ACCELERATING HEALTH ACCESS:

HOW BUFFALO BICYCLES EMPOWER CHEWS IN UGANDA

Full Report | May 14, 2025

BUFFALO BICYCLES

WORLD BICYCLE RELIEF®

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Thank you.

EXECUTIVE SUMMARY

World Bicycle Relief (WBR) operating as Buffalo Bicycles Uganda in Uganda, is a non-profit social enterprise that works globally in underserved markets, where millions lack reliable transportation. By providing access to affordable, purpose-built bicycles and trained mechanics and bicycle components, WBR empowers individuals and communities with greater independence and improved outcomes in healthcare, education, and economic opportunities so they can thrive. WBR efforts focus on empowering women and girls, youth, and marginalized communities.

As part of its efforts to professionalize community health workers, the Ministry of Health in Uganda launched the Community Health Extension Workers (CHEWs) program in 2022. In September 2023, World Bicycle Relief (WBR) partnered with the Ministry of Health to equip 331 CHEWs in Lira and Mayuge districts with Buffalo Bicycles, aiming to address the mobility constraints faced by CHEWs. In November 2024, WBR and MoH undertook an assessment to evaluate the impact of Buffalo Bicycles on community health work. Through this assessment, the team collected quantitative data through two surveys (conducted at six months and after one year) and qualitative data through focus groups discussions and key informant interviews. CHEWs shared their perspectives on the how the bicycles had impacted their work and livelihoods, and on quality and durability of the Buffalo bicycles.

KEY FINDINGS FROM THE ASSESSMENT:

- Commonly nicknamed the "village doctors", by community members, CHEWs undertake a variety of work including conducting health education, referring sick patients to health facilities, and mobilizing pregnant women to attend antenatal care (ANC), among others.
- Buffalo Bicycles are now the main mode of transportation for the vast majority (95%) of CHEWs. Prior to receiving bicycles, 58% of CHEWs primarily walked to deliver services.
- Most CHEWs use Buffalo bicycles four out of five days they work, with 60% using them every working day.
- Nearly two thirds (61%) of CHEWs reported expanding their service reach after receiving Buffalo Bicycles. The longest distances travelled by CHEWs increased by 68% post-bicycle distribution.
- Buffalo bicycle usage has reduced travel time to health facilities by 47%.
- There was a 108% increase in the number of the number of households served by CHEWs.
- Bicycle usage has led to significant reduction in transport costs, with CHEWs recording a 61% decrease in transport expenditure.
- Close to three quarters (71%) of CHEWs reported using their Buffalo Bicycles to transport sick patients to health facilities.
- More than two thirds (69%) of CHEWs reported spending more time with clients after receiving the Buffalo Bicycle.
- Use of Buffalo Bicycles has reduced time spent travelling and enabled CHEWs to better balance their community health work with family responsibilities, improving household food security, income levels, and spending on essential needs.
- 95% of CHEWs reported an increase in monetary savings since receiving the Buffalo Bicycles, primarily due to the reduced transport expenses.
- CHEWs perceive Buffalo Bicycles as high quality and durable. More than three quarters (77%) had not needed to replace any spare parts more than12 months after bicycle receipt. Additionally, spending on repairs and/or mechanic fees was low, with an average three-month expenditure of UGX5136.9 (approx. US$1.4).

These findings reinforce the need to expand bicycle access to more community health workers like CHEWs, in order widen their reach and deepen impact.

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ACRONYMS

ANC	Antenatal Care
BBU	Buffalo Bicycles Uganda
BCG	Bacillus Calmette Guerin
CHEWS	Community Health Extension Workers
CHO	City Health Officer
CHW	Community Health Workers
DHE	District Health Educator
DHIS	District Health Inspector
DHO	District Health Officer
DLG	District Local Government
FGD	Focus Group Discussion
HC II	Health Centre II
HC IV	Health Centre IV
HCIII	Health Centre III
KII	Key informant Interview
LC. I	Local Council I
LC.III	Local Council III
LG	Local Government
M&E	Monitoring and Evaluation
MOH	Ministry of Health
MOU	Memorandum of understanding
RCT	Randomized Controlled Trial
VHT	Village Health Teams
WBR	World Bicycle Relief

SECTION ONE: BACKGROUND

INTRODUCTION

Globally, rural mobility challenges include limited infrastructure and lack of accessible, affordable and reliable transportation. These challenges are often inter-twined with or exacerbated by broader challenges affecting rural communities including socio-economic factors like multi-dimensional forms of poverty and limited access to education, healthcare and other essential services. Mobility challenges affect one billion people living in rural, remote and underserved areas across the globe. In these contexts, walking is often the primary mode of transport. Women and girls, youth, and marginalized groups are disproportionately affected: they frequently spend long hours walking long distances, often under challenging or unsafe conditions, to access vital services and resources such as healthcare, markets, water, food, and education. In Uganda, a significant proportion of the population (73% in 2023) reside in rural areas.[1] Furthermore, nearly 50% of the rural population live within 2 km of a paved road.[2]

Founded in 2005, World Bicycle Relief (WBR) works globally in underserved markets, where millions lack reliable transportation. Buffalo Bicycles Uganda (BBU) is a subsidiary of WBR. By providing access to affordable, purpose-built bicycles and trained mechanics and bicycle components, WBR empowers individuals and communities with greater independence and improved outcomes in healthcare, education, and economic opportunities so they can thrive. WBR efforts focus on empowering women and girls, youth, and marginalized communities. WBR is a non-profit social enterprise dedicated to addressing mobility poverty at scale through a sustainable bicycle ecosystem. At the core of this solution is the Buffalo Bicycle — a durable, gender-inclusive mobility tool built to withstand rugged rural conditions, with a sturdy frame and a 100kg carrying capacity. To ensure long-term usability, WBR has established a comprehensive support system, including local assembly, a network of trained mechanics, and a reliable bicycle component supply chain through retail shops and dealers. In Uganda, WBR operates seven Buffalo Bicycle retail shops and two mobile shops, plus more than 15 mechanic outlets for spare parts.

The impact of the Buffalo Bicycles has been profound. For example, a randomized controlled trial (RCT) among female students in Zambia found that Buffalo Bicycles reduced absenteeism by 28%, improved punctuality by 66%, and increased both safety levels and feelings of empowerment.[3] Among adults, a recent RCT in Zambia showed that those with Buffalo Bicycles recorded 43% higher income, 24% higher consumption, had 12% higher dietary diversity levels, and were 36 percentage points more likely to access healthcare when needed compared to those without the bicycles.[4]

[1]The World Bank Group. 2025. Rural population (% total population). **https://data.worldbank.org/indicator/SP.RUR.TOTL.ZS**

[2]The World Bank (Transport &ICT). 2016. Measuring Rural Access: Using New Technologies. Washington DC: World Bank. **https://documents1.worldbank.org/curated/en/367391472117815229/pdf/107996-REVISED-PUBLIC-MeasuringRuralAccessweb.pdf**

[3]Fiala, Nathan and Garcia-Hernandez, Ana and Narula, Kritika and Prakash, Nishith, Wheels of Change: Transforming Girls' Lives with Bicycles (2022). CESifo Working Paper No. 9865, **http://dx.doi.org/10.2139/ssrn.4175822**

[4]IDinsight. 2024. Mobilized Communities Impact Evaluation. **https://worldbicyclerelief.org/idinsight/**

ASSESSMENT BACKGROUND

To align with the goals outlined in Uganda Vision 2040, the health sector aims to create a population with optimal health and productivity, thus enabling significant contributions to the country's economic development. Health education, promotion, and disease prevention are top priorities. With 75% of the disease burden in Uganda being preventable,[5] it is essential that communities have access to adequate information on disease prevention, early diagnosis, and ongoing support for disease management and recovery. This underscores the need for a primary health care system that is people-centred and addresses needs and preferences along the continuum of care — from health promotion and disease prevention to treatment, rehabilitation and palliative care that is delivered as close as feasible to people's everyday environment.

Since 2022, Uganda's Ministry of Health (MoH) has trained over 3,000 Community Health Extension Workers (CHEWs) in 23 districts to help bridge the gap between communities and the formal health system.[6] Of these, 334 are in Mayuge and Lira, the pilot districts. CHEWs work in communities by delivering healthcare services to households, including those in remote areas far from health facilities. Thus, they play a vital role in health promotion and disease prevention at community level, making a significant contribution to better health outcomes.

MoH strategy's is to implement the CHEWs program nationwide to improve health outcomes throughout the country. To achieve this, MoH intends to train two CHEWs per parish, with each CHEW expected to cover at least 30 households. Therefore, the number of CHEWs in each district is determined by the number of parishes. While the CHEWs' policy outlines government aim to train CHEWs in all districts, MoH is strategically prioritizing districts with average or below average health performance due to limited resources.

Mobility is an important aspect of health service delivery. CHEWs frequently travel long distances to deliver services to their clients. Limited access to adequate transportation forces CHEWs to walk for hours or spend substantial amounts on costly transportation, which can negatively impact their ability to deliver services effectively. A study in Lira, Wakiso and Mayuge districts found that community health workers identified transportation access as one of the non-monetary factors influencing their motivation.[7] Analysis undertaken by BBU in 2023 revealed that 58% of CHEWs lacked transportation and primarily walked to deliver health services.[8] To address these mobility challenges and improve the health outcomes in Mayuge and Lira districts, BBU partnered with the MoH to provide bicycle mobility solutions for CHEWs who were either walking or paying for motorcycle or bicycle transport to provide health services.

[5]Ministry of Health (Uganda). 2018., Community Health Extension Workers National Policy 2018 Ministerial Policy Statement FY 2018/2019: Ministerial Policy Statement FY 2018/2019.

