.3 Target Population

The study population comprised all relevant stakeholders engaged with or benefiting from the CHW programme within the selected districts of Tanga Urban (District A), Pangani (District B) and Handeni (District C): Table 1 gives a summary of the target population. In this study community health workers (CHWs) are all frontline workers directly delivering health services at community under the revamped programme. While Health facility supervisors are personnel responsible for providing technical supervision, support, and oversight to CHWs. This category was preferred because they deal closely with the revamped CHW program. Community members are recipients of CHW services from the ages of 15years and above whose experiences provide critical insights into service accessibility, quality, and impact. Finally, District Health Officers and programme managers are officials involved in coordination, policy implementation, and resource allocation for the CHW programme.

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Table 1
Target Population in the Districts Studied

Description	District A	District B	District C	Total
Community Health Workers	290	66	115	471
Health Facility Supervisors	27	14	12	53
Community Members	282,863	50,946	67,010	400,819
District Health Officers & Program Managers	2	2	2	6
Total	**283,182**	**51,028**	**67,139**	**401,349**

Table 1 shows the total representation of the elements of Tanga, Pangani and Handeni Districts respectively from the listed categories the researchers used all administrators and sampled community health workers and community members.

3.4 Sampling and Sample Size

Using Yamane's formula (1967) for sample size determination from a finite population, a 95% confidence interval, and a margin of error of 5%, the minimum sample size was calculated using:

$$n = \frac{N}{1+N(e^2)}$$

Sample for district health officers of 6 were taken as it is since the population is very small. The allocated samples were finally proportionally distributed to the districts counts as presented in Table 2 where 70% were District A, 13% were District B and 17% were District C.

Table 2
Sample Size

Description	District A	District B	District C	Total
Community Health Workers	151	28	37	**216**
Health Facility Supervisors	27	14	12	**53**
Community Members	280	52	68	**400**
District Health Officers & Program Managers	2	2	2	**6**
Total	460	96	119	**675**

Three techniques were used to engage respondents for this study. First, stratified random sampling was used to select CHWs from each district proportional to their population size, ensuring representativeness and minimizing sampling bias. Second, purposive sampling was used to select key informants such as District Health Officers and supervisors based on their knowledge and role in programme implementation and selection of respondents from community members who were above 18 years of age. This approach was appropriate because it enabled the deliberate inclusion of information rich respondents who provided relevant knowledge and experience. The selection considered variation across urban and rural settings to capture diverse perspectives. Lastly, convenience sampling was used to engage community members who were accessible and willing to participate during data collection to capture beneficiary perspectives. This combination ensured both representativeness and relevance of quantitative and qualitative data collected. Households were selected through simple random sampling followed by the selection of every other fifth house in that order, until the number of houses were satisfied to have contained the number of households to administer the questionnaire were obtained.

3.5 Data Collection Methods and Tools

Both primary and secondary data were collected for this study. Primary data were collected through surveys and interviews; and secondary data were obtained from CHW reports and programme documents. Combination of Structured questionnaires, interview guides, and document review checklists was used. Questionnaires were administered to CHWs and community members to capture service delivery experiences. For CHWs, self-administered questionnaires were adopted where the researchers provided a questionnaire to be filled by the respondents themselves. This was appropriate because these CHWs are skilled and able to read and write. The researchers then collected the filled questionnaires after they were filled. For the community members, the researcher's administered questionnaires were used. These questionnaires were drafted in English and translated in Kiswahili language for easy enumeration. Semi-structured interviews were used to collect data from health officials and supervisors. These interviews were guided by interview guides. The researchers sat with health officials and supervisors, asked them questions and recorded their answers in the note books. This was an appropriate method because these respondents are difficult to engage because of their responsibilities. It was therefore appropriate to use

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interview guides for these types of respondents. To collect secondary data, a checklist of questions and items was developed and used to collect data from written reports and health information systems. Also, peer reviewed literature, health related policies, laws, projects and programmes were reviewed. Routine data on objective outcome measures recommended for triangulation, while documentary review strengthens validity by comparing perceptions with actual service trends. Research Assistants were adequately prepared before they went into the field. This ensured quality of the data in terms of reliability and validity. Training sessions were organized for the research assistants, the purpose of which was to introduce them to methods of collecting accurate data and community entry skills. The researchers checked daily on the questionnaires submitted to make sure that questionnaires are completely filled and recorded information made sense. A pilot study using a sample of twenty community members was selected from Muheza DC in Tanga Region. The pretest afforded the researchers the opportunity to assess the reactions of the respondents to the research procedures such as community entry and local protocols. The ability to understand the questions asked and ability of interviewers to ask the right questions and record them accurately was addressed in the pilot study. Regarding reliability, the internal consistency of survey instruments was evaluated using Cronbach's alpha, with a threshold of $\alpha \geq 0.7$ which was considered acceptable (Tavakol & Dennick, 2011). Consistency across qualitative data sources was enhanced by using standardized interview guides and careful transcription. Reliability was also checked as presented in Table 3. Utilizing multiple methods and sources strengthened credibility and confirmability of findings by triangulation.

