Behavioural Drivers and Barriers to Public Health and Social Issues in Mbire District, Zimbabwe

Davison Munodawafa *, Pepukai Manjeru , Lioyd Goronga

Posted Date: 11 August 2025

doi: 10.20944/preprints202508.0701.v1

Keywords: birth registration; exclusive breastfeeding; early childhood education; open defecation; energy efficiency; social norms

 doi:10.20944/preprints202508.0701.v1

Article

Behavioural Drivers and Barriers to Public Health and Social Issues in Mbire District, Zimbabwe

Davison Munodawafa [1,*], Pepukai Manjeru [2] and Lioyd Goronga [3]

[1] Department of Community Medicine, Midlands State University, Gweru, Zimbabwe
[2] Department of Crop Sciences, Midlands State University, Gweru, Zimbabwe
[3] Department of Statistics and Operations Research, National University of Science and Technology, Bulawayo, Zimbabwe
* Correspondence: munodawafad@staff.msu.ac.zw

Abstract

Foundational behaviours in child health, education, sanitation, and energy lag in Mbire District, Zimbabwe. This study investigates the drivers and barriers influencing five key behaviours: birth notification and registration (BNR), exclusive breastfeeding (EBF), early childhood development education (ECDE), open defecation free (ODF) practices, and efficient use of energy (EUE). A cross-sectional, mixed-methods study was conducted using structured surveys, fifteen focus group discussions (FGDs) (n=180), and twenty key-informant interviews (KIIs) (n=20). Qualitative data were thematically analysed using QDA Miner 6, achieving a Cohen's kappa of 0.82. The findings reveal that community leadership advocacy, targeted communication (radio, village meetings), and peer support consistently enabled positive behaviours across all five domains. Conversely, significant barriers included financial and logistical constraints (e.g., fees, distance), complex documentation requirements, and deeply entrenched cultural norms, such as preferences for home births, early complementary feeding, and traditional cooking methods. While interventions like mobile registration units and subsidized school fees showed localized success, their impact was limited by a lack of sectoral integration. This study underscores the necessity of a multi-pronged Social and Behavioural Change (SBC) strategy. We recommend an integrated approach that synchronizes mobile and clinic-based services with community events, pairs financial subsidies with technical training, and co-designs culturally sensitive messaging with local leaders to amplify the impact of health, education, WASH, and energy programs in Mbire District.

Keywords: birth registration; exclusive breastfeeding; early childhood development education; open defecation; energy efficiency; social norms; behavioural science; Zimbabwe

1. Introduction

In Zimbabwe, national policies and strategic frameworks have long aimed to support foundational public health and social behaviours, yet significant implementation gaps persist at the district level. Mbire District, a predominantly rural area in Mashonaland Central Province with a youthful population of approximately 83,720 (63.8% under 25), exemplifies these challenges [1]. Recent data indicate that only 60% of births are registered by age one [2], exclusive breastfeeding (EBF) rates have fallen to 42% [3], less than half of eligible children are enrolled in Early Childhood Development Education (ECDE) programs [4], 23% of households still practice open defecation [5], and rural electricity access remains low at 31.6% [6]. These indicators not only fall short of national targets but also undermine progress towards the Sustainable Development Goals (SDGs).

Birth registration is a fundamental right, yet in sub-Saharan Africa, barriers such as high fees, inadequate services, and low awareness impede progress [7,8]. Unregistered children in Zimbabwe face exclusion from education and healthcare, with disparities pronounced by wealth and geography [9]. Similarly, while global EBF rates have improved, Zimbabwe has seen a decline, influenced by

 doi:10.20944/preprints202508.0701.v1

cultural practices and socio-economic factors that challenge the "breast milk only" message for the first six months [3,10]. In education, parental and community involvement are critical for the success of ECDE, but are often hampered by low engagement, socio-economic barriers, and structural issues within the education system [4,11].

In the domain of sanitation, open defecation remains a pressing public health issue, contributing to the spread of diarrheal diseases and increasing vulnerability to gender-based violence [5,12]. Despite the implementation of Community-Led Total Sanitation (CLTS) initiatives, inadequate infrastructure and funding challenge the goal of achieving Open Defecation Free (ODF) communities [13]. Finally, in the energy sector, while 62% of Zimbabwean households have electricity, a stark urban-rural divide persists, with most rural communities dependent on biofuels [6]. The energy consumption patterns of Zimbabwe's large youth population represent an under-researched area with significant potential for promoting energy efficiency [14].