[6]New Vision. 25 February 2025. "Got embraces community health system, over 3,000 CHEWs deployed".

https://www.newvision.co.ug/category/health/govt-embraces-community-health-system-over-30-NV_205674

[7]Pandya, S., Hamal, M., Abuya, T., Kintu, R., Mwanga, D., Warren, C. E., Agarwal, S. 2022. 'Understanding Factors That Support Community Health Worker Motivation, Job Satisfaction, and Performance in Three Ugandan Districts: Opportunities for Strengthening Uganda's Community Health Worker Program', International Journal of Health Policy and Management, 11(12), pp. 2886-2894. doi: 10.34172/ijhpm.2022.6219

[8]Buffalo Bicycles Uganda. 2023. Analysis of transportation modes among Community Health Extension Workers.

Bicycles have a rich history in Uganda and are widely regarded as a viable transportation mode, particularly in rural areas. In 2020, 32% of households in Uganda owned bicycles.[9] Additionally, an assessment of the bicycle market system in Uganda found that 73% of surveyed bicycle owners felt that bicycles met their transportation needs.[10] Further supporting this, a study covering seven districts in Uganda found that bicycles were listed among some of the most preferred program inputs.[11] Research in other parts of Africa have demonstrated the significant positive impacts of improved mobility on the work and livelihoods of community health workers. For example, WBR's RCT among adults in Zambia found that community health workers (CHWs) on Buffalo Bicycles spent 23% less time travelling per week and visited 63% more clients compared to those without bicycles.[12] Moreover, 83% of the CHWs who participated in this study reported using Buffalo Bicycles to transport sick clients to health facilities.

In September 2023, WBR and MoH provided 331 CHEWS with Buffalo Bicycles - 73 in Lira City, 91 in Lira District Local Government (DLG), and 167 in Mayuge district. This represents all the CHEWs in the three locations who had been trained and were active in program at the time of the bicycle distribution. Approximately one year later, BBU conducted an assessment to evaluate the impact of Buffalo Bicycles on community health work and health outcomes. The specific objectives of the assessment were to:

- Understand the effectiveness, efficiency, and relevance of Buffalo Bicycles to the CHEWs' work.
- Conduct a systematic and objective assessment of bicycle usage.
- Gather feedback from CHEWs on the impact of bicycle access and usage on service delivery among CHEWs.
- Explore the impact of bicycle access on the welfare and wellbeing of CHEWs.

The findings from this assessment will support learning and evidence-based decision making at BBU, MoH, and other health partners, particularly in respect to expanding bicycle access to reach more community health workers. The findings will also be used to track key performance indicators and for reporting. Moreover, the findings will inform advocacy and guide the scale of bicycle mobility solutions among community health workers in Uganda.

331

NUMBER OF CHEWS EQUIPPED IN LIRA AND MAYUGE DISTRICTS WITH BUFFALO BICYCLES

[9]Uganda National Malaria Control Division (NMCD), Uganda Bureau of Statistics (UBOS), and ICF. 2020.Uganda Malaria Indicator Survey 2018-19. Kampala, Uganda, and Rockville, Maryland, USA: NMCD, UBOS, and ICF.

[10]JEA Associates & World Bicycle Relief. 2022. Uganda Bicycle Market System Profile. USAID Bicycles for Growth Project.
https://worldbicyclerelief.org/wp-content/uploads/2023/09/Uganda-Bicycle-Market-System-Report-Revised-March-31-2023.pdf

[11]Brunie A, Wamala-Mucheri P, Otterness C, Akol A, Chen M, Bufumbo L, Weaver M. 2024. Keeping community health workers in Uganda motivated: key challenges, facilitators, and preferred program inputs. Glob Health Sci Pract. Jan 29;2(1):103-16. doi: 10.9745/GHSP-D-13-00140. PMID: 25276566; PMCID: PMC4168609.

[12]IDinsight. 2024. Mobilized Communities Impact Evaluation. **https://worldbicyclerelief.org/idinsight/**

SECTION TWO: METHODS

GEOGRAPHICAL SCOPE

The assessment was conducted in Mayuge district, Lira DLG, and Lira City. It covered various stakeholders in community health work in the three locations, including CHEWs, their supervisors at district and facility level, representatives from District Health Organisation's (DHO) Office and local council leadership, and community members, particularly women, who receive services from CHEWs.

DATA

The assessment employed a mixed methods approach collecting quantitative and qualitative data.

Quantitative data included both primary and secondary sources:

- Primary data was collected through a survey administered to CHEWs and covered key aspects of their work such as nature, scope and reach of their work, transportation patterns (mode, and distances and time travelled), the self-reported impact of bicycle usage on their work, and bicycle functionality (e.g., spare parts and maintenance costs).
- The survey data was supplemented with primary data from a post distribution monitoring exercise that BBU undertook in February 2024, six months after bicycle distributions, among a sample of CHEWs.
- Secondary data on national health performance indicators were sourced from the District Health Information Systems (DHIS2). They include trends in number of antenatal care visits (ANC) among pregnant women. In addition to this, data from the 2018/19 Malaria Indicator Survey, a national survey conducted by the Ministry of Health's National Malaria Control Division and ICF Macro, was extracted from the Demographic and Health Survey Program website and analysed to produce estimates on household bicycle ownership rates nationally and by district.

Qualitative data was collected through key informant interviews (KIIs) and focus group discussions (FGDs). These data provided valuable insights to explain the findings from the quantitative data.

- KIIs were administered to CHEWs supervisors, district-level government leaders, and community members.
- FGDs were divided into two types. The first type involved female and male CHEWs who provided detailed information on bicycle usage and impact on their work and overall well-being. The second type of FGD involved community members(women), who receive services from CHEWs. These participants shared key insights on their experiences with CHEWs work over the year preceding the assessment.

SAMPLING

Stratified random sampling was used to select CHEWs for the quantitative survey, with the population stratified by district and gender. Out of 331 CHEWs who received bicycles, 221 participated in the survey. In Lira city, more women (58%) than men (42%) were surveyed, while in Mayuge, more men (57%) than women (43%) were surveyed. This distribution is different from the overall CHEWs population which is evenly split at 50% women and 50% men. To correct this imbalance and ensure representativeness of the sample, survey weights were generated and applied in the analysis of the data.

Similarly, a random sample of CHEWs were selected to participate in the FGDs. Each FGD had between 8 and 15 CHEWs. Participants in the community members FGDs were purposely selected by the Local Council (LC) chairpersons of conveniently selected villages. Across the two districts, a total of 47 women and 10 men participated in the community members' FGDs. These participants comprised women in savings groups, with each FGD comprising 10 to 18 people. In sum, six FGDs were conducted in the two locations - three FGDs with CHEWs and three with community members.

KII participants were purposely selected based on their working relationships with CHEWs and/or their role in service delivery at community level. These participants included CHEWs supervisors at district and facility level, District/City Health Officer's (C/DHO) Office representatives and local council leadership. The total number of KIIs conducted across the two locations was 28.

For data collection, CHEWS and community members were mobilized to a central location for the survey and focus group discussions while the KII participants were interviewed in their respective offices. In cases where CHEWs were unavailable, e.g., in Lira DLG where CHEWs were engaged in other community health programs during the day, the team interviewed them in their homes in the evening after work.

Table 1: Summary of data collection methods and number of respondents

	Lira City	Lira DLG	Mayuge
Quantitative survey (assessment)	48 (58% female, 42% male)	64 (48% female, 52% male)	109 (43% female, 57% male)
KIIs:			
District Health Office representatives	1 Male	0	1 Female
Local council leadership	1 Female	0	2 (1 Male, 1 Female)
DHEs	1 Female	1 Male	1 male
Health Facility-In-Charge	3 (Female 2, Male 1)	2(Female 2, Male 0)	6(Female 3, Male 3)
District/City Health Inspector	1 Male	1Male	1Male
Maternal Child Health	0	0	1 Female
FGDs:			
No. of FGDs for CHEWS	1 (11 participants – female -5, males- 6)	1 (18 participants, females- 9, Males -9)	1(12 participants, female - 7, males - 5)
No. of FGDs for community	1 (18 females)	1 (15 female participants)	1 (14 female participants)

DATA ANALYSIS

Qualitative data were transcribed and translated into English. The analysis entailed review of transcripts and/or listening to audio recordings, identifying key schemes, and developing categories to organize the data systematically. Quantitative data was cleaned and analysed using Stata. The analysis involved descriptive and bivariate analysis to describe, summarize, and make comparisons across groups and time.

DATA QUALITY

To ensure clarity and accuracy, enumerators were trained on objectives of the assessment, assessment processes, and data collection tools. Data was reviewed daily, and spot checks regularly conducted to ensure data completeness and integrity. To ensure clear communication between the assessment team and research participants, local enumerators were hired and trained, eliminating the need for interpreters.

ETHICAL CONSIDERATIONS

Before the assessment, BBU sought authorization to undertake the research in Lira and Mayuge districts from MoH. Additionally, BBU sought consent from the leadership in each district. Informed written consent was also obtained from all research participants, who were provided with comprehensive information on the assessment's purpose before interviews commenced. To ensure confidentiality, all data has been anonymized, and no personally identifiable information is publicly

SECTION THREE: FINDINGS

THE CONTEXT: LIRA AND MAYUGE DISTRICTS

Lira City is primarily urban, and residents have greater access to essential services and economic opportunities, while Lira DLG and Mayuge district are more rural in comparison, and people travel long distances to access these services. Lira district (comprising both Lira City and Lira DLG) covers a larger surface area (1,326 square kilometres), compared to Mayuge (1,082.5 square kilometres). However, Mayuge has a larger population of 577,563 according to the latest census (UBOS, 2024), compared to Lira's population of 487,348 people distributed between Lira city (245,132) and Lira DLG (242,216).

