

Review Article

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Empowering Communities for Sustainable Sanitation and Hygiene Practices: The Impact of Empowered World View (EWV) Model in Tanzania

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ABSTRACT

Empowered World View (EWV) is a transformative, faith-based programming model developed by World Vision to foster mindset shifts towards hope, compassionate relationships, self-reliance, and active faith. Initially conceived in 2015 in Tanzania, EWV has been implemented in over 40 countries by 2023. The EWV model comprises five interconnected pillars; self-identity, vision, compassion, building relationships, and faith in action which employ faith-based teachings to transform dependency mindsets and negative self-perceptions, enabling communities to take ownership of their development. This study was conducted to explore the impacts of the EWV model in promoting WASH services uptake. This study used mixed method research design (quantitative and qualitative data) whereas quantitative data collected through household survey tools (920 households) and qualitative data collected through 4 FGDs and observation in 2023. The findings indicate that Kihanga, which received EWV training, had higher water availability (92.2%) compared to Wasa (88.2%) [$z=2.01$, $p=0.045$], greater access to improved drinking water sources within 30 minutes (85.2% vs. 77.8%) [$z=2.89$, $p=0.004$], and higher handwashing with soap and running water (56.1% vs. 50.4%) [$z=1.72$, $p=0.086$; not statistically significant]. Kihanga had more households with handwashing stations outside toilets (21.1% vs. 16.1%) and a higher proportion of respondents treating drinking water (37.7% vs. 33.9%). The findings highlight significant improvements in household sanitation and hygiene practices, such as increased access to handwashing facilities, latrine construction or enhancement, and household members ability to consistent use of soap for handwashing at critical times. Use of children and youths as agents of change has contributed to disseminating knowledge in handwashing practices. Integration between EWV and sanitation models increased number of households with handwashing points (tip taps) out of the toilets. The study concluded that EWV model was associated with statistically significant improvements in water access proximity and training uptake; broader hygiene behaviour outcomes showed positive trends that did not reach conventional significance thresholds, warranting further longitudinal investigation.

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Introduction

Addressing WASH challenges in low- and middle-income countries (LMICs) requires not only infrastructure investment, but also targeted behaviour change interventions. Comprehensive evidence mapped by Chirgwin et al. (2021) found that WASH programming has increasingly shifted focus from technology supply toward demand-side behaviour change communication using community-based psychosocial approaches [1]. Complementing this, Tseole et al. (2022) identified in a scoping review of 18 Southern African studies that effective community engagement, social capital development, and improved infrastructure ownership were the critical facilitators to sustained WASH practice improvement [2].

Tanzania has made significant strides in improving access to Water, Sanitation, and Hygiene (WASH) services [3]. Statistics indicate that a significant portion of households in Tanzania lack access to essential WASH services. While 64% have a basic water supply, only 32% have basic sanitation facilities, and 48% have basic handwashing facilities [4]. A report by the Global Alliance for Water, Sanitation, and Hygiene (2020) highlights that while progress has been made in the WASH sector, Tanzania still faces significant challenges in achieving universal access to safe water, sanitation, and hygiene [5]. Rural Tanzania faces distinct challenges in accessing essential WASH services [6]. Only 44% of rural residents have access to improved drinking water sources, compared to 83% in urban areas. Inadequate sanitation facilities are a pressing issue, with only 10% of rural Tanzanians having access to improved sanitation compared to 55% in urban areas. Poor hygiene practices, such as inadequate handwashing and open defecation, further contribute to the spread of waterborne diseases in Tanzania [6, 7].

World Vision Tanzania supports the government of Tanzania in achieving her National Development Vision 2025 through its Water, Sanitation and Hygiene (WASH) technical program that aims at supporting the communities to access improved and quality WASH services maintaining its focus on the vulnerable children and communities [8]. WASH interventions are implemented in both communities (at the household level) as well as institutions specifically focusing schools and Health care facilities. During fiscal year 2022 WVT implemented WASH interventions to increase access to clean water for 127,968 individuals and providing basic household sanitation to 27,712 people. Additionally, WVT facilitated access to handwashing facilities for 87,162 households and 22,782 schoolchildren [9]. In Fiscal year 2023, a total of 38 Area Programs in 13 regions of Tanzania, participated in implementing WASH interventions through amongst others establishing/renovating water supply infrastructures, constructing improved latrines in schools and health care facilities and installations of hand washing facilities as well as promoting behaviour change with total reach of 253,444 individuals directly (88,635 boys, 98,982 girls, 14,234 adult women, and 51,593 adult men) through various interventions aimed at increasing access to clean water, promoting effective water resource management, and fostering good hygiene practices among adults and children [8].