Table 3

Reliability of the Instrument

Cronbach's Alpha		
Cronbach's Alpha	N of Items	Respondents
0.74	25	20

3.6 Data Analysis Methods

The data collected were analyzed in two phases using both descriptive statistics and inferential statistics. The first phase used frequencies and distribution tables which was used to group sample data of the implementation process and outcomes of revamped CHW programme. Quantitative data were coded, entered, cleaned, and analyzed by descriptive statistics using statistical package for social sciences (SPSS) software. For qualitative data, audio recordings were transcribed verbatim, translated where necessary, and analyzed thematically using manual coding. Emergent themes were identified through inductive and deductive coding aligned with research objectives.

3.7 Ethical Consideration

Ethical approval was sought from the Tanzanian research authorities. Participants were provided informed consent after being fully briefed on the study's purpose, procedures, risks, and benefits. Confidentiality was strictly maintained by anonymizing data and securely storing records. Participation was voluntary, with the option to withdraw at any time without penalty. Special care was taken to respect cultural norms and protect vulnerable populations involved in the study.

IV. FINDINGS & DISCUSSION

4.1 Demographic Characteristics

A total of 206 CHWs participated in the survey. Table 4 summarizes the key demographic characteristics of these respondents including age, sex, education level, years of service and district of work. Most respondents were relatively young. Up to 138 (66%) CHWs were aged 30 years or younger, and an additional 53 (25%) were between 31 and 40 years. This youthful composition mirrors trends in several CHW programmes across sub-Saharan Africa, where governments deliberately recruit younger cadres who are easier to train, deploy, and retain in community-based roles (Perry et al., 2014; Nyamtema et al., 2019). While younger CHWs often bring energy and adaptability to new interventions, empirical studies caution that limited experience may affect initial performance, particularly in sensitive tasks such as maternal health counselling and disease surveillance (Frumence et al., 2019). Sex distribution was approximately equal, with 100 (48.5%) males and 106 (51.5%) females. Balanced sex distribution is beneficial for community outreach because male CHWs may be more accepted in the context of African culture in some contexts for sanitation or environmental tasks, whereas female CHWs are generally more effective in maternal, newborn, and child health (MNCH) services due to cultural norms surrounding reproductive health (Kok et al., 2015). Regarding education level, the largest group had completed secondary education (93 respondents, 45.1%), followed by those with a certificate (73 respondents, 35.4%). Literature suggests that CHWs with at least secondary-level education demonstrate better comprehension of training content, improved documentation skills, and higher confidence when interacting with community members (Bhutta et al., 2010). In terms of experience, about half of the CHWs (172,

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83.4%) had one year of service or less, indicating many were new to the role. A smaller number (26, 12.6%) had four or more years of experience. While short tenure may limit accumulated field competence, studies show that early intensive supervision and structured mentorship can mitigate initial experience gaps and accelerate proficiency (Glenton et al., 2021). Their work experience is often a key determinant of their effectiveness, influencing the outcomes of health programs and community engagement efforts. Related studies consistently highlight several areas where CHWs experience enhances health interventions. Studies by Frumence et al. (2019) and Perry et al. (2014) demonstrate that experienced CHWs are more proficient in disease surveillance and some reported not wanting to tell young female CHW without prior experience. Finally, most CHWs were based in the Tanga City Council area (151 respondents, 73.3%), with only a few in Pangani DC (28, 13.6%) and Handeni TC (27, 13.1%).