In both Lira and Mayuge districts, walking is the primary mode of transport for community members travelling to access healthcare and other essential services. Bicycles are also used; analysis of the most recent nationally representative data shows that 56% of households in Lira district and 49% in Mayuge owned bicycles, significantly higher than the national average of 32%. In both settings, motorcycle taxis (boda boda) are a popular transport mode among those who can afford the fares. In general, community members frequently travel long distances to access healthcare; CHEWs surveyed reported that they travel an average of 4.5 kilometres from their homes to health facilities. As noted by a Health Facility In-Charge in Mayuge district, the long distance to health facilities impacts the likelihood of community members seeking healthcare, particularly at Health Centre IVs, which are the highest level of primary health care within the district:

"Many patients that we refer for further management to the Health Centre IV do not go there due to transportation challenges".

During rainy seasons, roads flood, further reducing the number of clients visiting health facilities, coupled with patients arriving late. This has adverse consequences, including potentially increasing the number of pregnant women delivering at home without skilled healthcare workers and a heightened risk of malaria, diarrhoea, and other illnesses.

"Most people, especially women walk to the facility, and when it rains, we receive fewer patients because they fear the flooded roads. Mothers end up delivering at home in the hands of Traditional Birth Attendants." **— Health Facility In-Charge, Lira City**

District health leaders reported that women make up most people seeking health services. Besides seeking healthcare for themselves, women tend to seek services for other household members, such as children, due to their caregiving responsibilities. Travel is primarily by foot, which can be physically exhausting for women who must carry children on their backs while travelling long distances. During focus group discussions, women spoke extensively about various transportation challenges they face, including difficulties finding medication at local health facilities, forcing them to travel to distant health facilities (e.g., health centre IV). In emergency cases, especially at night, it becomes even more difficult to access healthcare due to higher transport fares. While community members can borrow bicycles from CHEWs, availability is not guaranteed since a single bicycle is sometimes shared across an entire village. These challenges underscore the vital role that CHEWs play in delivering health services to the last mile communities and individuals unable to travel to health facilities.

CHEWS' DEMOGRAPHIC CHARACTERISTICS

As previously mentioned, MoH and BBU distributed Buffalo Bicycles to 331 CHEWs in September 2023 to support their work in delivering health services to communities with limited access to healthcare facilities. Both men and women are equally represented among CHEWs, with females comprising 50%. At the time of assessment, the average age among CHEWs was 33.4 years. Female CHEWs are significantly younger (32.7 years on average) compared to male CHEWs (34.3 years) ($p<0.05$). A notable share of CHEWs is youth, with 29% falling within the 18–30-year age group—the official age category for youth in Uganda.

Figure 1: Gender distribution among CHEWs

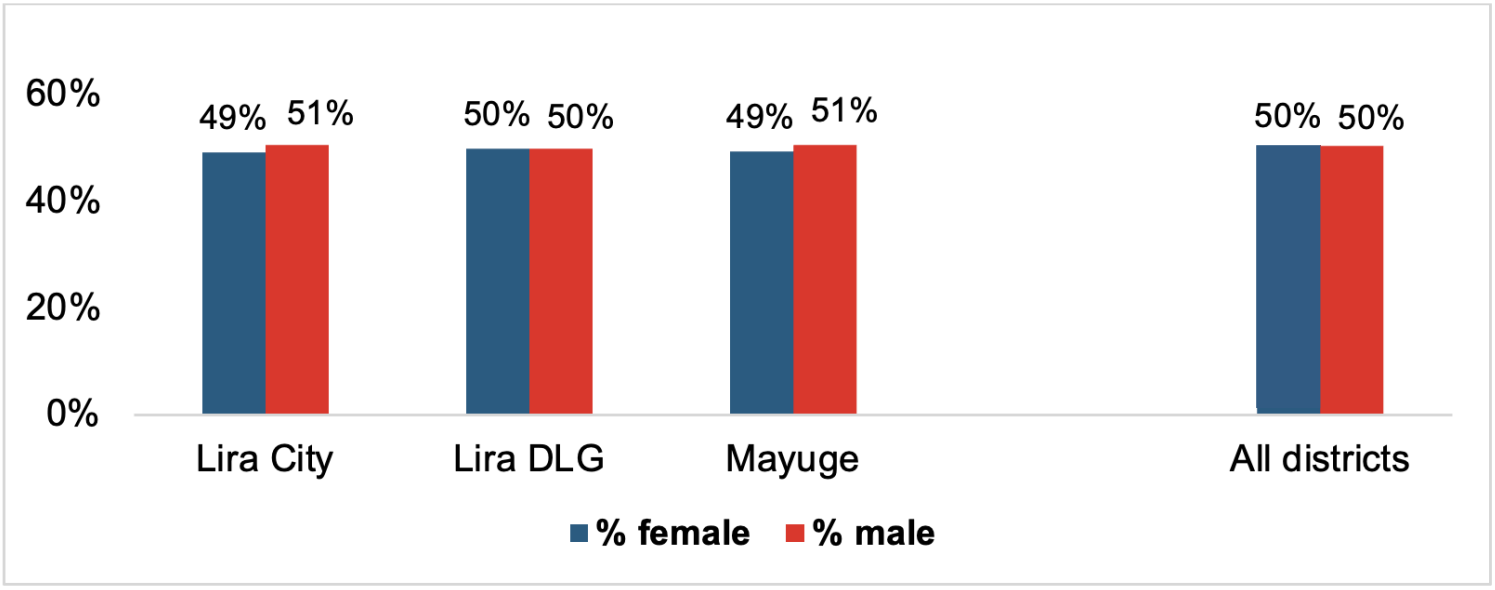
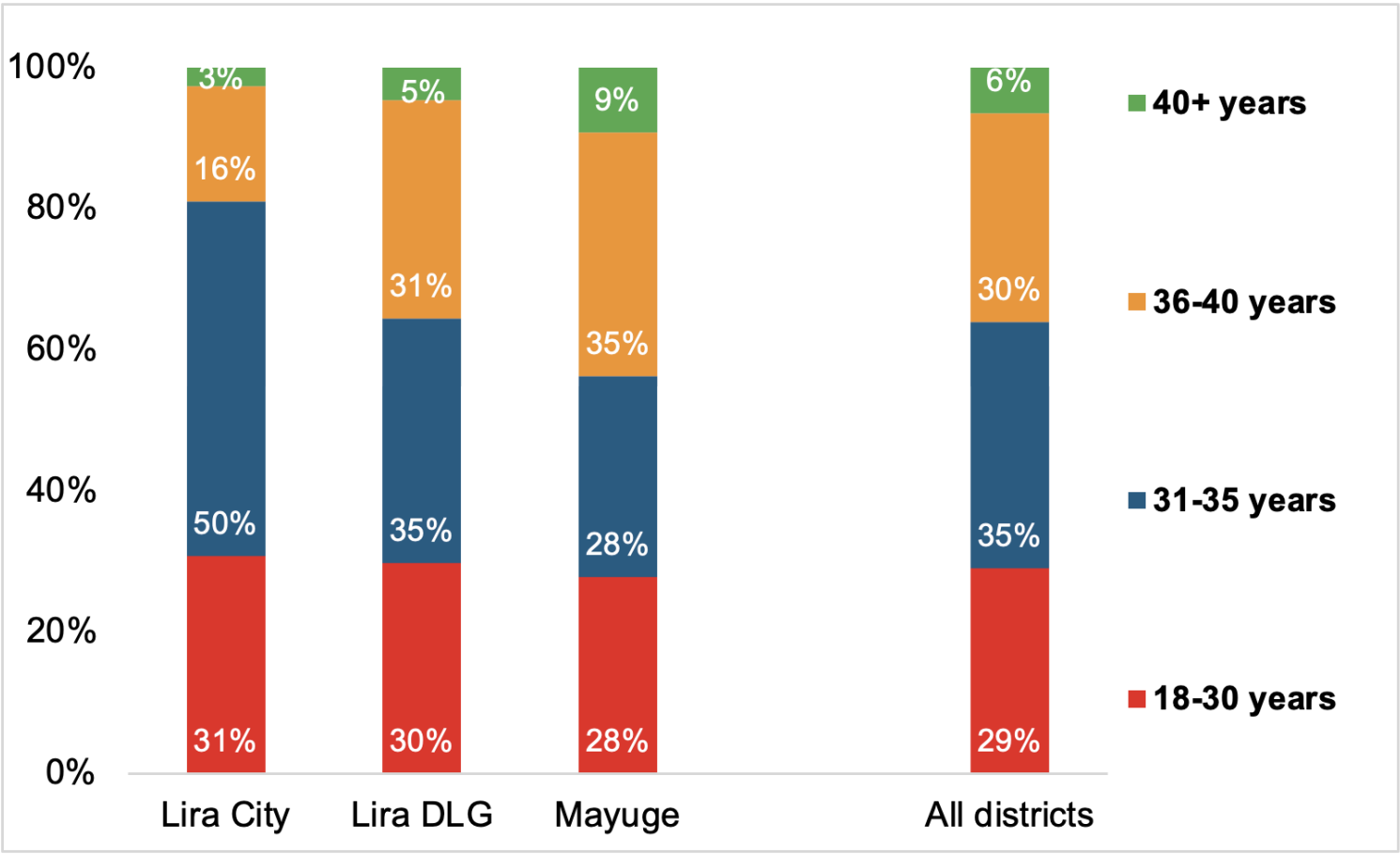


Figure 2: Age distribution among CHEWs



NATURE OF CHEWS' WORK

"The Buffalo Bicycle has made me popular in the community where I am referred to as the Village Doctor" **— Male CHEW, Mayuge**

CHEWs undertake a diverse range of work including leading sensitisation meetings to provide health education (e.g., on good sanitation and hygiene), conducting disease and outbreak surveillance to identify danger signs that could negatively impact health, educating women and other household members on family planning, referring sick patients to health facilities, tracing patients who have deferred HIV treatment and facilitate their return to the healthcare, and raising awareness on services available at local and district-level health facilities. CHEWs also play a significant role in early childhood development by visiting newborns and breastfeeding mothers, assisting in immunization efforts targeting infants and young children, tracking children who have missed vaccines, and following up on general health of children aged under 5 years. Another vital role they play is support for pregnant women, including mobilising them for antenatal care (ANC), home visits for follow-ups and additional care, and referrals to health facilities for further care and safe in-facility deliveries. CHEWS supervise village health teams (VHTs) and collect and upload health data to health management information systems (HMIS).