To ensure sustainability and accelerate change World Vision employs Empowered World View (EWV) which is a faith-based programming model and training curriculum developed by World Vision to transform mindsets towards hope, compassionate relationships, self-reliance, and faith-in-action [10, 11]. EWV was developed in WV Tanzania in 2015 due to various factors including dependency syndrome on World Vision, government, INGOs etc., fatalistic mind-set that created hopelessness and helplessness, presence of negative cultural practices that undermined progress and child well-being and merely a lack of addressing the root causes of poverty in our approach [12]. EWV model is emphasizing the shift towards self-realization and actualization, empowering communities to be proactive in their development. Drawing from religious teachings in Genesis 1:26-31 and Surah Al-Baqarah (2:30-39), the concept of empowerment, accountability, and stewardship is emphasized, providing individuals with purpose and the ability to effect positive change. Implementing EWV as a core project model in sanitation and hygiene enables communities to drive transformation from the outset of Area Programs, promoting sustainable sanitation and hygiene practices.

EWV has marked huge milestones in Tanzania since its start in 2015 informed by the findings from EWV research and evidence of change from WVT implementation in Area Programmes (APs). The research proved the assumed theory of change that concludes that EWV leads to measurable changes in mindset, which in turn leads to measurable changes in the ways that participants respond to World Vision programming in the areas of Water sanitation and hygiene practices [13].

World Vision Tanzania has been implementing the Empowered World View (EWV) model, a faith-based programming approach aimed at transforming mindsets and promoting sustainable Sanitation and Hygiene practices since 2015 [11, 13]. However, while the EWV model has shown promise in shifting mindsets and improving Sanitation and Hygiene outcomes, there remains a need to systematically assess its impact on the behavior and well-being of communities. This study aimed at assessing the impact of EWV model in fostering sustainable changes in sanitation and hygiene practices at the community level, particularly in rural areas where the need is most acute. The study was conducted in two Area programs (APs) in Iringa region namely Kihanga and Wasa APs.

Since its inception in 2020, Kihanga Area Programme received EWV training while Wasa Area Programme served as the control group. Study objectives were (i) To assess the impact of EWV model at the Household level on sanitation and hygiene practices at Kihanga and Wasa Area Programs (APs), (ii) To identify the key factors influencing the effectiveness of the EWV model, (iii) To identify lessons from the implementation of the EWV model, and household graduation criteria.

EWV Theory of Change

Theory of Change for Empowered World View (Mindset Transformation) as a foundational approach to address the root causes of poverty in households and communities [13]. If household members demonstrate adaptability, critical thinking, and problem-solving skills to overcome challenges; Reflect on personal growth, identify areas for improvement, and set goals for development; Share knowledge and skills with other households then, contribute to an empowered and sustainable community.

Through this theory of change, the empowered worldview (mindset transformation) serves as a foundational approach to address the root causes of poverty by shifting paradigms, empowering individuals and communities, and fostering systemic changes that promote equity, justice, and sustainable development.

Mindset transformation is indeed a crucial element in achieving holistic and sustainable change in development interventions. The theory further stresses that changes in mindset motivate changes in people's behavior. Mindset transformation comes with an increase in faith, hope, confidence, self-dependence, self-realization, relationships, caring for others, and a bright future (vision) that is needed for self-driven development.

EWV Model and Water, Sanitation, and Hygiene Practices

World Vision Tanzania developed an EWV Water, Sanitation, Hygiene, Health, and Nutrition Facilitator Guide, a curriculum used to educate community members and groups, providing them with tools and techniques to support social change and promote WASH uptake in rural community environments [14]. The EWV model is built on five pillars; self-identity, vision, compassion, faith in action, and relationship building which emphasize the critical role of individual and household agency in development. It integrates religious teachings that underscore empowerment and accountability, asserting that mindset transformation is the foundation for sustainable change.

