World Vision

EMPOWERED WORLDVIEW

FINAL TECHNICAL REPORT

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PREPARED BY:

Amy Kaler, Innocent Katulunga Bahati, Brent Swallow,
Sandeep Amohapatra, Nargiza Chorieva and Tamanna Begom

UNIVERSITY OF ALBERTA
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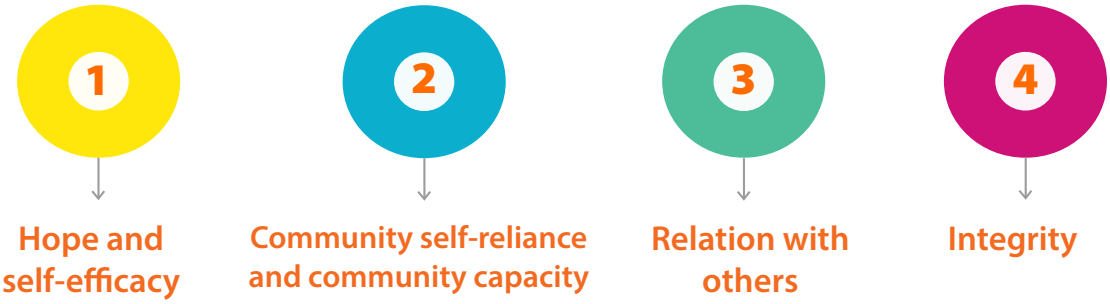
EXECUTIVE SUMMARY

Empowered Worldview (EWV) is a faith-based programming model and training curriculum that seeks to transform mindsets toward hope, compassionate relationships, self-reliance and faith-in-action. Empowered Worldview was developed in 2015 by World Vision in Tanzania and by 2023 had been implemented by World Vision in 40 countries. An assessment of the implementation of EWV in two high-need contexts in rural Tanzania was undertaken by World Vision Tanzania, Ifakara Health Institute and the University of Alberta, with data collected between 2020 and 2022, and analysis carried out in 2022 and 2023. Quantitative and qualitative methods were combined to assess baseline conditions, implementation process and impacts of the first two years of implementation. Special attention was paid to assessment of mindset, as a key intermediate outcome, and child nutrition as an ultimate outcome.

The theory of change that guides the assessment assumes that EWV leads to measurable changes in mindset, which in turn lead to measurable changes in the ways that participants respond to other World Vision programming in the areas of livelihoods / resilience, WASH, education and child protection. Changes in behaviours in turn lead to changes in outcomes, including child nutrition, women's empowerment and poverty status. The theory of change for EWV, posits that the positive impacts of EWV are channeled through four dimensions of mindset:

FOUR DIMENSION OF MINDSET



The overall goal of the assessment was to determine how the implementation of EWV over the first two years affected mindset, behaviour and well-being outcomes, with particular emphasis on hope and self-efficacy. Specific research questions were:

01 Does EWV produce measurable changes in worldview and well-being in the communities where it is implemented? (R1)

02 Does EWV have a positive multiplier effect on the impact of other World Vision interventions in the areas of nutrition and child protection? What factors contribute to this multiplier effect? (R2)

03 Does EWV have differential impacts on different subgroups of communities where it is implemented? (R3)

04 How effective were the tools selected and used to assess mindset (hope, self-efficacy, community capacity, women's empowerment) in the context of rural Tanzania? (R4)

A difference-in-difference approach was taken in both the qualitative and quantitative assessment. Welfare outcomes and various behaviours were first assessed in the baseline situation, in two pairs of study areas with one randomly selected to be the "control" (only standard World Vision development protocols) and the other randomly selected to be the "treatment" (standard World Vision protocols plus EWV). One pair of study sites was located in Iringa District and one in Kigoma Region, with study sites equated to Area Programs in WVT nomenclature. Qualitative research relied on semi-structured interview guidelines for application with focus groups, participants, leaders and other key informants, while quantitative research relied on a large survey of households, all adults in those households, all children aged 10-18 years, and all children under five years of age. Baseline data were collected in July-August 2020, endline data in July-August 2022. For the baseline survey, 2,688 households were randomly selected in 100 villages in the four APs; 2,323 of the same households were re-interviewed for the endline survey. Interviewers sought to interview all males and all females in the households who were older than 10 years and to collect data from caregivers for all children under five years of age. A total of 7,770 individuals were interviewed for the baseline and 6,967 for the endline. Large numbers of adults and adolescents were missed due to absences at the time that enumerators were available. Qualitative interviews and focus groups were carried out in all sites at baseline, and then followed up at four-month intervals in the intervention sites.