Past formative studies in Zimbabwe have typically examined drivers and barriers within individual domains. However, the interdependence of these behaviours necessitates a more integrated approach; for instance, progress in water, sanitation, and hygiene (WASH) can reinforce health and education outcomes. Recognizing this, our study utilizes a mixed-methods approach to generate holistic, actionable insights for a unified Social and Behavioural Change (SBC) strategy in Mbire. The research addresses two primary questions: (1) What are the specific local factors that drive or inhibit each of the five foundational behaviours? and (2) What cross-cutting themes can inform the design of a more coherent, resource-efficient, and impactful multi-sectoral SBC program?

2. Materials and Methods

2.1. Study Design and Setting

A cross-sectional mixed-methods formative study was conducted between January and March 2025 in Mbire District, Mashonaland Central Province, Zimbabwe. The district is characterized by a semi-arid climate and dispersed rural settlements, which present logistical challenges for data collection.

2.2. Participant Selection

A total of 200 individuals were recruited using purposive sampling, stratified equally between rural and peri-urban wards to ensure diverse representation. Quotas were established for sex, age group (18–24, 25–34, 35+), educational attainment (none/primary, secondary, tertiary), and occupation (farming, informal trade, health/village health work, education, leadership). The participant pool included community members, health workers, early childhood educators, traditional leaders (headmen, councillors), and district-level policymakers to capture a wide range of perspectives.

2.3. Data Collection

Data were collected through a quantitative survey, focus group discussions (FGDs), and key informant interviews (KIIs).

2.3.1. Quantitative Survey

A 45-item structured questionnaire was developed to capture demographic characteristics and Likert-scale assessments (1 = strongly disagree to 5 = strongly agree) of perceived drivers and barriers for each of the five behaviours. The questionnaire covered domains such as awareness, access to services, cultural beliefs, and financial constraints. The survey was self-administered on tablets using KoBoToolbox, with trained enumerators available to provide assistance and ensure clarity.

2.3.2. Qualitative FGDs and KIIs

 doi:10.20944/preprints202508.0701.v1

Fifteen FGDs, each comprising 8–12 participants, and twenty KIIs were conducted to gather in-depth qualitative data. Semi-structured interview guides were used to probe personal experiences, community norms, and perceived enablers and obstacles related to each of the five behaviours. Example questions included, "What makes it easier or more difficult for mothers in your community to breastfeed exclusively?" and "What are the major causes of open defecation in this community?" All sessions were audio-recorded, transcribed verbatim, and translated into English for those conducted in the local Shona language.

2.4. Data Analysis

2.4.1. Quantitative Analysis

Demographic and survey data were analysed using Python (with Pandas and Matplotlib libraries). Descriptive statistics, including frequencies and proportions, were calculated. Chi-square tests were used to explore associations between participant characteristics (e.g., education level, location) and their perceptions of behavioural drivers and barriers.

2.4.2. Qualitative Analysis

The translated transcripts from the FGDs and KIIs were imported into the qualitative data analysis software QDA Miner 6 for thematic analysis. A hybrid coding approach was employed. Initially, a deductive codebook was developed based on themes from the literature review. This was subsequently expanded with inductive codes that emerged directly from the participant narratives. This process resulted in a comprehensive codebook delineating specific behavioural drivers (e.g., leadership advocacy, radio communication, community support) and barriers (e.g., documentation complexity, cultural norms, financial constraints).

To ensure analytical rigour, two independent researchers coded 10% of the transcripts. The resulting codes were compared, and any discrepancies were discussed and resolved to refine the codebook definitions. Inter-rater reliability was then calculated using Cohen's kappa, which yielded a score of **0.82**, indicating a strong level of agreement between the coders. Following this, the primary researcher coded the remaining transcripts. The analysis involved quantifying code frequency (the number of times a code was applied) and case coverage (the percentage of FGDs/KIIs in which a code appeared) to systematically identify and compare the most salient themes across the five behavioural domains.

2.5. Ethical Considerations

The study protocol was approved by the Institutional Review Board of Midlands State University. Informed consent was obtained from all adult participants before their involvement in the study, and this was documented on the questionnaire. The study ensured the anonymity and confidentiality of all participants. No individuals under the age of 18 were included. Anonymized datasets and codebooks are available from the corresponding author upon reasonable request.