Tanzania has made progress in WASH access, but significant disparities persist, especially in rural areas. While national statistics show overall improvement, rural residents face challenges in accessing clean water and sanitation. Poor hygiene practices contribute to disease spread. World Vision supports Tanzania government's WASH efforts through its technical program, focusing on vulnerable communities and children to ensure access to improved WASH services [3, 4, 15,16,17]

The study conducted by Lenhardt, et al (2021) found that EWV interventions have a positive, statistically significant effect on livelihoods (THRIVE) results, including subjective well-being, income change, resilience, and child well-being in Zambia [18]. Statistical analysis from the EWV research conducted by World Vision Tanzania, Ifakara Health Institute and Alberta University in Iringa and Kigoma regions in Tanzania revealed that the EWV model significantly improved hope, self-efficacy, and child nutrition in the Kigoma study area. However, measurable effects were limited in the Iringa study area and that despite other factors,

the EWV model was associated with an 11.4-11.2% decrease in malnutrition rates among children aged 5 in the first two years of implementation [13].

The study by Kamara et al. (2017) found that a four-year intervention in rural Tanzania improved access to water and sanitation, leading to reduced diarrhea rates and increased knowledge about hygiene. However, challenges such as limited resources, cultural barriers, and lack of awareness hindered progress. The study concluded that sustainable improvements require comprehensive and long-term efforts [19].

Proof from experience in designing programs has shown that beginning Empowered World View (EWV) at the start of an Area Programme (AP) assessment and design results in faster household-level maturity compared to implementing it after the AP has been designed [13]. By implementing EWV from the beginning, all five components such as increased faith, hope, confidence, self-dependence, self-realization, relationships, caring for others, and a brighter future (vision) are experienced within the first three years. This realization highlights the need to change World Vision planning approach to avoid perpetuating dependency on households and individuals who have already started taking control of their development challenges.

While other previous studies have primarily focused on the EWV model's impact on livelihoods [13, 18] this study examines EWV influence on WASH interventions. Specifically, it compares the impact of EWV in Kihanga (treatment), Wasa (control) on WASH services uptake, and investigates key factors for EWV's successful implementation.

The need for more rigorous evaluation frameworks in WASH behaviour change research is well-supported in the literature. Ginja, Gallagher and Keenan (2021) argued that existing WASH behaviour change research lacks theoretical rigour in both intervention specification and outcome evaluation, particularly noting short-term follow-up and weak study designs as recurring limitations [20]. Therefore, this study aimed at assessing faith-based EWV model to understand whether it has impact in WASH practices in the rural households using robust comparative designs.

Methodology

Study Design and Areas

This study employed a mixed-methods research design incorporating both quantitative and qualitative data. Quantitative data were collected through a structured household survey tool from 920 households (460 from Kihanga Area Programme and 460 from Wasa Area Programme), while qualitative data were gathered through 4 Focus Group Discussions (FGDs) and direct observation. Data collection was conducted between June and July 2023 across four administrative wards of Kihanga, Maboga, Wasa, and Lumuli which are within Iringa Rural District, Iringa Region, Tanzania. Kihanga Area Programme, comprising Kihanga and Maboga wards, served as the intervention (model treatment) group, while Wasa Area Programme, comprising Wasa and Lumuli wards, served as the control group.

Study Population and Sampling Strategies

This study was conducted in the Wasa and Kihanga area programs of Iringa Rural District, Tanzania. These area programs were selected based on their roles in the intervention and control groups of the study. Wasa area programme with a population of 11,116 individuals, as reported in the 2022 national census. It spans an

area of 436.0 km², with a population density of 25.50 people per km². Kihanga area program recorded a population of 7,506 individuals in the 2022 census. The sampling frame comprised households within the study area, categorized according to their participation in relevant intervention programs. A total of 920 households in two Area programs (460 to each Area Programme) were surveyed from each ward, providing sufficient statistical power for comparative analysis.