Table 4

Features of CHW Respondents (N=206)

	Category	Frequency (n)	Percent (%)
Age	≤ 30	138	66%
	31–40	53	25%
	41–50	9	4%
	≥ 51	5	2%
Sex	Male	100	48.5%
	Female	106	51.5%
Education	Primary	1	0.5%
	Secondary	93	45.1%
	Certificate	73	35.4%
	Diploma	27	13.1%
	Degree	12	5.8%
Work experience (years as CHW)	≤ 1 year	172	83.4%
	2–3 years	8	3.8%
	≥ 4 years	26	12.6%
District	Tanga CC	151	73.3%
	Pangani DC	28	13.6%
	Handeni TC	27	13.1%

4.1.1 Health Facility Supervisors Work Experience

Table 4 presents the results of experience of participants. The facility supervisors N=53 had 1-3 years' experience overseeing CHWs, consistent with the timeline of the revamped programme most were based in Tanga City. The responses were largely open-ended. Supervisors described key roles including coordination of CHW activities, field supervision, report verification and community outreach linkages. The key points are summarized thematically. Supervisors described roles such as coordinating CHW activities, linking CHWs with health services, conducting community outreach, providing supportive supervision, and facilitating access to resources. These functions are crucial for maintaining fidelity to the programme's implementation guidelines, ensuring quality service delivery, and supporting CHWs in their field activities. Studies from sub-Saharan Africa demonstrate that frequent, structured, and supportive supervision enhances CHW motivation, improves adherence to protocols, and ensures accurate reporting of health indicators (Nyamtema et al., 2019; Gadsden et al., 2021). Similarly, evidence from Uganda and Rwanda shows that supervisors who are actively engaged in mentoring, performance feedback, and logistical support significantly contribute to higher CHW performance and greater community trust (Binagwaho & Scott, 2015; Glenton et al., 2021). Supervisors serve as a critical component of the health workforce building block. According to WHO's Health Systems Strengthening (HSS) framework, a well-performing health workforce requires adequate training, clear roles, supportive management, and continuous supervision. The findings and literature suggest several important implications. Primarily, health facility supervisors need ongoing training in supportive supervision, mentoring, and performance evaluation to enhance CHW performance. Secondly, supervisors require adequate transport, communication tools, and operational resources to conduct field visits regularly, as lack of support reduces their ability to provide effective oversight.

4.1.2 Community Members' Demographics

A total of 398 community members participated in the survey. Table 5 summarizes the key demographic characteristics of these respondents, including age, sex, education level, and district of residence. Most respondents were predominantly young. A total of 145 (36.4%) were aged 30 years or younger, and an additional 100 (25.1%) were between 31 and 40 years. This age structure aligns with Tanzania's national population distribution, where youth comprise a significant proportion of the population, and has important implications for CHW programme engagement. Younger populations are generally more responsive to health promotion efforts, particularly in areas such as

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reproductive health, maternal and child health, and hygiene practices, which are core components of CHW responsibilities. Sex distribution was approximately equal, with 185 (45.9%) males and 218 (54.1%) females. The slightly higher proportion of female respondents reflects patterns observed in other community-based health studies, where women tend to participate more readily in health surveys due to their central role in household health care–seeking and caregiving (Nyamhanga et al., 2014). Regarding education level, the largest group had completed primary education (163 respondents, 40.4%), followed by those with secondary education (135 respondents, 33.5%). This corresponds with regional statistics and suggests that CHW health education strategies must be tailored to varying literacy levels to ensure effective communication and understanding of key health messages. Geographical distribution shows that most community respondents were from Tanga City Council, mirroring the distribution of CHWs and reflecting the area's larger population density and stronger health system presence compared to Pangani and Handeni. Empirical literature underscores that urban and peri-urban populations often have more frequent contact with CHWs and higher awareness of health services than rural and remote populations (Kok et al., 2015; Bhutta et al., 2010). Within the Health Systems Strengthening (HSS) framework, these demographic characteristics directly relate to the service delivery and community engagement components, highlighting the importance of context-specific strategies in CHW operations. The implications of these findings suggest that while the CHW programme is well-positioned to reach broad segments of the population, special attention may be needed in districts with smaller or more dispersed populations to ensure equitable coverage, tailored community mobilisation strategies, and strengthened outreach mechanisms.

Table 5

Characteristic of Community Members (N=398)

Characteristic	***Category***	***Frequency (n)***	***Percent (%)***
Age	≤30	145	36.4%
	31–40	100	25.1%
	41–50	71	17.9%
	≥51	82	20.6%
Sex	Male	185	45.9%
	Female	218	54.1%
Education	Primary	163	40.4%
	Secondary	135	33.5%
	Certificate	42	10.4%
	Diploma	26	6.5%
	Other	37	9.2%
District	Tanga CC	280	69.5%
	Pangani DC	77	19.1%
	Handeni TC	46	11.4%

4.2 Implementation process of the revamped CHW programme in Tanga region

The results presented in Table 6 provides CHWs' reports on training, supervision, and reporting. The results cover formality of training, adequacy and supervision and reporting aspects.