"Community members recognise and appreciate the vital role that CHEWs play and commonly refer to them as village doctors.

Those health professionals (CHEWs) teach us about TB, sanitation, hygiene, and measles and encourage us to take sick children to the health facility and to go for antenatal care". **— Female FGD participant, Mayuge**

CHEWS SERVICE DELIVERY SCOPE

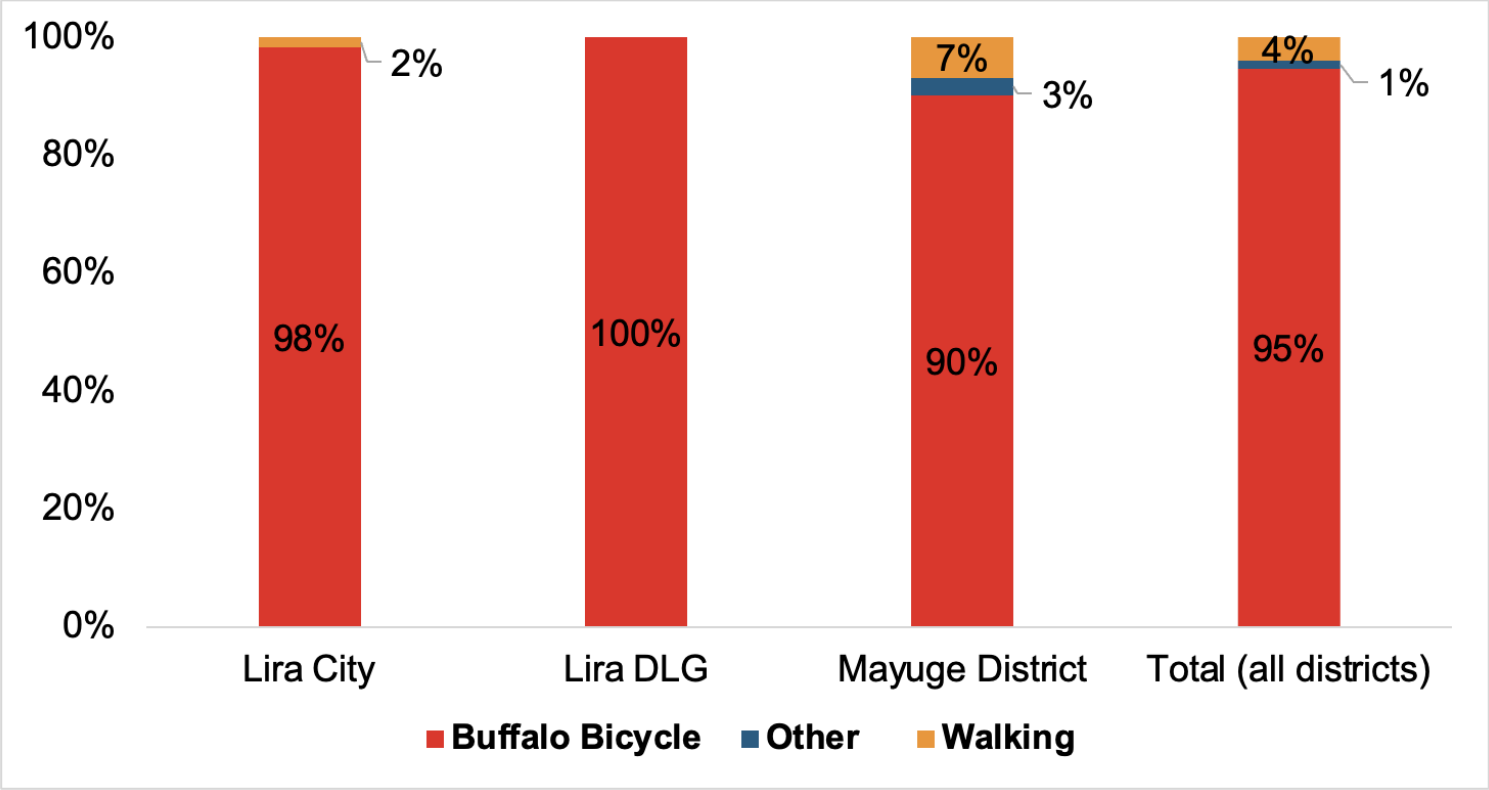
Most CHEWs serve a single parish, usually their parish of residence. Within each parish, they serve multiple villages, with survey findings indicating that they cover an average of six villages per parish. There are notable variations across districts. CHEWs in Lira DLG serve the highest number of villages, averaging 11 per parish, compared to Lira City (6 villages), and Mayuge (3.6 villages).

These variations, potentially contribute to the significant differences in time travelled for service provision. In Lira DLG, CHEWs reported spending an average of 90 minutes travelling to the furthest location for service delivery, a duration not significantly different from Lira City (83 minutes) but significantly higher than Mayuge (49 minutes). As shown in Table 2, CHEWs in Lira DLG also spend the most time travelling to their designated healthcare facilities, recording an average that is 1.5 times the time travelled in Lira City and Mayuge. These findings demonstrate the long-distance CHEWs travel for service delivery and reinforce the critical importance of mobility solutions such as bicycles.

Table 2: Average number of parishes and villages served, and time spent travelling for community service work

	Lira City	Lira DLG	Mayuge District	Total (all districts)
Average number of parishes served	1.1	1.0	1.0	**1.0**
Average number of villages served	6.1	10.9	3.6	**6.2**
Average time (minutes) travelled to furthest location during service delivery - one way	83.1***	90.2***	49.4***	**67.0**
Average time (minutes) travelled to designated health centre - one way	47.8***	72.0***	39.3***	**50.1**

Figure 3: Primary mode of transportation among CHEWs



BUFFALO BICYCLES IMPACT ON CHEWS' WORK

Improved mobility and increased ability to provide services

Survey findings indicate that on average, CHEWS used Buffalo Bicycles 81% of the days they provided community service work in the month preceding the survey, equating to approximately four out of five days per week. On days (19%) that CHEWs did not use Buffalo bicycles, the reasons varied, such as preference for walking when visiting clients living near their homes while others opted for motorised transport during emergencies or unfavourable weather (e.g., rain or muddy terrain). It is worth noting that 60% of CHEWs reported using their Buffalo Bicycles every working day. This high usage underscores the critical role bicycles are playing in supporting health service delivery.

> ***"CHEWS rarely came to the facility, but after receiving Buffalo Bicycles, they work two days at the facility every week where they help to register patients, conduct health talks, retrieve patients' files, attend the monthly meetings at the facility and submit their reports on time."*** — **Health Facility In-Charge, Lira DLG.**

In key informant interviews and focus group discussions, health supervisors and community members reported that CHEWs are more visible in their communities, often seen travelling on Buffalo bicycles delivering services. This enhances their accessibility of health services and increases their status within the community. The vast majority (90%) of community members who participated in FGDs in Lira and Mayuge reported that they had personally received health services from CHEWs, at least two to three times in the three month-period preceding the assessment. A female community member in Ogur sub county in Lira DLG felt that improved transportation was a contributing factor: ***"Ever since CHEWS received bicycles, I have observed an increase in the frequency of their visits in the community. In a typical week I see them twice or thrice in the community. This is because their transportation was made easy."***

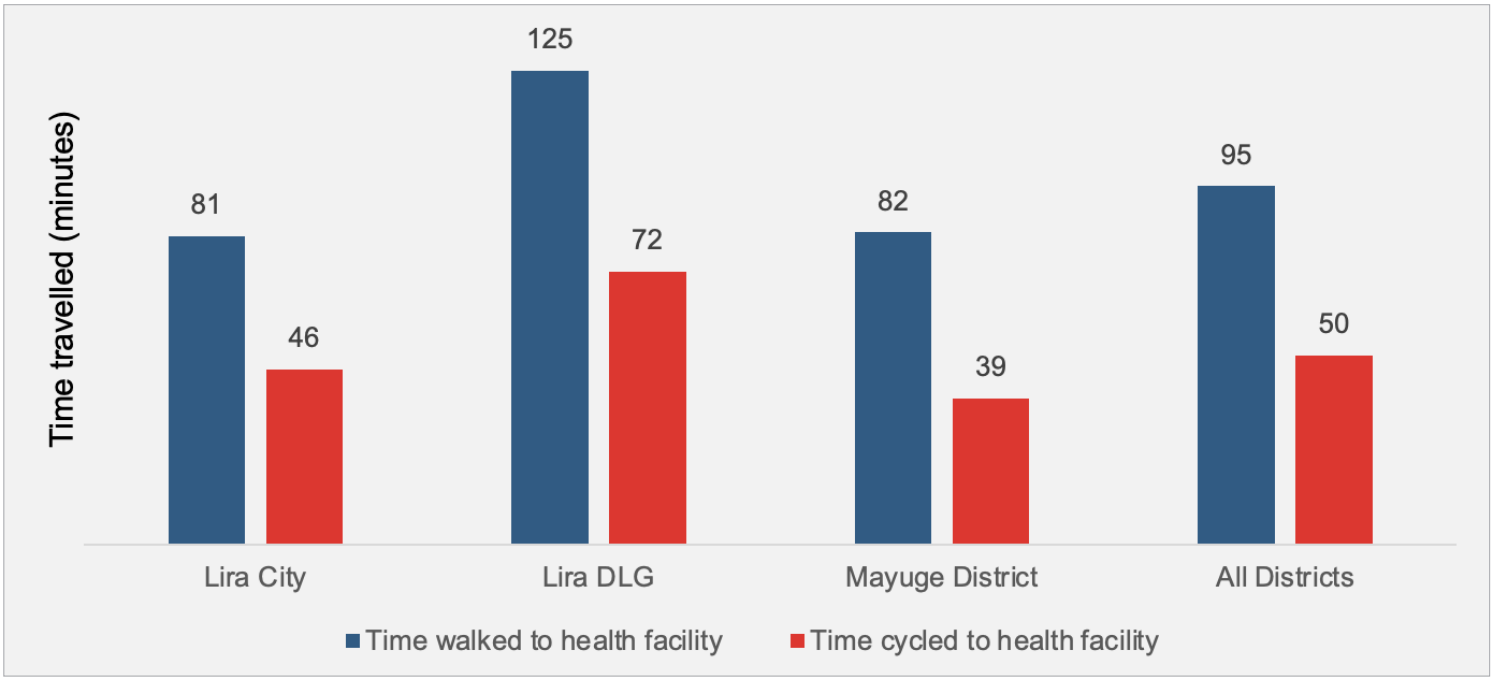
One Health Facility In-Charge opined that community-based health programs that work with community volunteers should provide bicycles to these volunteers because transportation is a major hindrance to quality community health services.