Households were selected through a systematic random sampling technique, in which every *n*th household was included in the study. Eligibility criteria for households' selection include actively engaged in WASH programs. If a selected household was unavailable, the nearest neighboring household was surveyed to maintain the required sample size.

The sampling strategy was designed to ensure a balanced representation of different socio-economic groups, allowing for meaningful comparisons between treatment and control groups. The sampling frame was based on Area Programs (APs) or sub-villages. To enhance representativeness, a Probability Proportional to Size (PPS) approach was used within a two-stage cluster sampling technique, ensuring that clusters were selected proportionally to the number of households in a given village.

This method enabled a fair distribution of clusters based on household density, ensuring that villages with larger populations had a proportionally higher number of clusters. In total, 920 households were surveyed, with 460 households selected from each Area Program (AP), maintaining a strong sample size for the study.

Data Collection

Household survey (Care Giver Survey) was the main data collection tool. This tool included basic household information (e.g. date of survey, AP name and household number), household characteristics (e.g., age, gender and marital status) and WASH sector indicators. The questions were designed for the main caregiver of children in the household or one of them if several families lived together or in polygamous households whereas the head of the household was interviewed.

The survey collected data on the following WASH indicators grouped into four domains; water supply and access, hygiene behavior, sanitation and hygiene infrastructures, and water quality. Under water supply and access, the questionnaire captured whether water was available at the household's main source and whether households used an improved water source reachable within a 30-minute round trip (including queuing time). Under hygiene behaviour, it recorded handwashing at critical times before cooking and before feeding a child and whether households washed their hands using running water together with soap. Under hygiene infrastructure, enumerators observed the presence of a designated handwashing point in the kitchen area and outside the toilet and assessed the availability of water and of soap at that handwashing point. Under water quality, the survey recorded whether households treated their drinking water to make it safe for consumption. Each indicator was captured at the household level for both area programmes (Kihanga and Wasa), combining respondent self-report with direct enumerator observation of facilities and WASH practices.

Desk review of existing secondary data, included EWV research 2024, WASH Technical Programme Evaluation Report (2020),

Data analysis plans, Factsheet for Technical Programme Evaluation (2020) and Mini TP Baseline Evaluation report (2021), Annual reports, studies conducted on EWV in other countries, INGO reports, and EWV cross country learning visiting report 2023.

Data Management and Analysis

Data were analysed using IBM SPSS Statistics 27. Descriptive statistics (frequencies and percentages) were computed for selected WASH indicators and disaggregated by area programme (Kihanga and Wasa). Differences in indicator prevalence between the two areas were tested using two-proportion z-tests, with the z-statistic and a two-tailed p-value reported for each indicator. Statistical significance was set at p-value = 0.05.

Ethical Considerations

This study received ethical clearance from the Medical Research Coordinating Committee in Tanzania, under the National Institute for Medical Research (NIMR). Official authorization to conduct the study at the local level was obtained from the relevant Regional and Local Government Authorities. At the household level, respondents provided informed consent to participate in the study and allowed researchers to observe their water, sanitation, and hygiene facilities.

Results

Table 1: Results of Water Sanitation and Hygiene Practices in Kihanga and Wasa APs

Indicator	Kihanga	Wasa	Gap (pp)	z-stat	p-value
Water availability at households	92.2%	88.2%	+3.9%	2.01	0.045
Improved water source within 30 min roundtrip	85.2%	77.8%	+7.4%	2.89	0.004
Handwashing before cooking	62.3%	62.2%	+0.1%	0.04	0.966
Handwashing before feeding the child	82.1%	80.9%	+1.3%	0.49	0.621
Households washing hands with running water & soap	56.1%	50.4%	+5.7%	1.72	0.086
Handwashing point in kitchen area	17.8%	16.1%	+1.7%	0.70	0.482
Handwashing point outside toilet area	21.1%	16.1%	+5.0%	1.95	0.051
Water availability in handwashing area	49.6%	49.2%	+0.3%	0.10	0.918
Soap availability in handwashing area	34.1%	30.7%	+3.5%	1.13	0.260
Water treatment for drinking	37.7%	33.9%	+3.8%	1.20	0.231
Attended WASH/hygiene training	43.7%	31.1%	+12.6%	3.95	0.000