4.2.1 Training of CHW programme

Table 6 presents the results of training and adequacy of training in the study area. Nearly all respondents (201 of 206, 97.6%) reported receiving formal training under the revamped CHW programme. Of those trained, the majority rated the training positively: 128 (62.1%) found it very adequate, 22 (10.7%) were neutral, and just 3 (1.5%) rated it inadequate. Overall, about 87.3% of the trained CHWs considered the training adequate to very adequate. This is encouraging, given experts' emphasis on continuous training for quality CHW performance (Zulu et al., 2025). Indeed, the literature stresses that "improved and innovative training approaches" can enhance CHW effectiveness (Zulu & Perry, 2021). This high level of coverage and satisfaction with training suggests that the revamped CHW programme has successfully operationalized one of its core implementation components. These findings align with Sirili et al. (2022), who emphasized that continuous, standardized training enhances CHW competency, confidence, and retention. CHWs who rated their training as adequate or very adequate were significantly more likely to be satisfied with the programme. This finding echoes broader evidence that supportive training and incentives are key drivers of CHW motivation (Zulu & Perry, 2021; Zulu et al., 2025).

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Table 6

Implementation Related Variables (N=206)

Variable	Category	n	%
Received formal training	Yes	201	97.6%
	No	5	2.4%
Training adequacy (if trained)	Very adequate	128	62.1%
	Adequate	52	25.2%
	Neutral	22	10.7%
	Inadequate/Very inadequate	4	2%
Regular supervision	Yes	191	92.7%
	No	15	7.3%
Reporting frequency	Weekly	43	20.9%
	Monthly	150	72.8%
	Quarterly	10	4.9%
	Never	3	1.5%

4.2.2 Supervision

Table 6 presents the results of supervision. It was found that most CHWs (191 of 206, 92.7%) reported receiving regular supervision from health authorities, while 15 (7.3%) indicated they do not receive regular supervision. Regular supervision likely reflects the support structures established under the revamped programme. The level of satisfaction rates was similarly high regardless of supervision status, possibly because the vast majority of CHWs (92.7%) already received supervision. This finding aligns with empirical studies showing that consistent supervision enhances accountability, reinforces skill retention, and improves motivation among CHWs (Perry et al., 2014; Kok et al., 2015). In other settings, lack of supervision and resources are common barriers (Zulu & Perry, 2021), though respondents in this study reported being supervised. Within the Health Systems Strengthening (HSS) framework, effective supervision is a critical component of the health workforce building block, ensuring that frontline workers are adequately supported, mentored, and integrated into the formal health system**.** Effective supervision is also identified in the World Health Organization's (WHO, 2020) CHW guidelines as a key determinant of performance and motivation. The regular supervisory contact reported in this study reflects good programme adherence and may partly explain the high levels of satisfaction and perceived success among CHWs. However, qualitative responses revealed that supervision frequency varied by location and was sometimes constrained by transport and funding limitations. This variation suggests that while structures for supervision exist, their consistent execution depends on available resources and managerial capacity an issue echoed in previous evaluations of Tanzanian CHW programmes (Mboera et al., 2021). These constraints highlight gaps in the financing and leadership/governance building blocks of the HSS framework, which are essential for enabling consistent field-level oversight. The implications are clear, while supervision structures exist, their effectiveness depends heavily on district-level resource allocation and managerial capacity. Strengthening transport support, providing adequate supervisory allowances, and standardizing supervision schedules are therefore critical to sustaining CHW performance and maximizing programme outcomes.