Distances and time travelled

The use of bicycles has significantly reduced time travelled and increased distances covered. During the assessment, CHEWS indicated that Buffalo Bicycles made travel easier, allowing them to travel longer distances for service provision. Findings from the post distribution monitoring undertaken six-months after bicycle distribution shows that the longest distance travelled increased by 68%, from an average of 4.6 kilometres before bicycle receipt to 7.8 kilometres after bicycle access. CHEWS further reported that they can reach distant villages, including those previously unreachable due to transportation challenges. This expanded reach was reported by approximately two thirds (61%) of CHEWs. Moreover, 49% of CHEWs reported an increase in the overall area they cover. Community members echoed this impact including one female FGD participant in Lira DLG who stated that "we now see the CHEWS coming to the distant households that were previously never visited".

Beyond increasing distance, bicycle usage has significantly impacted travel time for CHEWs. The vast majority (97%) of CHEWs surveyed reported that bicycle usage had resulted in a decline in time spent travelling for community service work. During FGDs in Mayuge and Lira City, CHEWS estimated that bicycles have cut travel time by half. This is supported by survey findings which show that CHEWs using Buffalo bicycles spent 47% less time travelling to the health facilities. On average, they cycled 50 minutes from their homes to health facilities for work, compared to the 95 minutes it would take to walk the same distance. Notably, there were no significant differences in reduced travel time across gender, indicating that similar time savings are experienced by both male and female CHEWs. The key benefits of these time savings include improved punctuality, with CHEWs arriving at health facilities on time and returning home earlier. Another reported benefit is that CHEWs can spend more quality time with clients - this is explored further on page 13.

Figure 4: Average time travelled by CHEWs to designated health facility



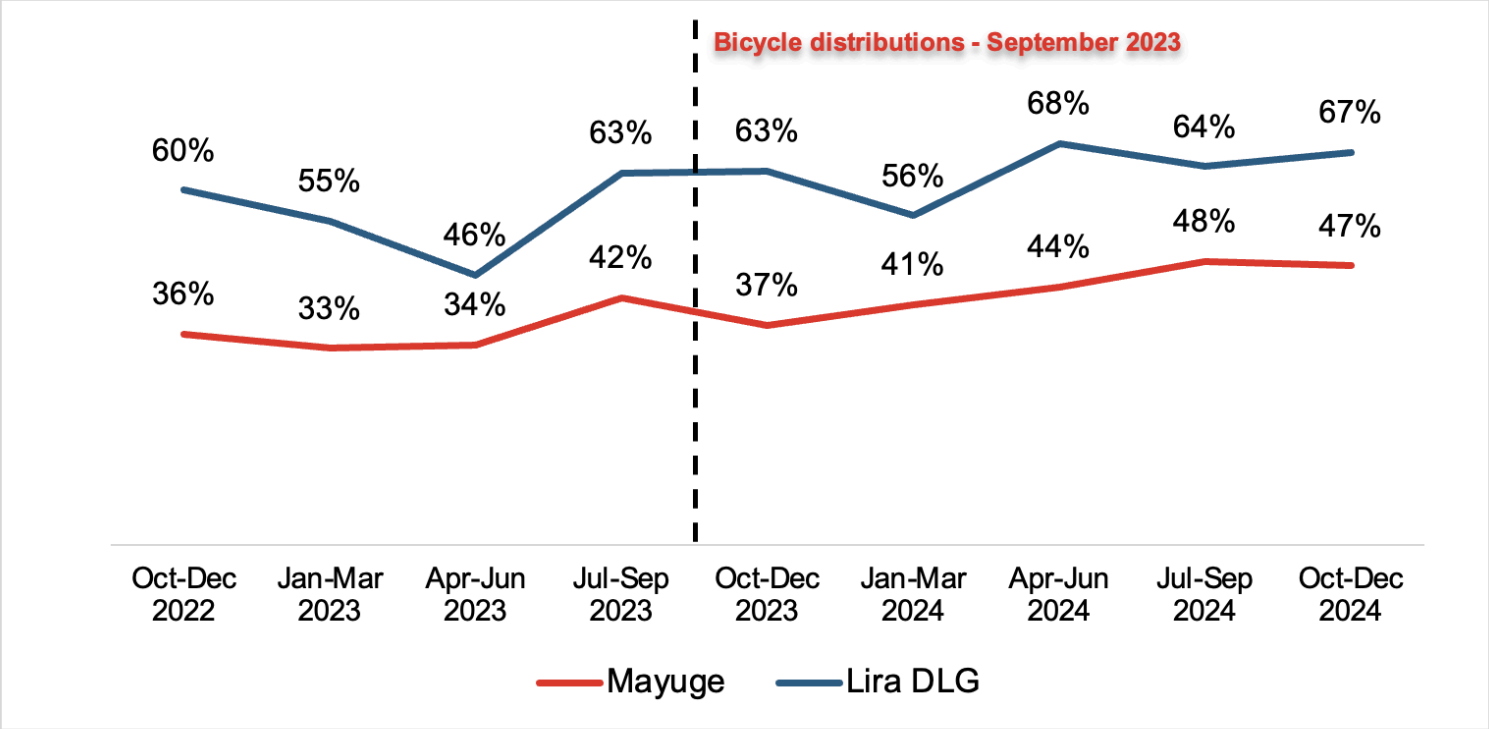
Increased reach

Self-reported impact

When asked what changes in their work since receiving Buffalo Bicycles, an overwhelming (98%) of CHEWs reported that they had increased the number of clients they serve. Findings from the post-distribution monitoring exercise that took place 6 months after bicycle receipt showed a 108% increase in the number of households served. Before receiving bicycles, CHEWs served an average twenty five households per week; this number more than doubled after bicycle access.

Data on pregnant women access to antenatal care services suggests notable improvements since CHEWs received bicycles. DHIS data for Mayuge and Lira DLG for the October 2022- December 2024 period shows an upward trajectory in the share of pregnant women receiving at least four ANC visits (Figure 4), particularly after bicycle distributions in September 2023. In Lira DLG, the share of pregnant women attending their 4th antenatal care visits increased by 7-percentage points, while Mayuge saw a 9-percentage point increase over the same period. Comparing the Oct-December quarters in 2022, 2023 and 2024, in both locations the findings show significant improvements in pregnant women accessing antenatal care visits. This is an important finding given that one of CHEWs' main tasks is to visit pregnant women and refer them to health facilities for antenatal care visits.

Figure 5: Trends in share of pregnant women attending the 4th antenatal care visit, 2022-2024



Notes: The graph shows the share of pregnant women attending the 4th antenatal care visit between Oct 2022 and December 2024 period (data presented quarterly) for Mayuga district and Lira LG. The black dotted line represents the date that BBU and MOH distributed bicycles to the CHEWs in the two locations. Data for Lira City is not presented as BBU was unable to successfully access the data from this location.

CHEWs participating in FGDs reported that bicycle access has enabled them to traverse entire parishes within two days and mobilise entire communities for health programs whenever needed. This marks a significant shift from the past when villages far from their homes were rarely mobilised for health programs unless transport facilitation was provided. Similar sentiments were echoed by health leaders with one health facility in-charge noting that since CHEWs received Buffalo Bicycles, they can quickly trace patients who have defaulted on treatment, resulting in many HIV clients who had stopped their Antiretroviral therapy (ART) restarting treatments.

Transportation expenditure

"The money my husband used to give me to buy food for the family is what I would use as transport to go to work at the health facility, but now I do not need transport money, I can buy meat for my children, I am able to buy salt, sugar and other consumables." — **Female CHEW, Mayuge district**

CHEWs frequently highlighted the significant reduction in transportation expenditure incurred for service delivery work. With access to Buffalo Bicycles, their reliance on costly motorised transport like motorcycles has reduced and, for some, eliminated transport costs. Nearly half (43%) of CHEWs surveyed reported spending nothing on transport for their service delivery work. Moreover, average weekly expenditure on transport has dropped by 61% from UGX19666.7 (US$5.3) before bicycle receipt to UGX 7629.1 (US$2.5) per week during the assessment. The savings from reduced transport costs have been redirected to important household needs, such as purchasing food, which is discussed further in page 16.