The survey results in Table 1 indicate that Kihanga AP, which has received EWV training, has slightly better overall water availability (92.2%) compared to Wasa (88.2%) and greater access to water sources within 30 minutes (85.2% vs. 77.8%). Although both areas have transitioned away from traditional pit latrines, Kihanga shows slightly higher uptake of improved sanitation facilities. Regarding sanitation practices, both areas demonstrate high compliance with using water before cooking (around 62%) and before feeding children (Kihanga 82.2% vs. Wasa 80.9%). Kihanga outperforms Wasa in using running water and soap for hand-washing (56.1% vs. 50.4%). Soap availability remains a challenge in both areas, with only 34.1% of Kihanga households and 30.7% of Wasa households reporting soap at the handwashing point. Kihanga also has a higher percentage of respondents treating their drinking water (37.7% vs. 33.9%) and shows greater attendance in sanitation and hygiene training (43.7% vs. 31.1%), suggesting a potential impact of EWV training on improved water and sanitation practices.

Factors Influencing the Effectiveness of the EWV Model

Results observed that the critical success factors for implementing Empowered World View (EWV) processes in Tanzania include a well-structured training program, government buy-in, and community engagement. Training is conducted at various levels using a cascading approach, reaching faith leaders, government officials, community influencers, and individuals to ensure broad coverage and impact. Regular follow-ups and monthly reflection meetings are integral for monitoring progress, addressing challenges, and refining strategies. Engaging cultural groups and key stakeholders, such as faith leaders and school teachers, helps in spreading EWV messages effectively within the community.

Successful EWV implementation also relies on contextualization and alignment of messages with local needs, as well as the formation of EWV clubs and groups to create a multiplier effect. Ensuring that trained individuals can lead and train others further amplifies the reach of EWV initiatives. Continuous dialogue with community groups helps tailor interventions to local contexts, while regular monitoring and feedback mechanisms ensure ongoing improvement and accountability. To ensure consistency and quality in training, WV Tanzania developed a facilitator guideline in Swahili, which all facilitators use.

Discussion

The findings of this study provide evidence for the positive association between the EWV model and selected WASH outcomes in Kihanga compared to Wasa. Statistically significant differences were observed for two indicators: access to water within a 30-minute round trip (85.2% vs. 77.8%; p=0.004) and training attendance (43.7% vs. 31.1%; p<0.001). For other hygiene indicators, Kihanga showed consistently positive trends, though most did not reach statistical significance at p-value = 0.05. These results align with previous studies emphasising the role of mindset transformation in driving behaviour change and community-led development (Lenhardt et al., 2021). However, given the cross-sectional design and pre-existing infrastructure differences between area programs, causal attribution to the EWV model should be made cautiously.

One of the key findings is that water availability at the household level was slightly higher in Kihanga (92.2%) than in Wasa (88.2%). Furthermore, access to improved drinking water sources within a 30-minute round trip was significantly higher

in Kihanga (85.2%) than in Wasa (77.8%). These findings suggest that the EWV model may have played a role in improving community engagement and advocacy for better water services, as evidenced by the establishment of Community-Based Owned Water Supply Organizations (COWSOs) in EWV-trained areas. This is consistent with research by Kamara et al. (2017), which found that community-led interventions contribute to sustainable improvements in WASH services.

The role of existing community structures in driving WASH uptake is well-documented. Okyere et al. (2022), in a systematic review of community engagement approaches in WASH across sub-Saharan Africa, found that involving religious institutions and faith leaders was among the most effective strategies for securing community buy-in for WASH interventions. Their review further recommended training young children as community change agents to embed knowledge across households and sustain WASH improvements beyond project cycles [21]. These findings closely reflect the EWV approach observed in Kihanga, where faith leaders and youth ambassadors were systematically engaged as channels for behaviour change messaging.