4.2.3 Supervision Frequency

Table 6 presents the results of supervision frequency. It was found that responses varied on this aspect: Some supervisors reported minimal support (for instance., "No resources available"), while others mentioned sporadic allowances and tools (for instance., "monthly allowances, bicycles, rain boots"). Several noted chronic underfunding ("Payment is done but there is not enough budget to fund this group"). This reflects literature indicating that CHW programmes in low- and middle-income countries often struggle with inadequate funding. The study findings indicate that supervision frequency ranged from daily to monthly, reflecting inconsistency largely dependent on staff availability. Empirical literature underscores the critical role of regular, structured supervision in supporting CHW performance. Conversely, irregular supervision has been associated with diminished CHW performance, lower morale, and reduced programme fidelity, particularly in rural and resource-constrained settings where logistical constraints limit field oversight. Within the HSS framework, supervision represents a core component of the health workforce building block, emphasizing the need for effective management, mentorship, and performance monitoring. Inconsistent supervision, as observed in the Tanga Region, reflects gaps in workforce support and managerial capacity, potentially undermining CHW motivation and service quality. Empirical evidence suggests that standardized supervision schedules, supported by adequate transport, communication tools, and logistical planning, enhance CHW motivation, service quality, and retention (Binagwaho & Scott, 2015; Nyamtema et al., 2019). Therefore, operational

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strategies should prioritize the establishment of consistent supervisory schedules, integrating both district-level oversight and facility-level mentorship to maximize the effectiveness of the revamped CHW programme.

4.2.4 Reporting Frequency and Workload

Table 6 indicates that frequency of data reporting to supervisors varied: 150 CHWs (72.8%) reported monthly, 43 (20.9%) weekly, 10 (4.9%) quarterly, and only 3 (1.5%) reported never submitting data (Table 6). This pattern reflects both the flexibility and the inconsistency of reporting structures within the CHW programme. Empirical literature emphasizes that regular, standardized reporting is essential for effective monitoring, decision-making, and accountability in community health programmes (Perry et al., 2014; Kok et al., 2015). Within the HSS framework, timely and accurate data flow is essential for improving service delivery efficiency and tracking health indicators. The variations observed in this study suggest gaps in either supervisory enforcement, resource availability (e.g., forms, registers), or CHW workload balance. On average, CHWs visited about 24 households per week (mean = 24.17, SD = 15.6, n = 202); however, responses ranged widely (4 to 100 households), indicating variability in workload and possibly local context. This indicates a substantial workload, consistent with the programme's design to reach multiple families per week. However, excessive workloads, particularly among CHWs visiting more than 50 households weekly, may lead to fatigue, reduced service quality, and eventual burnout. According to the HSS framework, an overburdened health workforce undermines service delivery and compromises quality of care. The implication for policy and management is that reporting structures must be standardized and adequately supported through training, simplified digital tools, and consistent supervision.

4.2.5 Services Provided

The findings show that CHWs provide a broad range of essential community-based services. Table 7 presents that the majority (153 of 206, 74.2%) reported providing health education to the community. Other commonly reported activities included maternal/child health follow-up (90, 59%), home-based care (83, 54%), referrals (69, 45%), and mobilization for immunizations (66, 43%). These figures confirm that health education and maternal/child health support are the primary focus of CHWs under the current programme. Empirical literature consistently emphasizes that CHWs who are actively involved in health education and maternal–child health support significantly contributes to improved care-seeking behavior, increased immunization uptake, and enhanced community awareness on key health issues (Perry et al., 2014; Kok et al., 2015; Nyamtema et al., 2019). Similar evidence from Ethiopia's Health Extension Programme and Rwanda's CHW model demonstrates that these core activities form the backbone of effective community-level primary healthcare delivery, especially in underserved populations. From the perspective of the Health Systems Strengthening (HSS) framework, the range of services provided by CHWs directly reflects the functioning of the service delivery and health workforce building blocks. CHWs serve as essential links between households and health facilities, facilitating referral pathways and bridging information gaps, thereby strengthening community engagement and continuity of care. The strong involvement of CHWs in preventive services also aligns with HSS goals of improving equity, access, and coverage of essential health services at the community level. The implications of these findings are significant: ensuring sustained training, reliable supplies, and consistent supervision is crucial for maintaining high-quality service delivery. Furthermore, the prominence of maternal, child health, and health education activities suggests that continued investment in these areas could amplify improvements in community health outcomes. Strengthening support systems including logistics, reporting tools, and community engagement structures will enable CHWs to fulfill their mandated roles effectively and contribute to broader health system performance and Universal Health Coverage (UHC) goals.