KEY FINDINGS

Our key findings for research questions

01 Empowered Worldview has led to statistically significant improvements in measures of hope, self-efficacy and self-reliance. It has also led to statistically significant improvements in rates of child well-being as measured by stunting.

02 Empowered Worldview is likely to have a significant multiplier effect on child well-being as measured by stunting. The impact of EWV is greater in households where other indicators, addressed by other World Vision programs, are more positive. Factors that increase the positive impact of EWV on child well-being include the availability of food, access to health services, mothers' own health and good child feeding practices.

03 Empowered Worldview's impact on mindset was different across subgroups of participants. Participants who were women or who were resident in Kigoma had lower levels of hope than those who were not. Participants who lived in food-secure households, who engaged in religious activities or who had at least one adult income earner had higher levels of hope than those who did not. Participants responded to EWV messages in ways which resonated with or amplified the teachings of their faith communities.

04 The tools used to evaluate hope and self-efficacy were very robust and effective. Tools used to evaluate other aspects of mindset were less robust and effective.

Overall, this research supports the theory of change. Empowered Worldview leads to more positive hope, self-efficacy, community capacity and improved child well-being outcomes, measured by child stunting. The impacts of EWV were not uniform – they were different for different subgroups of the population. While EWV in itself was not sufficient to reverse the overall decline in hope and child well-being observed in one pair of sites, it appears that EWV exerted a measurable effect in attenuating these declines. We can be reasonably confident in these findings because our tools, especially those used to evaluate hope and self-efficacy, were robust.

The differences between regions were notable. In terms of mindset and child nutrition outcomes, the quantitative research found downward trends in both APs of the Kigoma study arm and upward trends in both APs in the Iringa study arm. Clearly, conditions other than exposure to EWV affected mindset and well-being between 2020 and 2022. COVID-19 restrictions, civil disruption related to the national election and the closure of refugee camps appear to have had more severe effects in Kigoma than Iringa. Given those differences, however, statistical analysis showed statistically significant positive impacts of EWV on hope, self-efficacy and child nutrition in the Kigoma study arm, but few measurable effects in the Iringa study arm. Holding all else constant, the bottom line is that EWV led to an 11.2-11.4% decline in the rate of malnutrition in children under five years of age in the first two years of implementation.

GLOSSARY

A

AP - *Area Program*
ATT - *Average treatment effect on the treated*

B

BCC - *Behavioural Change Communication*

C

CFE - *Child Fixed Effects model*

E

EWV - *Empowered Worldview*

F

FACILITATOR - *Interview responder who was trained as an EWV facilitator or trainer*
FGD - *Focus Group Discussion*

H

HAZ - *Height for age score*
HFE - *Household fixed effect model*

I

I - *Interviewer*
IHI - *Ifakara Health Institute*

M

MFE - *Mother fixed effect model*

O

OLS - *Ordinary Least Squares*

P

PARTICIPANT - *Interview respondent who had participated in EWV activities but was not trained as a facilitator or trainer*
PRO-WEAI - *Women's Empowerment in Agriculture Index for Projects*

R

R - *Respondents*

S

SDG's - *Sustainable Development Goals*
S4T - *Savings for Transformation*

U

UofA - *University of Alberta*

W

WASH - *Water, Sanitation and Hygiene*
WVT - *World Vision Tanzania*

BACKGROUND
WHAT IS EMPOWERED WORLDVIEW?

Empowered Worldview (EWV) is a faith-based project model, which is built around a training curriculum for adults and adolescents that seeks to improve child well-being by transforming individual and community mindsets from pessimism, jealousy and dependence toward hope, compassionate relationships, self-reliance and faith-inspired action. Empowered Worldview empowers participants to recognize their talents and resources at the individual, family and community levels. Empowered Worldview was first developed and implemented by World Vision Tanzania (WVT) in 2015 and thus it is fitting that this rigorous assessment of the impacts and processes of EWV be undertaken in Tanzania through a partnership of WVT, World Vision International (WVI), the University of Alberta and Ifakara Health Institute. Empowered Worldview has been implemented in at least 40 countries with groups that are predominantly Christian and Muslim. The EWV curriculum covers identity, vision, compassion, relationships and faith in action.

THEORY OF CHANGE

The theory of change that has guided EWV implementation, and was used as the basis for this assessment, was implicitly based on the following propositions:

1. **Male and female adults and children as young as 10 years can directly benefit from training through the EWV curriculum**
2. **Local government representatives, local faith leaders and well-regarded local residents are effective in training EWV participants**
3. **Empowered Worldview can foster changes in individual and collective mindsets**
4. **Changes in mindset motivate changes in people's behaviour**
5. **Changes in behaviour can bring changes in well-being, particularly for young children, youth, families and vulnerable groups**

Research Questions

The overall research questions focused on identifying whether and how EWV adds value to WVT's programming to support livelihoods and child well-being, the magnitude of the effect, and the pathways through which EWV affects mindset, behaviour and child well-being. Reduction in child malnutrition is taken as the ultimate indicator of success.