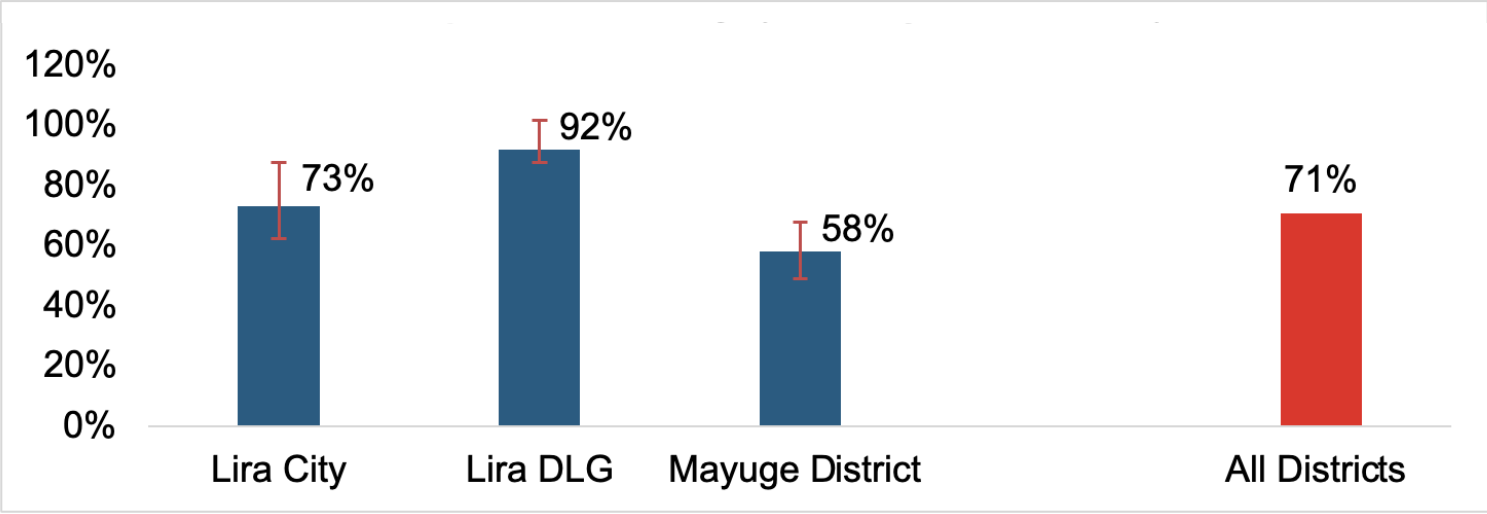
Ability to transport sick people

"In my village, my Buffalo Bicycle is referred to as the village ambulance". — Male CHEW, Lira City

One of the most frequently cited impacts of the Buffalo Bicycles, reported by 57% of CHEWs, is their increased ability to respond to emergencies. As an example, approximately three quarters (71%) of CHEWs have used their Buffalo Bicycles to transport sick patients to health facilities. This is even more pronounced in places like Lira DLG where over 90% of CHEWs surveyed had used their bicycles to transport sick patients to health facilities. One of the reasons why CHEWs in Lira DLG use their Buffalo Bicycles more for this purpose, in comparison to Lira City and Mayuge, is the long distances travelled by community members, an average of 72 minutes one way, to health facilities.

CHEWs who have used their Buffalo Bicycles to transport sick patients to health facilities reported doing so an average of eleven times since receiving their bicycles. Notably, about 10% reported having done so at least twenty-nine times since receiving their bicycles. These findings indicate a high need for transportation across these communities, particularly with long distances travelled to healthcare, and highlight the critical role Buffalo Bicycles are playing in supporting access to emergency care.

Figure 6: Percentage of CHEWs reporting use of Buffalo bicycles to transport sick patients to health facilities, by district



Note: The graph shows the percentage of CHEWs reporting that they used Buffalo Bicycles at least once over a 12–13-month period to transport sick patients to health facilities. The error bars depict the 95% confidence interval, indicating the range within which the true CHEWs population proportion likely falls; overlapping intervals indicate differences that are not statistically significant.

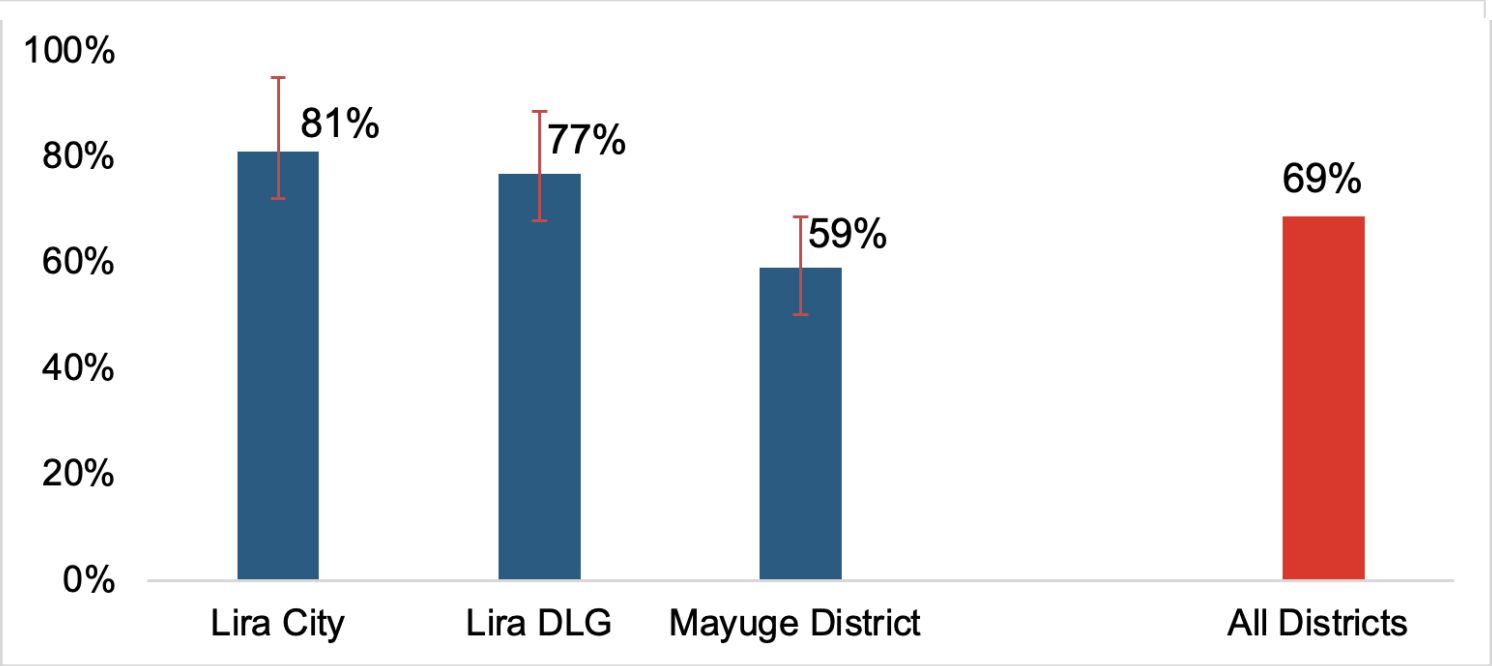
Time spent with the clients

The reduction in time travelled has enhanced service quality by allowing CHEWs to spend more time with their clients. More than two thirds (69%) of CHEWs surveyed reported an increase in time spent with clients after bicycle receipt. While factors such as the nature of service provided may influence the time spent with clients, more than half of CHEWs attributed the increase to time savings arising from bicycle usage. These findings highlight the vital role of transportation in enhancing the level of care during service provision.

CHEWs report that with bicycles, they can travel quickly and with less fatigue, compared to walking, allowing them the convenience of spending more time with their clients. As one survey participant explained "I spend less time traveling now with my Buffalo bicycle which gives me enough time to spend with my clients at their household." The time saved from bicycle usage reduces the pressure to rush between households and allows provision of more attentive care. CHEWs also report increased time for hands-on work during service provision. For example, during home visits, they can demonstrate hygiene and sanitation practices in detail. A male CHEW from Lira City who participated in the focus group discussion explains:

"Before I received a Buffalo Bicycle, I would visit a home in a hurry and just record a few things and rush to another household and then to my home. But currently, because I am sure of the means of transport, I spend a minimum of one hour in a household when I visit. I take time to understand the health challenges in a home and work with the head of the family or mother to identify solutions. I am even able to do demonstrations such as construction of a handwashing facility, drying rack, latrine cleaning among others in a household."

Figure 7: Percentage of CHEWs reporting increased time spent with clients during service provision, by district



Note: The graph shows the percentage of CHEWs who reported spending more time with clients since receiving and using Buffalo Bicycles for service delivery work. The error bars depict the 95% confidence interval, indicating the range within which the true CHEWs population proportion likely falls; overlapping intervals indicate differences that are not statistically significant.

Perceived quality of CHEWs work

"The CHEWs have helped the community. At first, I didn't appreciate their roles, but now as they have continued to understand their role, they have become productive. After continuous sensitizations by Health Assistants, when you go to the community you can see their presence. They are also motivated by the Buffalo Bicycles. I have witnessed them giving health talks in the community and at the facility. During community dialogues, where we were asking about the roles of VHTs & CHEWs, I realised that the community knows them, and they are on ground. The community members even mentioned the names of the CHEWS in all the parishes we visited" **— Health Facility In-Charge, Lira DLG.**

FGD participants and key informant interviewees expressed appreciation for CHEWs' work. They reported seeing CHEWs working in communities, raising their visibility. In Lira City, a female community member explained: "over the past year, I have noticed that CHEWS are more visible in our community, and they seem to spend more time at the household addressing our health concerns than before." According to community members and key informant interviewees, CHEWs' motivation to undertake service delivery work has also increased after bicycle receipt. However, CHEWs noted that they were demotivated by the late payment of their stipend and urged government to address these challenges.

Other impacts on CHEWs work

"This bicycle added value to my work as a CHEW, it increased the confidence of the community in my work. They now refer to me as a government Health Worker" **— Male CHEW, FGD, Lira City**

CHEWs mention a variety of other positive changes in their work since receiving Buffalo Bicycles. For example, 54% of CHEWs reported that they had increased referrals, 32% reported that they are able to attend meetings when required, and 21% cited increased ability to submit reports to their supervisors. CHEWs also report feeling motivated to undertake their work, noting that the bicycle has increased their sense of worth and positively impacted how the community perceives them.