3. Results

3.1. Participant Demographics

Of the 200 participants, 102 (51.0%) were female and 98 (49.0%) were male. The age of participants ranged from 18 to 65 years, with a median age of 29 (IQR 22–37). In terms of education, 37% had completed primary education or less, 52% had completed secondary education, and 11% had attained tertiary education. The primary occupations included farming (45%), informal trade (20%), health/village health work (10%), education (8%), and leadership roles (7%). A detailed breakdown of participant demographics is provided in Appendix A, Table A1.

 doi:10.20944/preprints202508.0701.v1

3.2. Birth Notification and Registration (BNR)

Qualitative analysis revealed that traditional leaders were a primary driver of BNR, with **85.7%** of FGDs/KIIs crediting them with championing registration drives. As one participant noted, *"The headmen sometimes go spreading the word that parents should take their children's birth certificates, and we also get the information at the clinic."* Clinic-based health talks and local radio announcements also reinforced the importance of BNR for **42.9%** of the groups. The deployment of mobile civil registration units was another key facilitator, although their reach was limited to **14.3%** of wards.

The most significant barrier, cited in **85.7%** of discussions, was the complexity of documentation. A participant explained, *"They need both parents and their ID numbers,"* a requirement that, coupled with transport costs, proved prohibitive for many. This was particularly challenging when initial birth records were missing. Distance was another obstacle for **28.6%** of groups, with one respondent sharing, *"sometimes during the rainy season the rivers can be full and we have to wait till we are able to cross."* Furthermore, **85.7%** of groups reported that cultural preferences for home births, which often lack formal notification, hindered the registration process.

Table 1. Drivers and Barriers for Birth Notification and Registration.

Driver	Case Coverage	Barrier	Case Coverage
Leadership advocacy at village level	85.7%	Complex documentation requirements	85.7%
Mobile registration units	14.3%	Long travel distances, impassable roads	28.6%
Clinic-based radio announcements	42.9%	Cultural preference for home births	85.7%

3.3. Exclusive Breastfeeding (EBF)

Community radio campaigns were a major driver for EBF, resonating in **85.7%** of FGDs/KIIs. Counselling from health workers at postnatal clinics provided essential practical guidance for **42.9%** of groups. One mother shared, *"Health workers educate mothers on how to do things healthily regarding breastfeeding."*

However, the cultural practice of early complementary feeding was a dominant barrier, mentioned in **85.7%** of discussions. A participant explained, *"Babies are given porridge and maheu [a traditional beverage],"* often by older female relatives. A perceived insufficient milk supply, a concern for **71.4%** of groups, was often linked to maternal nutrition challenges. Additionally, **28.6%** of participants noted resistance from family members, particularly grandmothers, who distrusted the "breast milk only" message.

Table 2. Drivers and Barriers for Exclusive Breastfeeding.

Driver	Case Coverage	Barrier	Case Coverage
Community radio campaigns	85.7%	Early supplementary feeding by relatives	85.7%

 doi:10.20944/preprints202508.0701.v1

Health-worker counselling at clinics	42.9%	Perceived low maternal milk supply	71.4%
Peer support and testimonials	42.9%	Limited family support and traditional beliefs	28.6%

3.4. Early Childhood Development Education (ECDE)

Community mobilization through School Development Committees (SDCs) was a key driver, with **71.4%** of discussions highlighting their role in advocating for ECDE enrolment. Parental engagement in home-based learning activities was seen as pivotal for school readiness by **85.7%** of groups. Financial support from NGOs or community fundraising enabled **35.0%** of families to enrol their children.

The most pervasive barrier, emphasized by **85.7%** of participants, was financial constraints. As one parent stated, the primary issue is a *"Lack of money to pay school fees."* This led to delayed enrolment or irregular attendance. A lack of awareness regarding the importance of ECDE was noted by **28.6%** of groups, with a common belief that formal schooling should only begin at age 7. Cultural narratives suggesting that *"children need to help with chores before learning"* also emerged as a barrier in **28.6%** of FGDs.

Table 3. Drivers and Barriers for Early Childhood Development Education.

Driver	Case Coverage	Barrier	Case Coverage
Community mobilization via SDC meetings	71.4%	School fees, uniform, and transport costs	85.7%
Parental engagement in home-based learning	85.7%	Low perceived importance of ECDE	28.6%
NGO-subsidized fees and uniforms	35.0%	Cultural belief in chore over school priority	28.6%

3.5. Open-Defecation-Free (ODF) Practices

Community-Led Total Sanitation (CLTS) workshops were a powerful driver, galvanizing **78.6%** of wards to adopt ODF practices. Public commitments to ODF targets by traditional leaders, noted in **64.3%** of groups, further reinforced these efforts. School-based sanitation clubs also played a role in instilling hygienic habits in children, as mentioned by **50.0%** of groups.

Despite these initiatives, a shortage of construction materials for latrines was a major constraint for **71.4%** of participants. Seasonal water scarcity was a challenge for **57.1%** of wards. Furthermore, **42.9%** of groups described cultural taboos against sharing latrines as a significant barrier. One respondent explained, *"Some people do not want to go to the toilet... more often in forests, in their lands."*

 doi:10.20944/preprints202508.0701.v1

Table 4. Drivers and Barriers for Open-Defecation-Free Practices.