As articulated at the beginning of the project in 2020, the research questions were:

> ***1. Does EWV produce measurable changes in mindset in communities where it is implemented?***
>
> ***a. Do these changes in mindset produce changes in behaviour?***
>
> ***b. Do these changes in behaviour promote improved child well-being?***
>
> ***2. Does EWV have a positive multiplier effect on the impact of other World Vision interventions in the areas of nutrition, WASH, health, education and child protection?***
>
> ***3. What internal and external factors facilitate or hinder the impact of EWV on individuals, families and communities?***
>
> ***4. Does EWV have differential impacts in mindset, behaviour and promotion of child well-being in sub-groups of community members?***

During the course of the study, it became clear that research questions 2 and 3 were intertwined. It also became clear that evaluating the usefulness of our tools was as important as evaluating the outcomes of EWV. The revised set of research questions as addressed in this report are:

> ***1. Does EWV produce measurable changes in worldview and well-being in the communities where it is implemented? (R1)***
>
> ***2. Does EWV have a positive multiplier effect on the impact of other World Vision interventions in the areas of nutrition and child protection? What factors contribute to this multiplier effect? (R2)***
>
> ***3. Does EWV have differential impacts on different subgroups of communities where it is implemented? (R3)***
>
> ***4. How effective were the tools used to assess mindset (hope, self-efficacy, community capacity, women's empowerment) in the context of rural Tanzania? (R4)***

Additional research questions emerged in the course of the research. Answers to these intermediate questions will be of interest to other World Vision programs and to the wider development community.

- ***How did EWV affect specific facets of the Theory of Change model (self-efficacy/hope, community capacity, women's empowerment)?***
- ***With respect to hope/self-efficacy***
    - ***o How much variability is there in hope levels within the research sites?***
    - ***o Does hope transfer across generations?***
- ***Does EWV empower women?***
    - ***o How does EWV affect the conditions which produce gendered violence?***
- ***How does one's faith affect EWV implementation and impact?***

Versions of these research questions were addressed through the thesis research of five Masters of Science students in the Department of Resource Economics at the University of Alberta and one in the Department of Human Ecology. These can be made available upon request.

RESEARCH PLAN

Quantitative and qualitative methods were applied in tandem to triangulate insights and provide a comprehensive assessment of EWV as framed by these research questions. The overall approach to the quantitative assessment was difference-in-difference. Mindset and well-being indicators were measured for people living in "control" and "intervention" or "treatment" areas immediately before and immediately after the first two years of EWV programming in the intervention communities. Units of analysis include individuals, households and communities, considering children under five years, youth between 10 and 18 years, male adults and female adults. The "intent-to-treat" approach is implied by the comparison across treatment and control areas because World Vision's intention is that everyone in any treatment area should benefit from the EWV training. Other determinants of mindset and well-being are accounted for through fixed-effects variables.

The research was conducted in four World Vision Tanzania APs, two APs from Iringa District in the south-central highlands, labelled the Iringa arm, and two APs from Kigoma Region in northwest Tanzania near the border with Burundi, labeled the Kigoma arm. In each arm, one AP was randomly selected as the treatment site and the second AP was selected as the control site.

Quantitative data were collected for pre-treatment baseline and endline after two years of implementation. In the treatment APs, EWV was implemented shortly after the baseline survey, followed by five other WVT sectoral programs (livelihood and resilience, child protection, water, sanitation and hygiene, nutrition, health and education). In the control APs, the five sectoral programs were implemented without EWV between October 2020 and October 2022. The EWV training component was added in the two control arms starting in October 2022.

For each pair of APs, assignment to treatment and control was random.

Baseline and endline surveys were implemented in July-August 2020 and in July-August 2022, respectively. Data from those surveys thus allow us to assess changes that occurred in a relatively short two-year period of EWV programming.

The questionnaires were designed as a series of stand-alone modules, with modules focused on the household as a whole, on every adult male and female in the household, on children under five years of age (through their caregivers), and on every child aged 10-18 years. Modules routinely used by WVT were concerned with, among other things, demographic characteristics, assets, health care, food security, child protection, experience with disaster, child nutrition and health status, gender relations and domestic violence. For this analysis, additional modules were designed and added to assess mindset, time allocation and women's empowerment in agriculture. The mindset modules considered hope, self-efficacy and community capacity as key attributes that had been identified in the theory of change, as described below. The mindset modules were developed and reviewed in 2019 before, during and after the project design workshop held in Arusha in October 2019. The endline survey also included a module on experience with EWV.