Impact on CHEWs welfare and wellbeing

Buffalo Bicycle usage has enabled CHEWs to better balance time between community health work and family responsibilities. Besides enabling CHEWs to spend more time with clients, time savings from reduced travel allows CHEWs to also spend time on personal and household-level activities that enhance their welfare and wellbeing. As shown in Table 3, some of the most common activities that CHEWs undertake include farm work (reported by 57% of CHEWs) and businesses and other income generating work (48%). These activities enhance food security, income levels, and household spending. Another common activity, reported by 67% of female CHEWs, is household chores. Female CHEWs value the additional time they have and increased ability to return home early to undertake these domestic duties.

Table 3: Share of CHEWS reporting spending more time on other activities, by activity

	Female CHEWs	Male CHEWs	All CHEWs
Farm work	57%	58%	**57%**
Business or other income generating work	37%	58%***	**48%**
Family engagements/meetings	18%	24%	**21%**
Household chores – washing, cleaning, shopping	67%	15%***	**41%**
Assisting my children with schoolwork	15%	21%	**18%**
Community engagements or meetings	13%	9%	**11%**
Rest	16%	17%	**16%**
Leisure	3%	10%*	**7%**
Visiting friends or relatives	6%	8%	**7%**
Other (Specify)	4%	4%	**4%**

Notes: The p-values (represented by *) are generated from unpaired t-tests to assess statistical significance. *** p<0.01, ** 0.01 < p<0.05, and * for 0.05 < p< 0.10. Where the * is missing, this indicates that p>=0.10, meaning that the differences are not statistically significant at the 10% significance level.

BICYCLE USAGE AND IMPACT AT THE HOUSEHOLD LEVEL

When not undertaking community work, CHEWs use their Buffalo Bicycles for a variety of other purposes. These include travel to local markets to source supplies for their households (e.g., food), travel to farms, water source, and to take children to school. As is evident in Table 4, there are no significant gender differences in these activities, showing that women and men use the bicycles equally for these purposes.

Table 4: Percentage of CHEWs Utilizing Buffalo Bicycles for a Variety of Other Activities, by Activity Type

	Female CHEWs	Male CHEWs	All CHEWS
Travel to local market	62%	56%	59%
Travel to the farm	55%	54%	54%
Taking children to school	36%	35%	36%
Travel to fetch water	34%	32%	33%
Travel to a health facility/clinic	28%	26%	27%
Physical exercise	29%	23%	26%
Travel to place of employment/business	22%	26%	24%
Other volunteer work	19%	19%	19%
Travel to main market in the district	13%	16%	14%
Travel to fetch energy	6%	6%	6%
Other	5%	10%	8%

Notes: The p-values (represented by *) are generated from unpaired t-tests to assess statistical significance. *** p<0.01, ** 0.01 < p<0.05, and * for 0.05 < p< 0.10. Where the * is missing, this indicates that p>=0.10, meaning that the differences are not statistically significant at the 10% significance level.

"The design of Buffalo Bicycles allows both boys or girls to ride. Everybody in my household uses the bicycle when not at health community work. But the mandate to decide who uses the bicycle lies with me, the owner of the bicycle. Not my husband and not the children, and I have to first know where they are going with the bicycle before I allow them to use it"
— Female CHEW, FGD, Mayuge

While CHEWs primarily use the bicycles for their work, the high transportation needs in their communities often leads to them sharing their bicycles with others. During focus groups, CHEWs highlighted the positive impacts of this sharing, including improved access to livelihood opportunities (farms and local markets) and essential services (e.g., healthcare facilities) for others. They also report that this has fostered greater harmony within and across households. However, most CHEWs emphasise that they ultimately determine when and who uses their Buffalo Bicycles. Furthermore, CHEWs indicated that the Buffalo's quality and durability largely influenced their decision to share the bicycles. One female CHEW in Mayuge explained: "The Buffalo Bicycle increased harmony between my family and the neighbours because it is durable, even when I lend it to neighbours it has not broken down. So, neighbours are happy with my family because we allow them to use our bicycle when in need. I would not lend out my bicycle if it were not durable."

Bicycle impact at household level

Bicycle usage has substantially reduced transportation expenditure for CHEWs' households. Approximately nine in ten CHEWs (89%) reported a significant decline in transport spending since receiving Buffalo Bicycles, primarily attributing this reduction to bicycle usage. As a result, household savings have increased; this was reported by 95% of CHEWs. CHEWs say that they use the monetary savings to support other vital household needs like consumption of more or better-quality food (reported by 65% of CHEWs), paying of school fees for their children (reported by 60%), and purchasing school supplies (37%). Moreover, a notable number of CHEWs reported that they have invested the savings into their businesses or increased contributions to savings groups. Besides the above benefits, other household-level impacts that CHEWs mention include increased travel convenience and flexibility (reported by 83%), better access to essential services for household members (45%), increased ability to transport goods or farm produce (40%), and better access to water points (reported by 28%).

Table 5: Percentage of CHEWs reporting monetary savings are used by their households

	Lira city	Lira district	Mayuge district	All districts
Buy more or better-quality food for the household	79%***	53%	65%	**65%**
Pay school fees for my children	73%***	72%	48%	**60%**
Buy school supplies for children	35%	37%	37%	**37%**
Buy inputs/supplies for the farming	10%**	31%	21%	**22%**
Pay for other household necessities	42%**	38%	56%	**48%**
Invest in my business	12%**	33%	29%	**27%**
Contribute money to my savings groups	2%***	15%	32%	**21%**
Other	2%**	2%	12%	**7%**

Notes: The p-values (represented by *) are generated from unpaired t-tests to assess statistical significance. *** p<0.01, ** 0.01 < p<0.05, and * for 0.05 < p< 0.10. Where the * is missing, this indicates that p>=0.10, meaning that the differences are not statistically significant at the 10% significance level.

BICYCLE ECOSYSTEM

Bicycle theft

Of the 331 CHEWs who received Buffalo bicycles, nearly all of them still owned them, except for two from Lira City whose bicycles were stolen. In KIIs, Lira City Health Officer acknowledged awareness of these theft and reported that the affected CHEWs had been instructed to report the matter to police. Besides this, the CHEWs have been encouraged to save money to replace the lost bicycles.

Functionality, quality, and perceived value of the Buffalo Bicycle

"There are no bicycles returned to the department/confiscated or out of service except the two that were reported stolen. The bicycles get minor mechanical problems, but our Buffalo Bicycle-trained mechanics help to fix them" **— City Health Officer, Lira City**

The District Health Educators (DHEs) of Mayuge, Lira DLG, and Lira City all reported that CHEWs Buffalo Bicycles were in good condition and that majority had not shown any mechanical challenges. Furthermore, when asked about the frequency of bicycle breakdown, the DHEs reported that Buffalo Bicycles rarely break down. This was reinforced by survey findings, with 58% of CHEWs reporting that their bicycles had not broken down in the three-month period preceding the survey. One CHEW remarked they had never "ridden a bike that takes more than a year without breaking," a testament to Buffalo Bicycle's exceptional quality and durability. Among CHEWs whose bicycles had experienced issues, the average number of times the breakdown had occurred was 1.8 times.

Buffalo-trained mechanics who participated in the assessment also expressed admiration for the Buffalo Bicycle, which they perceived as good quality and durable. They noted several key strengths of the bicycle: 1) its heavy-duty design (notably the heavy carriers) that allows transportation of heavy items, and 2) the overall bicycle design that makes it accessible for both men and women to ride the bicycle, making it a practical and effective tool for service delivery.

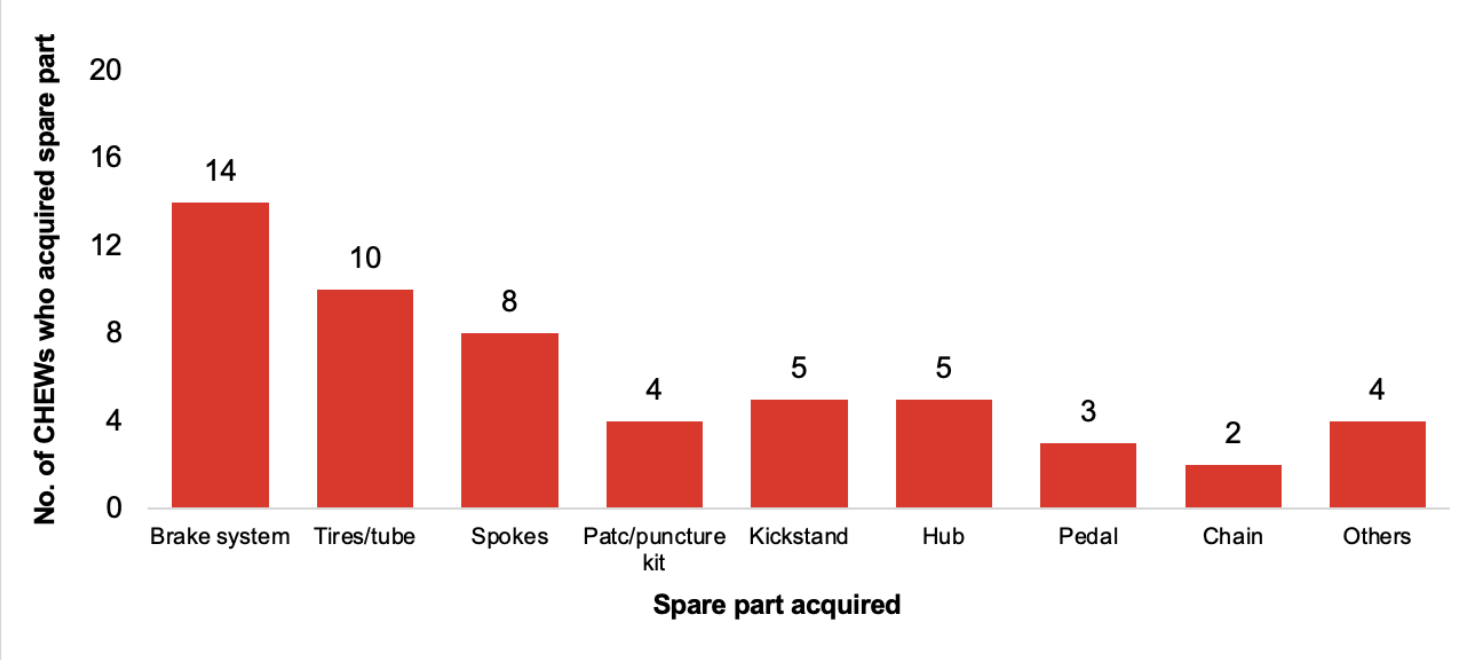
Demand for spare parts

Just over a fifth (23%) of CHEWs surveyed, equivalent to 50 people, reported that they had acquired spare parts at least once since receiving the bicycle. In all these cases, the CHEWs covered the costs of the spare parts as they are primarily responsible for repair and maintenance of their Buffalo Bicycles. The findings also illustrate that the vast majority (77%) of CHEWs had not needed to replace any parts of their bicycles during the 12-13 months following receipt.