Driver	Case Coverage	Barrier	Case Coverage
CLTS trigger workshops	78.6%	Shortage of construction materials	71.4%
Leadership endorsement of ODF targets	64.3%	Seasonal water scarcity	57.1%
School-based sanitation clubs	50.0%	Cultural taboos around latrine sharing	42.9%

3.6. Efficient Use of Energy (EUE)

Awareness campaigns on the benefits of clean cookstoves reached **71.4%** of communities. Government and NGO subsidies were a key driver for **50.0%** of participants. The local availability of fuel-efficient stoves and solar lanterns in **42.9%** of wards also facilitated adoption.

Nevertheless, the high residual cost of even subsidized stoves remained a significant barrier for **78.6%** of the poorest households. A participant noted, *"Trying to buy gas stoves is very hard for us."* Cultural preferences for traditional three-stone fires prevailed in **57.1%** of discussions. Additionally, **64.3%** of participants reported a lack of local maintenance services, with one explaining, *"The issue of tsotso stoves was taught... but we don't have enough knowledge because they did not train us."*

Table 5. Drivers and Barriers for Efficient Use of Energy.

Driver	Case Coverage	Barrier	Case Coverage
Awareness campaigns on fuel-efficient cookstoves	71.4%	High residual cost despite subsidies	78.6%
Financial incentives/subsidies	50.0%	Cultural preference for traditional cooking	57.1%
Availability of clean cookstoves and solar kits	42.9%	Lack of local maintenance and spare parts	64.3%

4. Discussion

This integrated analysis across five distinct yet interconnected domains in Mbire District reveals several cross-cutting themes that are critical for the development of an effective multi-sectoral SBC strategy.

Cross-Cutting Enablers:

Community leadership consistently emerged as the most influential driver across all five behaviours. The active involvement of traditional leaders in mobilizing communities, endorsing targets, and legitimizing new practices was pivotal. This finding aligns with research highlighting

 doi:10.20944/preprints202508.0701.v1

the crucial role of community leaders in advocating for civil registration and other public health initiatives in rural African contexts [15].

Targeted communication, particularly through local radio, village meetings, and school clubs, proved highly effective in amplifying messages and sharing peer testimonials. This underscores the importance of using trusted, accessible channels to disseminate information and foster social support for behaviour change.

Financial and material support, whether provided by NGOs, the government, or through community fundraising, was a critical enabler where available. This highlights the reality that for many households in Mbire, the intention to adopt positive behaviours is often constrained by economic realities.

Persistent Barriers:

Financial and logistical constraints, including fees, transport, and material costs, were the most pervasive obstacles across all domains. This suggests that SBC strategies must be paired with structural interventions that address the economic determinants of behaviour.

Bureaucratic hurdles, especially complex documentation requirements for birth registration, were a significant deterrent. This indicates a need for streamlining administrative processes to make essential services more accessible.

Deeply entrenched cultural norms, from early weaning traditions to latrine-sharing taboos and traditional cooking preferences, continue to undermine the adoption of new behaviours. This finding reinforces the need for culturally sensitive approaches that engage with, rather than ignore, local beliefs and practices.

Our findings echo the domain-specific literature from Zimbabwe [2,14,15] but offer a unique, integrated perspective. By examining these five behaviours under a single SBC framework, we highlight the potential for synergistic interventions. For example, synchronizing mobile birth registration services with immunization campaigns and cookstove distribution events, all under the patronage of local leaders, could maximize reach and efficiency. Similarly, coupling financial subsidies with capacity-building, such as hands-on latrine construction demonstrations or cookstove maintenance training, can enhance the sustainability of these interventions.

4.1. Limitations of the Study

This study has some limitations that should be considered. The use of purposive sampling, while appropriate for a qualitative-driven mixed-methods study, may limit the generalizability of the findings to the entire Mbire District. Additionally, the study relied on self-reported data, which may be subject to social desirability bias. The cross-sectional design also means we cannot infer causality between the identified drivers/barriers and the behavioural outcomes.

4.2. Future Research Directions

Future research should explore the long-term impact of integrated SBC strategies on behavioural outcomes in Mbire and similar contexts. Longitudinal studies could track changes in social norms and behaviours over time. Further investigation into the cost-effectiveness of multi-sectoral versus single-sector interventions would also provide valuable insights for policymakers and program implementers.