The qualitative research plan was also developed in late 2019 through consultations between WVT, WVI, IHI and UofA personnel, particularly during the inception workshop in October 2019. This included interview and focus group guides (see Appendices 1-4 for complete guides). Our intention was to gather qualitative information to complement the quantitative findings from the larger survey, starting at baseline with differences between Kigoma and Iringa arms and between the control and intervention sites in the two arms. The focus of the qualitative was more on the intervention sites as the program rolled out over the first two years of implementation. Preliminary results from the qualitative and quantitative research were periodically shared and discussed with the full UofA, IHI, WVT, WVI research team. This assisted with documenting the fidelity of implementation and triangulating of insights. The study design and data transfer agreement were approved by the research ethics boards of IHI and the Tanzania National Health Research Ethics Committee, and World Vision Tanzania Safeguarding Policy and procedures were followed.

In addition to investigating the "whys" and "hows" of the main research questions, the qualitative research had two other goals. The first was to investigate four dimensions of Empowered Worldview as manifested in the communities in which it was rolled out (Figure 1).

FIGURE 1 - DIMENSIONS OF EWV

We collected extensive data offering insight into the first three of these dimensions. The fourth dimension is long-term in nature, and we believed that many of the diffusion and downstream effects of Empowered Worldview would emerge most clearly beyond the time frame of this project.

The second main goal for the qualitative component was to deepen understanding of the different facets of mindset that are relevant to Empowered Worldview and which were being assessed by the quantitative work. Our working theory of change theorized that four dimensions of individual and collective mindset might be influenced by Empowered Worldview activities:

> ***1. Trust: Improved relations with other people***
>
> ***2. Hope and self-efficacy: Belief in a better future and self-perception of being capable and effective***
>
> ***3. Self-reliance: Belief that one's resources are adequate to achieve goals***
>
> ***4. Integrity: Support for fairness and transparency***

The findings of the qualitative team relevant to the four facets of EWV are indirectly associated with the main research question, and for reasons of space are not included in this report.

METHODS

QUANTITATIVE RESEARCH ACTIVITIES

The baseline survey was undertaken in July-August 2020 with 2,688 households in 100 sub-villages in the four APs (two treatment sites and two control sites). The treatment sites were Kihanga (in the Iringa region) and Nyaronga (in the Kigoma region). The control sites were Wasa (in the Iringa region) and Kasanda (in the Kigoma region). The endline survey was conducted in July-August 2022 with 2,546 households in the same four APs and sub-villages, including 2,323 of the households included in the baseline survey. In term of religious affiliation among individuals aged 10 to 49 surveyed, about 94% identified as Christian, 3% as Muslim, and 4% as having no religious affiliation. The proportion of Muslims in the sample was higher in Iringa at 4% compared to 1% in Kigoma. Also, Iringa had a higher percentage of individuals with no religious affiliation (6%) compared to 0.2% in Kigoma. Traditional religious practices were very low in Iringa and Kigoma, 0.16% in Iringa and 0.04% in Kigoma. The survey instrument accompanies this report as an appendix.

Households were randomly selected from lists provided by village leaders. The surveys were administered to all resident adults and children aged 10-18 years, totaling 7,770 individuals in the baseline and 6,967 individuals in the endline. Data were collected for all household members, with separate data collected for each adult (over 18 years) and youth aged 10-18 years. Detailed data for children under five years were collected through interviews with family caregivers.

Standard WVT monitoring and evaluation questionnaires formed the basis of the survey tool used for both baseline and endline. Modules were added for assessing mindset, women's empowerment, time allocation and participation in EWV activities (for the endline only). Mindset tools considered hope (Scioli, 2011 and Anthony Scioli personal communication), generalized self-efficacy (adapted from Schwarzer and Jerusalem, 1995), community capacity (based on Underwood et al., 2013), and women's empowerment in agriculture (assessed using the Project-based Women's Empowerment in Agriculture described by Marapit et al, 2019). A new survey module was added to the endline survey to assess respondents' engagement in EWV.

Data from the baseline and endline surveys were used to create new variables for measuring mindset, participation in EWV, and well-being of children, women and households.

Hope, self-efficacy and community capacity were measured using simple sums of multiple four-point Likert-type responses to measure level of agreement with positive, negative or more neutral mindset statements:

1 = STRONGLY DISAGREE

2 = DISAGREE

3 = AGREE

4 = STRONGLY AGREE

As mentioned above, participation in EWV was primarily measured using the intent-to-treat approach (see Hollins, 1999): WVT intended to treat all households in the treatment APs within the first two years of EWV initiation and to withhold EWV from the control areas during that two-year period.

Households were identified as being poor or not poor on the basis of an asset measure of poverty, the Poverty Probability Index.