CHEWs use either Buffalo or non-Buffalo spare parts to maintain their Buffalo Bicycles. Among the CHEWs who had acquired spare parts at least once, only 35% had purchased Buffalo Bicycles while the remainder acquired non-Buffalo spare parts. There are several reasons why CHEWs acquire non-Buffalo parts. They include the cost of Buffalo parts which they perceive to be expensive, particularly in comparison to other brands. They also cite scarcity of Buffalo parts in local shops or at mechanics' stations; lack of information on the location of Buffalo mechanics or shops; and long distances they need to travel to access Buffalo spares. CHEWs who have acquired Buffalo spare parts reported that they primarily sourced them from Buffalo shops in the major district centres, e.g., Iganga shop, Lira City shop, and Sara Ntiiro Secondary School. A few also reported acquiring the spare parts from Buffalo-trained mechanics.

During interviews, Buffalo-trained mechanics reported that commonly replaced Buffalo Bicycle parts include hubs, wheels, shaft, bells, and loosening nuts and handles (which break due to falling). This is similar to what CHEWs reported in the survey (see Figure 7) although brakes emerged as the most commonly replaced spare part among the survey respondents. However, it is worth noting that only a small number of CHEWs acquired these spare parts primarily because bicycles for the vast majority did not require replacements.

Figure 8: Most purchased spare parts by CHEWs



Note: The graph shows the number of CHEWs who acquired spare parts, by type of spare part. Parts relating to the brake systems were most common, followed by tires/tubes.

Demand for mechanics

When they need to access Buffalo-trained mechanics, CHEWs report that they usually find them in markets in main towns or villages (trading centres), travelling an average 4.5 kilometres to where they are located. However, some CHEWs experience challenges accessing the mechanics: 30% reported that the mechanics are located too far from their homes. In Mayuge district, CHEWS participating in a focus group discussion reported that they use non-Buffalo-trained mechanics for maintenance and repairs because there is only one Buffalo-trained mechanic located ten kilometres from where most of the CHEWS live. CHEWs specifically requested that BBU trains more mechanics so that they are within easy reach, with some suggesting a Buffalo-trained mechanic for every village.

Supply of mechanics

In total, 20 Buffalo-trained mechanics (13 Lira and 7 Mayuge) help keep Buffalo Bicycles on the road using the tools they received from BBU and spare parts that they acquired from Buffalo shops or retailers. During the assessment, five mechanics — two Lira City, one in Lira DLG, and two in Mayuge district —were interviewed and the following was established:

- All mechanics participated in a two-day training program where they learnt about Buffalo Bicycle parts and the repair and maintenance of the bicycle. This training also focused on basic monitoring and data collection, including how the mechanics would document information about bicycle repairs. To aid with this, mechanics were provided with a Bicycle Service Logbook which they use to document data like bicycle serial numbers, name of bicycle owner seeking repair, bicycle part(s) repaired, the date of repair, and labour service charged. However, the mechanics reported that they often forget to collect this data, partly because Buffalo Bicycles require repairs infrequently.
- All the Buffalo-trained mechanics reported knowledge about where to obtained spare parts and had visited the nearest Buffalo Bicycle shops in their locations at least once.
- The mechanics who are located between 0.5-40 km from the Buffalo Bicycle shops do not stock spares; they place orders when they have a client that requires repairs.
- The mechanics charge between UGX.1000 (US$0.26) and UGX.5000 (US$1.5) per bicycle serviced or repaired.
- The mechanics indicated that BBU training they had undergone made them feel important and worthy in society because only they had been trained on the repair Buffalo Bicycles.
- The mechanics further reported that Buffalo Bicycle owners living in their communities typically visit them for repairs. However, the mechanics reported that their income from Buffalo Bicycles repairs is low, primarily because the bicycles' durability means that they do not get spoiled at the rate the mechanics anticipated. Most Buffalo Bicycles require only gleaning and fastening nuts and no major repairs.
- Mechanics informed the team that they also repair and service other bicycle brands, besides Buffalo Bicycles. They noted that they generate more income from the repair of other brands because of greater turnover.
- Four out of five of the mechanics have other businesses, in addition to their work as bicycle mechanics. They engage in farming, sale of clothes, and sale of bicycle spare parts.
- Three out of five interviewed mechanics felt that the mechanics training period is short and proposed that BBU considers refresher training sessions for them to stay updated.

Repair and maintenance costs

The durability and quality of the Buffalo Bicycle reported by CHEWs, mechanics and other stakeholders likely explains the low expenditure on maintenance and repairs. More than half (57%) of CHEWs surveyed had not spent any money on repairs and mechanic fees, including maintenance and spare parts acquisition, in the three-month period preceding the survey. Moreover, among all CHEWs, average expenditure on spare parts and maintenance over the three-month period preceding the assessment was UGX.5,136.9 (US$1.4). Among spenders, the average expenditure reported was UGX.11,591.3 (US$3.1).

Table 6: Expenditure on spare parts and maintenance

	Lira city	Lira DLG	Mayuge	All Districts
Expenditure on spare parts				
All CHEWs	UGX 3,125.9 (US$0.84)	UGX 1,167.2 (US$0.31)	UGX 2,889.4 (US$0.78)	UGX 2,453.4 (US$0.66)
CHEWs who purchased spare parts	UGX 15,067.2 (US$4.06)	UGX 12,497.3 (US$3.37)	UGX 11,573.4 (US$3.12)	UGX12,393.5 (US$3.34)
Expenditure on mechanic fees				
All CHEWs	UGX 1,641.2** (US$0.44)	UGX 1,245.8** (US$0.34)	UGX 3,712.5** (US$1.00)	UGX 2,614.8 (US$0.70)
CHEWs who spent on mechanic fees	UGX 5,484.2 (US$1.48)	UGX 4,456.3 (US$1.20)	UGX 6,683.6 (US$1.80)	UGX 6,111.1 (US$1.65)
Total expenditure (spare parts + mechanic fees)				
All CHEWs	UGX 4,842.3* (US$1.30)	UGX 2,394.2* (US$0.65)	UGX 6,718.7* (US$1.66)	UGX 5,136.9 US$1.38)
CHEWs who spent on spare parts	UGX 16,512.3 (US$4.45)	UGX 8,123.5 (US$2.19)	UGX 11,585.1 (US$3.12)	UGX 11,591.3 (US$3.12)

Notes: 1UGX=US$0.00027 in November/December 2024. The p-values (represented by *) are generated from unpaired t-tests to assess statistical significance. *** p<0.01, ** 0.01 < p<0.05, and * for 0.05 < p< 0.10. Where the * is missing, this indicates that p>=0.10, meaning that the differences are not statistically significant at the 10% significance level.

RECOMMENDATIONS & NEXT STEPS

The Ministry of Health plans to expand the Community Health Extension Workers (CHEWs) program nationwide to address human resource gaps in the health sector and strengthen community health service delivery. This includes professionalizing CHEWs by institutionalizing them, training them, equipping them with tools, and fully integrating them into the national health system. However, such important and much needed initiatives must also address mobility constraints since lack of reliable transportation hampers delivery of timely and quality health services to communities. The findings from this assessment have demonstrated that access to quality and durable bicycles improves mobility and contributes to better service delivery. CHEWs with Buffalo Bicycles reach more households, can respond to emergencies faster, and spend more time with their clients, potentially improving population-level health outcomes. CHEWs with Buffalo Bicycles also spend less on transportation costs and improve their household welfare through increased savings, improved food consumption for their households, and increased ability to afford school fees and supplies and their children.

Given these significant benefits, community-based health programs should integrate affordable, sustainable bicycle mobility solutions – like the Buffalo Bicycles – into the professionalization of community health workers. This will address transportation barriers affecting community health worker and volunteers, enhance service delivery, and improve population-level health outcomes. BBU and WBR will continue partnering governments, donors, and the private sector to expand provision of Buffalo Bicycles to strengthen health worker mobility.

To address the challenges with access to Buffalo spares and Buffalo-trained mechanics, which were reported in some locations, BBU will host regular bicycle clinics to enable more routine servicing, improve access to spare parts and repairs, and ensure better access to mechanics. These clinics could be implemented on the days that CHEWs typically report to health facilities for meetings with their supervisors and to provide services to the community. To ensure easy access to spare parts by all clients, BBU will also deliver spare parts closer to the communities by increasing the number of outlets and partnering with mechanics. Moreover, based on the mechanics' recommendations, BBU will undertake refresher training sessions in the future, especially for those new in the trade. These refresher sessions will help reinforce the mechanics' skills and ensure that the mechanics stay updated on Buffalo standards and maintain compliance.