5. Conclusions

The sustainable improvement of birth registration, exclusive breastfeeding, early childhood development education, open defecation free practices, and efficient energy use in Mbire District requires an integrated, community-led SBC strategy. This strategy must simultaneously address financial, logistical, and cultural barriers while leveraging existing leadership structures and communication channels. A holistic approach that fosters inter-sectoral coordination across the district's health, education, WASH, and energy offices can maximize impact, reduce the duplication

 doi:10.20944/preprints202508.0701.v1

of efforts, and accelerate progress towards both national development goals and the Sustainable Development Goals.

Author Contributions: Conceptualization, D.M.; methodology, D.M. and L.G.; software, L.G.; validation, D.M., P.M. and L.G.; formal analysis, L.G.; investigation, D.M.; resources, P.M.; data curation, L.G.; writing—original draft preparation, D.M.; writing—review and editing, D.M., P.M. and L.G.; visualization, L.G.; supervision, D.M.; project administration, P.M. All authors have read and agreed to the published version of the manuscript.

Funding: This research received no external funding.

Institutional Review Board Statement: The study was conducted in accordance with the Declaration of Helsinki, and approved by the Institutional Review Board of Midlands State University.

Informed Consent Statement: Informed consent was obtained from all subjects involved in the study.

Data Availability Statement: Anonymized datasets and codebooks are available from the corresponding author upon reasonable request.

Acknowledgments: We thank the Mbire District Administration Office, traditional leaders, and all participants for their invaluable contributions.

Conflicts of Interest: The authors declare no conflict of interest.

Appendix A

Table A1. Participant Demographics (n=200).

Characteristic	Category	n (%)
Gender	Female	102 (51.0)
	Male	98 (49.0)
Age	Median (IQR)	29 (22-37)
Education	Primary or below	74 (37.0)
	Secondary	104 (52.0)
	Tertiary	22 (11.0)
Occupation	Farming	90 (45.0)
	Informal trade	40 (20.0)
	Health/Village Health Workers	20 (10.0)
	Education	16 (8.0)
	Leadership	14 (7.0)
	Other	20 (10.0)

 doi:10.20944/preprints202508.0701.v1

References

1. ZIMSTAT. *2022 Population and Housing Census Preliminary Report*; Zimbabwe National Statistics Agency: Harare, Zimbabwe, 2023.
2. Macheke, G. Birth Registration in Rural Zimbabwe: Challenges and Opportunities. *Afr. Popul. Stud.* **2020**, *34*, 287–303.
3. Alive & Thrive. *Global Breastfeeding Scorecard, 2022*. Available online: [insert appropriate URL if available] (accessed on 24 July 2025).
4. Nkekane, R. Parental Involvement in Early Childhood Development Education in Zimbabwe. *J. Early Child. Educ.* **2018**, *45*, 123–135.
5. Government of Zimbabwe. *National Sanitation and Hygiene Policy*; Ministry of Health and Child Care: Harare, Zimbabwe, 2017.
6. World Bank. *Access to Electricity, Rural (% of Rural Population) - Zimbabwe*. Available online: https://data.worldbank.org/indicator/EG.ELC.ACCS.RU.ZS?locations=ZW (accessed on 23 July 2025).
7. UNICEF. *Birth Registration for Every Child by 2030: Are We on Track?*; UNICEF: New York, NY, USA, 2021.
8. United Nations. *The Importance of Civil Registration and Vital Statistics Systems for Monitoring Health and Achieving the Sustainable Development Goals*; World Health Organization: Geneva, Switzerland, 2015.
9. Bhatia, M.; Loughnan, J.; Nelson, K. Disparities in Birth Registration and Its Implications for Child Rights. *Int. J. Child Rights* **2019**, *27*, 725–742.
10. Muchacha, M.; Mtetwa, E. Cultural Practices and their Influence on Exclusive Breastfeeding in a Rural Zimbabwean Community. *J. Hum. Lact.* **2015**, *31*, 430-439.
11. Yoo, M. Determinants of Parental Involvement in Early Childhood Education. *J. Educ. Res.* **2019**, *112*, 311–326.
12. Ncube, P. Open Defecation and Public Health in Zimbabwe: Current Trends and Interventions. *Zimbabwe Health J.* **2022**, *29*, 78–92.
13. UNICEF Zimbabwe. *Climate-Resilient WASH Programme Document 2022-2026*; UNICEF: Harare, Zimbabwe, 2022.
14. Toth, G.; et al. Youth and Energy Efficiency in Zimbabwe: A Behavioural Perspective. *Energy Policy* **2013**, *58*, 233–242.
15. Macheke, G. Community Leadership and Birth Registration: Insights from Zimbabwe. *J. Afr. Stud.* **2020**, *16*, 145–159.