Child malnutrition outcomes were measured using the standard measures of height for age Z scores (HAZ) and the prevalence of stunting for children under five years of age. The rate of stunting was measured as the proportion of children whose HAZ scores were less than two standard deviations below the population mean (Nandita et al., 2018; World Health Organization). The lowest 2.5% and highest 2.5% of the HAZ distribution were treated as outliers and trimmed from the data set.

Quantitative survey data were collected by teams of enumerators from IHI, with local support from WVT. All surveys were developed in English and translated to Swahili for implementation. Survey responses were entered into tablets that were carried to the respondents' homes. These data were uploaded to an IHI server for quality control and construction of datasets. Households and individual respondents were given unique identification codes to ensure exact matches between the baseline and endline surveys. Data were transferred to the University of Alberta in standard format and most analysis was done using STATA.

— QUANTITATIVE ANALYTICAL METHODS —

Several psychometric and econometric tools were used in the empirical analyses. In particular, Item Response Theory was used to assess how the mindset questions provided information about the underlying or latent constructs of hope, self-efficacy and community capacity (see Chorieva, 2022 for more detail). Non-parametric regression was used to relate hope levels of parents and children (see Begom, 2023. An instrumental variable approach was used to account for possible reverse causality in the relationship between hope and well-being (see Begom 2023). (That is, higher hope may make people wealthier, while higher wealth might make people more hopeful.)

METHODS FOR ASSESSING THE IMPACT OF EWV ON MINDSET

Method for Research Question 1

As mentioned above, participation in EWV was primarily measured using the intent-to-treat approach (see Hollins, 1999): WVT intended to treat all households in the treatment APs within the first two years of EWV initiation and to withhold EWV from the control areas during that two-year period.

Households were identified as being poor or not poor on the basis of an asset measure of poverty, the Poverty Probability Index.

Child malnutrition outcomes were measured using the standard measures of HAZ and the prevalence of stunting for children under five years of age. The rate of stunting was measured as the proportion of children whose HAZ scores were less than two standard deviations below the population mean (Nandita et al., 2018; World Health Organization). The lowest 2.5% and highest 2.5% of the HAZ distribution were treated as outliers and trimmed from the data set.

MODEL 1: (1) **Base difference-in-difference model**

$$Y_{it} = \beta_0 + \beta_1 p_t + \beta_2 D_i + \beta_3 EWV_{it} + e_{it}$$

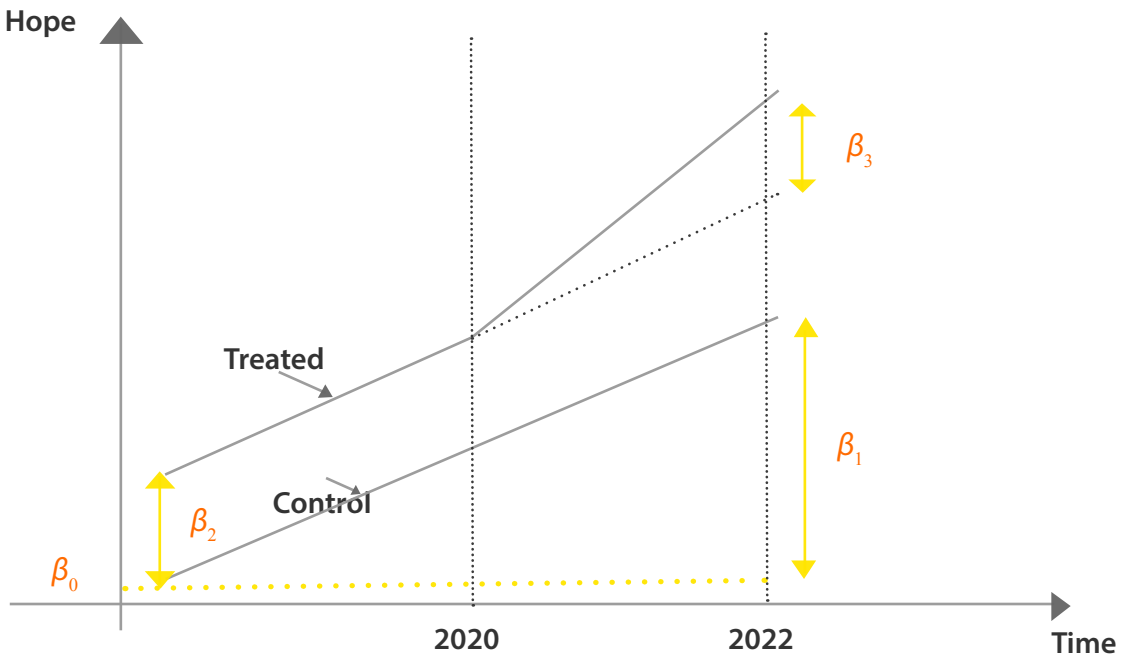
MODEL 2: (2) **Base difference-in-difference model plus covariates**

$$y_{it} = \beta_0 + \beta_1 p_t + \beta_2 D_i + \beta_3 EWV_{it} + (T_t \; x_{it})\lambda + \text{eit}$$