Table 7

Services Regularly Provided by CHWs

Service	n	% of Respondents
Health education	142	93%
Maternal/child health follow-up	90	59%
Home-based care	83	54%
Referrals (to clinics/hospitals)	69	45%
Immunization mobilization support	66	43%

The findings from health facility interviews presented in Table 8 highlight variation in CHW recruitment and training, where some supervisors reported transparent, community-based selection processes, while others indicated they had "no idea" how CHWs were chosen. This inconsistency mirrors empirical literature from Tanzania and other Low and Middle-Income Countries (LMICs) showing that weak standardization in CHW recruitment leads to disparities in competency, accountability, and community acceptance (Frumence et al., 2019; Mboera et al., 2021). Training, although widely available, was described as uneven in quality and duration, echoing studies that emphasize

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the need for structured, competency-based training to enhance CHW performance and confidence. Supervision emerged as a core implementation component but was often irregular, primarily due to funding limitations and logistical challenges such as long distances and limited transport. This pattern reflects common barriers documented in CHW programmes across sub-Saharan Africa, where insufficient supervisory resources undermine programme effectiveness (Glenton et al., 2021; Zulu & Perry, 2021). From an HSS perspective, these challenges map onto several system building blocks: health workforce, where supervisors require adequate skills and time to mentor CHWs; financing, as irregular allowances and insufficient budgets hinder supervision and CHW motivation; and service delivery, where weak oversight affects consistency and quality of community-level services. Notably, partner support such as training and allowances provided by AMREF, was cited as beneficial but temporally limited, raising sustainability concerns once external funding ends. The qualitative findings therefore underscore the need for stronger institutionalization of recruitment, standardized training, and predictable supervision systems. Strengthening these areas is essential not only for improving CHW performance but also for reinforcing the broader health system's capacity to deliver equitable, high-quality community-based services.

4.2.6 Program Outcomes

Table 8 presents results of CHW programme. It was found that supervisors cited improvements in community uptake of services due to CHWs, including increased antenatal clinic attendance, higher immunization coverage, and greater health awareness. One supervisor noted, "increased awareness in services provided" and in Antenatal Care (ANC) visits and family planning (FP) services." These comments align with the CHWs' own reports and with CHW roles documented elsewhere. Empirical literature consistently demonstrates that CHWs significantly improve service utilization and preventive health behaviors when adequately trained and supported (Perry et al., 2014; Kok et al., 2015; Nyamtema et al., 2019). Within the Health Systems Strengthening (HSS) framework, these findings correspond to the effective functioning of the health workforce and service delivery building blocks, whereby CHWs serve as critical links between communities and health facilities, ensuring accessibility, acceptability, and coverage of essential services. The implications are clear, that sustained improvements in maternal and child health indicators require continued investment in CHW capacity building, supportive supervision, and logistical support. Ensuring these structural and operational supports will maintain high CHW performance, reinforce service delivery effectiveness, and contribute to broader health system goals such as enhanced coverage, quality, and equity in primary health care services.

Table 8

Summary of Themes from Health Facility Interviews on CHW Implementation

Objective	**Theme**	**Subtheme**	**Illustrative Quote (Lightly Edited)**	***Interpretation / Meaning***
1. To assess the implementation process of the revamped CHW programme	Roles and responsibilities	Supervisory functions	"I supervise daily routines and link community activities with the facility." — Supervisor, Tanga CC	Supervisors act as intermediaries between CHWs and health facilities, ensuring coordination and oversight.
		CHW duties	"I help promote health services and coordinate CHW activities." — Supervisor, Handeni TC	CHWs play key roles in community mobilization and health promotion.
	Selection and training	Community-based selection	"Selection was by voting at village meetings; then they were deployed to work in their hamlets." — Supervisor, Pangani DC	Transparent community selection promotes acceptance and ownership.
		Inconsistent recruitment	"No idea, I just found them." — Supervisor, Handeni TC	Variation in selection undermines uniformity and accountability.
		Training and capacity building	"Training is done through colleges by short courses." — Supervisor, Tanga CC	Training strengthens CHW skills but varies in quality and consistency.
	Supervision	Frequency and approach	"Supervision depends on availability of funds; when funds are available, we do monthly supportive supervision." — Supervisor, Pangani DC	Supportive supervision exists but is irregular due to financial constraints.
	Resources	Financial limitations	"Payment is done but there is not enough budget to fund	Limited and delayed allowances affect CHW motivation.

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			this group." — Supervisor, Tanga CC	
		Partner support	"Amref provides training and monthly allowances during their three-year project." — Supervisor, Pangani DC	External support sustains the programme temporarily but raises sustainability concerns.
	Supervisory challenges	Logistics and workload	"Distance and lack of funds reduce ability to follow up referrals." — Supervisor, Tanga CC	Supervisors face mobility and workload barriers that limit oversight.