Handwashing behaviour was another area where Kihanga outperformed Wasa. The proportion of households washing hands with running water and soap was higher in Kihanga (56.1%) compared to Wasa (50.4%), although this difference was not statistically significant ($z=1.72$, $p=0.086$). Similarly, the availability of fixed handwashing points outside toilets was higher in Kihanga (21.1% vs. 16.1%; $p=0.062$), representing a meaningful programmatic trend even though it did not reach significance at $p\text{-value}=0.05$. Notably, Wasa households were significantly more likely to rely on mobile handwashing devices such as buckets and jugs (30.9% vs. 22.8%; $p=0.007$), which are less reliable for consistent use at critical times. These infrastructure differences may limit direct comparisons of handwashing behaviour between the two groups.

However, despite the positive outcomes, challenges remain. Soap availability in handwashing areas was relatively low in both Kihanga (34.1%) and Wasa (30.7%), highlighting the need for further efforts in ensuring the consistent use of soap for handwashing. Additionally, the rate of water treatment for drinking remained suboptimal, with only 37.7% of households in Kihanga and 33.9% in Wasa treating their drinking water. This underscores the need for targeted interventions that address cultural beliefs and economic barriers to water treatment.

The challenge of low soap availability is not unique to this study. According to the Joint Monitoring Programme (UNICEF/WHO, 2023), sub-Saharan Africa has the lowest regional coverage of basic handwashing facilities globally, with only 30% of the population having access and rural areas lagging considerably at 17% [22]. A systematic review by Ezezika et al. (2023) further identified that household economic constraints, lack of perceived need, and limited access to soap supply chains are the primary barriers to handwashing with soap in LMICs barriers that mindset-change interventions like EWV alone cannot overcome without complementary economic and supply-side support [23].

A key observation from this study is that the integration of EWV with WASH programming was associated with increased household adoption of hygiene facilities such as tip taps. This is consistent with previous evaluations of the EWV model which found that mindset transformation results in tangible changes in household behaviours and infrastructure [11]. Moreover, EWV's

emphasis on community leadership and youth involvement has contributed to sustaining these improvements, as younger generations reinforce and disseminate hygiene messages. This is consistent with evidence from Winter et al. (2021), who conducted a quasi-experimental school-based WASH study in rural Zambia and found that older primary school children showed significant promise as agents of change, successfully transferring hygiene messages from school to their households, though the effectiveness of message transfer varied by age and developmental stage [24]. This nuance suggests that EWV's youth ambassador strategy may benefit from age differentiated approaches to maximise household-level impact.

The study also highlights the role of traditional leaders in shaping community perceptions of WASH practices. In Kihanga, EWV was instrumental in addressing myths and misconceptions surrounding water treatment. Literature supports this mechanism: Catherine et al. (2024) found in rural Uganda that misperceived social norms where women underestimated how many of their peers treated water were a key driver of low household water treatment uptake, independent of economic or educational barriers [25]. Similarly, Daniel et al. (2018) demonstrated that perceived water safety risk is one of the strongest predictors of household water treatment adoption in developing country contexts, and that no single socio-environmental factor drives uptake in isolation [26]. These findings reinforce the importance of community dialogue and norm-correction central components of the EWV model in promoting water treatment behaviour. This is an important finding, as previous research has indicated that cultural beliefs and misinformation are significant barriers to the adoption of safe water practices (Kamara et al., 2017). By engaging traditional leaders and faith-based institutions, the EWV model contributed to a shift in community attitudes toward improved sanitation and hygiene.

Conclusion

This study provides evidence that the EWV model is positively associated with improved WASH outcomes in Kihanga relative to the Wasa control group. Statistically significant improvements were observed for two indicators: access to water within a 30-minute round trip ($p=0.004$) and attendance at WASH training sessions ($p<0.001$). Positive trends were noted across most other hygiene indicators, though these did not reach conventional significance thresholds, likely reflecting the cross-sectional design and modest sample size for detecting small effect sizes. Persistent challenges particularly low soap availability at handwashing points (below 35% in both groups) and suboptimal household water treatment rates (below 38% in both groups) indicate that EWV alone is insufficient to address structural and economic barriers to WASH uptake. The findings in this study reinforce the value of integrating faith-based and community-driven approaches within broader WASH programming in rural Tanzania. Future research should employ longitudinal or quasi-experimental designs to establish stronger causal evidence and examine the cost-effectiveness of EWV implementation relative to conventional WASH behaviour change models, including in peri-urban and urban settings [27].

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