MODEL 3: (3) **Base difference-in-difference model plus covariates and individual fixed effect**
(account for time-invariant unobserved heterogeneity)

$$y_{it} = \beta_0 + \beta_1 p_t + \beta_2 D_i + \beta_3 EWV_{it} + (p_t \; x_{it})\lambda + ci + \text{eit}$$

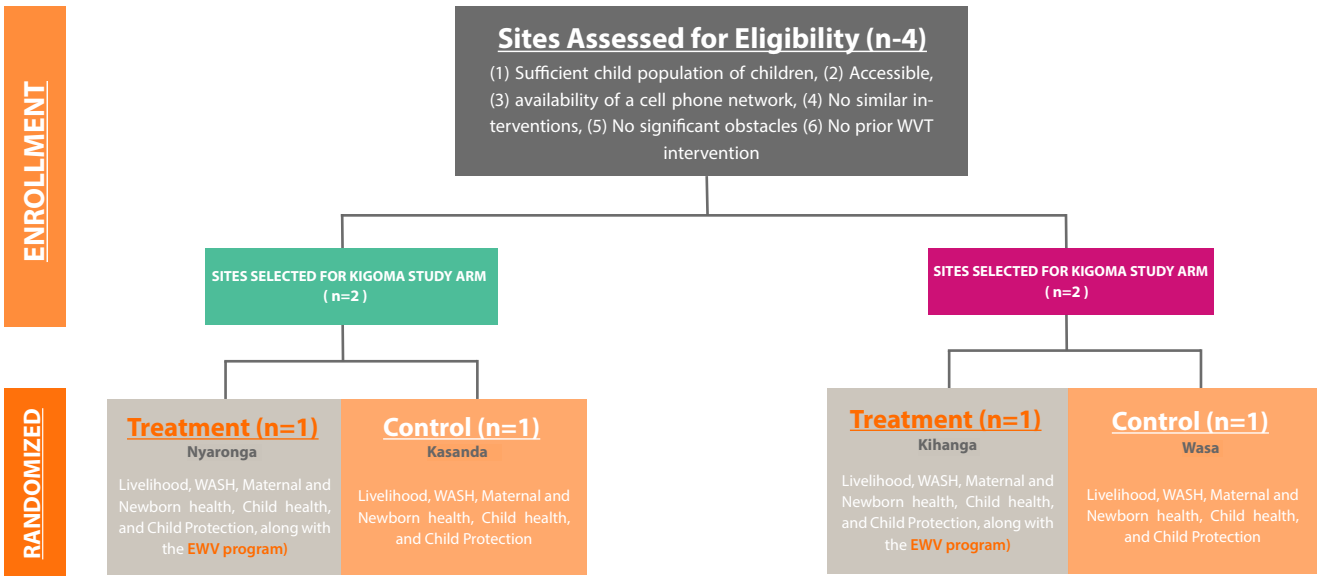
Figure 2: Overall approach to difference-in-difference assessment



The outcome variable **yit** denotes hope, self-efficacy, or community capacity for a community member ***i*** at time ***t***. The intercept term y_{it} represents the average hope, self-efficacy, or community capacity score for the control group before the treatment. p_t is a dummy variable denoting the post-treatment period, and its coefficient β_1 represents how much the average hope, self-efficacy, or community capacity score of the control group has changed in the post-treatment period. D_i is a dummy variable denoting the individual **i** belongs to treatment group, and its coefficient β_2 represents the difference in average hope, self-efficacy, or community capacity score between control and treatment group in a pre-treatment period. EWV_{it} is a dummy variable indicating whether the outcome was observed in the treatment group post-treatment. The coefficient β_3 is the key parameter of interest. It represents how much the average hope, self-efficacy, or community capacity score of the treatment group has changed in the period after the treatment, compared to what would happen to the same group had the EWV treatment not occurred. e_{it} denotes the identical and independently distributed error term for child ***i*** at time ***t*** (t=1,2).

Covariates include: member of economic group, early marriage, household size, household with at least one child sponsored by World Vision, and religion.

Figure 3: Study Design



Using the estimated parameter from our final model specified in (1) through (3), we test the null hypothesis (Ho);

Ho: $\beta_3 = 0$

Where β_3 represents how much the average hope, self-efficacy, or community capacity score of the treatment group has changed in the period after the treatment, compared to what would happen to the same group had the EWV treatment not occurred.