In summary, Table 8 presents the results that indicate almost all CHWs received training and most were supervised regularly. They devoted most effort to health education and maternal/child health tasks. The main implementation bottlenecks were delayed remuneration and insufficient supplies. Overall, the most notable finding is that training adequacy strongly predicts CHW satisfaction. These results highlight the importance of effective training in maintaining CHW engagement and positive attitudes.

4.3 Community Perceptions of the Revamped CHW Programme Implementation

Table 9 presents the results of community perception on satisfaction. Community feedback was overwhelmingly positive: Up to 100% rated CHW services as 'good' or 'very good.' Frequent CHW contact was reported to be good. This indicates that community engagement frequency directly influences perceived service quality, supporting the health system strengthening framework as critical determinants of program success (Rifkin, 2018). Participants reported improvements in sanitation, health knowledge, and child health illustrating the broader social impact of the CHW initiative. However, community suggestions for better-equipped CHWs (e.g., diagnostic kits) imply a demand for expanding CHWs' functional capacity beyond education and referral. From the HSS framework perspective, strong community satisfaction reflects effective functioning of the service delivery and community engagement components of the health system. CHWs act as a critical interface between communities and formal facilities, and their positive reception indicates that the programme is succeeding in improving access, communication, and continuity of care at the household level. The reported gains in sanitation, child health, and health knowledge further illustrate how community-based health interventions can produce broader social and behavioral benefits. However, community suggestions for better-equipped CHWs such as diagnostic kits and more tools highlight gaps in the health workforce and medical products/supplies building blocks. These insights imply that while the programme is performing well relationally, its operational effectiveness could be strengthened by expanding CHWs' functional capacity and ensuring adequate supplies. Investing in equipment, training, and expanded CHW scope could therefore reinforce community trust and extend the impact of the programme on health outcomes.

4.3.1 Training Perceived Outcomes

Table 9 presents the results of training outcomes. The researchers examined whether CHW training and other factors were associated with satisfaction and perceived outcomes. The majority of CHWs received training and that almost all respondents reported improvement in the practices. CHWs who rated their training as adequate or very adequate were more likely to be satisfied with the programme. The interview indicated satisfaction of the programme. For example, among those training was considered as very adequate, 96% were satisfied, compared to much lower satisfaction in the neutral/inadequate group. This indicates that perceptions of training quality are linked to overall programme satisfaction.

4.3.2 Education Satisfaction

Table 9 presents the results of education outcomes of the programme. It was found that education attainment was also related to satisfaction. CHWs with diplomas or certificates reported higher satisfaction rates than those with only secondary schooling or higher degrees. (For instance, all diploma-holders in our sample reported satisfaction, whereas bachelor-level CHWs were less uniformly satisfied.) The pattern suggests that background education may influence expectations or perceptions of the programme's support.

4.3.3 Supervision Satisfaction

Table 9 presents the results of CHW programme outcomes. It was found that no clear linkage was found between regular supervision and CHW satisfaction. Satisfaction rates were similarly high regardless of supervision status, possibly because most CHWs already received supervision. Empirical literature similarly shows that while supervision is an important determinant of CHW performance, its effects on satisfaction are more pronounced when supervision is either extremely weak or absent (Glenton et al., 2013; Kok et al., 2015). In settings where baseline supervision is already relatively routine, other factors, such as training adequacy, community appreciation, and

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intrinsic motivation, tend to have a stronger influence on satisfaction. Viewed through the Health Systems Strengthening (HSS) framework, supervision belongs to the leadership and governance building block, which plays a critical role in ensuring accountability, feedback, and performance support. The absence of a strong link does not diminish its importance; rather, qualitative findings in this study highlighted irregular supervisory frequency, transport limitations, and resource constraints as persistent barriers. These challenges suggest that although supervisory structures exist, their quality and consistency vary considerably. The implication for programme sustainability is that improving the intensity and quality of supportive supervision, rather than simply increasing its presence, may yield stronger performance outcomes.