If $\beta_3 = 0$, we conclude that EWV treatment have not affected hope, self-efficacy, or community capacity but if we reject the null hypothesis i.e. $\beta_3 \neq 0$, we conclude that EWV treatment have affected hope, self-efficacy, or community capacity.

METHODS FOR ASSESSING THE IMPACT OF EWV ON STUNTING

Method for Research Question 1

We used two-way fixed effect difference-in-difference econometric model specified in (4) through (7):

MODEL 4: (4) **Base two-way fixed effect difference-in-difference (Child fixed effect)**

$$y_{it} = \alpha + \gamma p_t + \beta EWV_{it} + c_{i+} e_{it}$$

MODEL 5: (5) **Base two-way fixed effect difference-in-difference (Household fixed effect)**

$$Y_{ht} = \alpha + \gamma p_t + \beta EWV_{ht} + c_h + e_{ht}$$

MODEL 6: (6) **Base two-way fixed effect difference-in-difference (Mother fixed effect)**

$$Y_{mt} = \alpha + \gamma p_t + \beta EWV_{mt} + c_m + e_{mt}$$

The outcome variable y_{it} denotes HAZ scores or stunting for a child *i* at time *t*. The intercept term *α* represents the average HAZ score for the control group before the treatment. p_t is a dummy variable denoting the post-treatment period, and its coefficient γ represents how much the average HAZ score of the control group has changed in the post-treatment period. EWV_{it} is a dummy variable indicating whether the outcome was observed in the treatment group post-treatment. The coefficient β is the key parameter of interest. It represents how much the average HAZ score of the treatment group has changed in the period after the treatment, compared to what would happen to the same group had the intervention not occurred. c_i denotes child fixed effect. e_{it} denotes the identical and independently distributed error term for child *i* at time *t* (t=1,2).

The outcome variable y_{ht} denotes HAZ scores or stunting for a child from household h at time t and the outcome variable y_{mt} denotes HAZ scores or stunting for a child from mother m at time t. $c_{h,}$ and c_m denotes household and mother fixed effects respectively.

The two-way fixed effect component of the econometrics specifications in (4) through (6) control for the bias caused by omitting child, household, and mother time-invariant unobserved variables respectively—that is child sex, child age, low birth weight, bed net, diarrhea, diet, breastfeeding practices, vaccination, whether the child was delivered at a health facility, maternal age, and religion that may influence HAZ score (Wooldridge, 2010).

The difference in difference rules out the possibility that changes in HAZ scores are due to the forces external to the intervention such as national economic and governance factors (e.g., see Smith et al., 2011). However, because the model as specified in (1) attributes any differences in trends between treatment and control groups during the intervention period to the EWV treatment without accounting for time-varying determinants of HAZ score, treatment effects may be biased. Children differ in some characteristics, which may lead to differences in stunting outcomes even without EWV treatment. For instance, in a pre-treatment period, households in the treatment group were wealthier on average and grew faster than households in the control group. According to Hong et al. (2006), wealthier households are more likely to have higher improvement in child stunting than poorer households. Therefore, the treatment group would likely have experienced better child stunting outcomes than the control group, even in the absence of the EWV treatment. In this scenario, the treatment effect coefficient is biased, comprising the EWV treatment effect plus household wealth's direct and indirect effect.

As a solution, to correct for the bias, Paul et al. (2016), Zeldow et al. (2021) and Wooldridge (2021) suggest adding the interaction between the confounder and time variable into the model, leading to the specification in (7).

MODEL 7: (7) **Base two-way fixed effect difference-in-difference plus covariates (Child fixed effect)**

$$y_{it} = \alpha + \gamma p_t + \beta EWV_{it} + (p_t \; x_{it})\lambda + c_i + e_{it}$$

Where x_{it} denotes a covariate, and λ indicates a row vector of the time-varying effect of the confounders that is assumed common to all cross-section units.

X_{it} includes food security, sanitation access, safe drinking water, access to health services, mothers' health, and complementary feeding practices. We assume time-invariant determinants of stunting: child sex, child age, low birth weight, bed net, diarrhea, diet, breastfeeding practices, vaccination, whether the child was delivered at a health facility, maternal age, and religion. These determinants do not have a time-varying effect, and are therefore taken out by child fixed effect. Table 1 reports descriptive statistics, definitions, and predicted signs of determinants of stunting, including demographics.

Using the estimated parameter from models specified in (4) through (7) we use t-test to test the hypothesis -- that the treatment group experienced significantly greater improvement in HAZ scores or stunting compared to the control group by evaluating the null hypothesis:

$$Ho: \beta = 0$$

Where β represent how much the average HAZ score of the treatment group has changed in the period after the intervention, compared to what would happen to the same group had the EWV treatment not occurred.