4.3.4 Satisfaction Outcomes Experienced

Table 9 presents the CHW implementation outcomes. The number of households visited by satisfied vs. neutral/dissatisfied CHWs showed satisfaction among participants. Overall, the most notable finding is that training adequacy strongly predicts CHW satisfaction. Other aspects (education, supervision) had smaller or no linkage. These statistical results highlight the importance of effective training in maintaining CHW engagement and positive attitudes. Most CHWs reported that they had observed improvements in community health outcomes since the program revamp. Among these, the area's most frequently noted were child immunization, sanitation/environmental hygiene, maternal health, and family planning. Fewer CHWs cited other domains. These perceived gains especially in immunization and maternal/child health, are consistent with the intended focus of CHW activities. (CHWs' open-ended comments suggested improvements such as better antenatal care attendance, referral uptake, and general health awareness). These findings are consistent with established theory and empirical evidence. The health system strengthening framework suggests that when at intervention is delivered as intended it leads to distal health outcomes changes. These findings echo prior evaluations showing that CHWs, when adequately supported can improve preventive service coverage and maternal child health indicators (Perry et al.; 2014 Kok et al., 2015). CHW satisfaction was found to be linked to training adequacy. Although satisfaction was high, challenges like delayed incentives highlight the tension between motivation and resource constraints. Studies in similar contexts conducted in Ghana and Uganda show that intrinsic motivators sustain CHW performance in the short term, but without consistent extrinsic support, attrition rates rise (Glenton et al., 2021). The majority of CHWs provided health education, and over half engaged in maternal and child health follow-ups, home-based care, and immunization mobilization. These activities correspond directly with Tanzania's primary healthcare priorities and the Health Sector Strategic Plan (HSSP V, 2021–2026), which emphasizes community-level preventive services. The frequency of household visits (averaging 25 per week) indicates strong community engagement. This intensity of outreach aligns with findings from Nyamtema et al., (2019), who reported that regular CHW interactions improve early care-seeking and adherence to preventive health measures.

Table 9

Summary of themes from Health facility on CHW Implementation Outcomes

Objective	Theme	Subtheme	Illustrative Quote (Lightly Edited)	Interpretation / Meaning
2. To evaluate the outcomes of the programme on access and utilization of primary healthcare services	Service access	Increased referrals	"We have seen an increase in referrals from the community to the health facility." — Supervisor, Tanga CC	CHWs successfully improve linkage between community and facility services.
		Improved service uptake	"CHW activities have helped increase ANC attendance and immunization coverage." — Supervisor, Handeni TC	CHW work enhances utilization of preventive and maternal health services.
	Community awareness	Behavior change	"Community cooperation and training have improved awareness and therefore utilization." — Supervisor, Pangani DC	Health education by CHWs fosters positive health-seeking behavior.
	Monitoring	Use of indicators	"Yes, we track referrals." — Supervisor, Handeni TC	Outcome measurement exists but lacks standardization.

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V. CONCLUSION & RECOMMENDATIONS

5.1 Conclusion

In conclusion, the study demonstrates that the revamped CHW program in Tanga Region has achieved high levels of implementation fidelity, positive community outcomes, and general stakeholder satisfaction. The alignment between CHW, supervisor, and community perspectives reflects the strength of the program's training and community engagement components. Nonetheless, operational challenges particularly inadequate incentives and supplies threaten long-term sustainability. Strengthening logistical and financial support mechanisms will be essential to sustain performance and morale. Overall, the findings affirm that the CHW plays a critical role in strengthening primary health care and Tanzania's goal of achieving universal health coverage. The success of the program demonstrates the potential of community-based strategies to improve health access and outcomes when effectively supported.

5.2 Recommendations

Considering the findings and conclusions, this study makes the following recommendations with respect to the implementation process and outcomes of the revamped CHW programme in Tanga Region, Tanzania. The Government and health partners should institutionalize regular incentives and allowances to sustain CHW motivation. Consistent remuneration is essential for maintaining CHW engagement and reducing attrition, which often undermines programme continuity. Strengthening the provision of basic working tools such as CHW kits, reporting forms, and protective gear is critical for enabling CHWs to fulfill their roles effectively and safely. Enhancing supervisory capacity is equally important. Supervisors require reliable transport, communication support, and structured feedback mechanisms to deliver regular, supportive supervision that reinforces performance and accountability. Greater community participation in CHW recruitment, monitoring, and evaluation should be encouraged, as this fosters trust, strengthens local ownership, and promotes the long-term sustainability of the programme. To underpin all these measures, regional and district authorities should allocate dedicated budgets specifically for CHW programmes, ensuring that resources for incentives, supplies, and supervision are consistently available rather than dependent on ad hoc funding cycles. Collectively, these measures can significantly strengthen the effectiveness and resilience of the CHW programme in Tanga Region and beyond.

Declaration of Interest

The authors declare that they do not have any known competing financial interests or personal relationships that could have appeared to influence the work reported in this paper.

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