If $\beta = 0$, we conclude that EWV treatment has not affected stunting but if we reject the null hypothesis i.e.

$\beta \neq 0$, we conclude that EWV treatment has affected stunting.

Table 1

Variable Definitions, Descriptive Statistics, and Predicted Signs

Variable	Mean	SD	Protected Sign	Definition
HAZ score	-1.649	4.379		Child's height-for-age standardized against the WHO reference population.
Stunning	0.443	0.497		Dummy variable; 1= HAZ score is -2 or less, 0 otherwise
Food Insecurity	1.435	1.085	-	Dummy variable; 1= Household has a coping strategy, 0 otherwise
Access to Health Services	0.012	0.107	+	Dummy variable; 1= Household regularly accessed health services and/or has health insurance coverage, 0 otherwise
Household Wealth	0.003	1.219	+	The household Wealth index; Derived from indicators related to household assets and amenities, using the statistical technique known as Principal Component Analysis.
Sanitation	0.164	0.370	+	improved pit latrine toilet, 0=Pit latrine with no slap, open pit latrine, or no toilet (bush/field),0 otherwise
Safed drinking water	0.622	0.484	+	Dummy Variable; 1=A household use water from a protected source, 0 otherwise
Poor Mother's Health	28.808	87.955	+	Dummy variable; 1= Mother Body Mass Index (BMI) falls under normal range (18.5 and 24.9), 0 otherwise
Good Complimentary Feeding Practices	0.161	0.368	+	Dummy variable; 1=Child consumer a minimum 4 food group a day for a child over 6 month of age, Exclusive breastfeeding for a child under six-month-old, 0 otherwise

Child Gender	0.485	0.499	Ambiguous	Dummy variable; 1= Boy, 0=Girl
Mother's Age	31.121	7.184	+	Age of mother in years
Child Age	32.252	14.569	Ambiguous	Age of a child in month
Child Age	0.599	0.49	Ambiguous	Dummy variable; 1=Kigoma=Iringa
Household Size	5.867	2.044	-	Number of people who lives in the household

METHODS FOR ASSESSING THE COMPLEMENTARY EWV AND PHYSICAL DETERMINANTS OF STUNTING

Method for Research Question 2 and 3

In order to evaluate the complementarity between EWV and physical determinants of stunting such as food security, access to health services, sanitation, household wealth, access to safe drinking water, mothers' health and complementary feeding practices, we include two variables for each physical determinant, z_{it} and $EWV_{it}*z_{it}$, indicating the determinant and its interaction with EWV as shown in a model specified in (8).

MODEL 8: (8) **Base two-way fixed effect difference-in-difference plus covariates plus interactions between EWV and Physical Determinants of Stunting (Child fixed effect)**

$$y_{it} = \alpha + \gamma p_t + \beta EWV_{it} + (T_t * x_{it})\lambda + \varphi z_{it} + (EWV_{it} * z_{it})\delta + c_i + e_{it}$$

Using the estimated parameter from the model specified in (8) we use t-test to test the hypothesis -- that determinant of stunting **j** complement (or crowd off) the effects of the treatment in improving HAZ scores or stunting by evaluating the null hypothesis:

$$Ho: \delta_j = 0$$

Where δ_j denotes coefficient of interaction between the EWV and determinant of stunting ***j***.
If $\delta j = 0$, we conclude that there is no complementarity (or crowding off) effect between EWV and determinant of stunting ***j***, but if we reject the null hypothesis i.e. $\beta \neq 0$, we conclude that there is complementarity (or crowding off) effect between treatment and determinant of stunting ***j***. If we reject the null hypothesis i.e. $\beta_3 \neq 0$, we conclude that EWV treatment have affected hope, self-efficacy, or community capacity.

Interpretation of results was fostered through structured visits by Ifakara and University of Alberta researchers to the Iringa and Kigoma field sites. This includes debriefing visits by Ifakara and WVT staff to the field sites in September 2020 and September 2022 and a visit by a University of Alberta representative in August 2021 and during the endline survey in July 2022.

Part of the University of Alberta research team were able to travel to Tanzania in August 2023, in part to ground-truth preliminary findings from the quantitative research. Several staff from WVT (Arusha, Iringa, Kigoma) were able to join them for most of two weeks in Arusha and Iringa. Group interviews were held with World Vision senior leadership, EWV learning team members, Village chairpersons and district government staff in Iringa town, WV staff in Kihanga and Wasa, staff in the World Vision Office in Arusha (August 18). From Aug 20-26, the team was based in Iringa town where they met and conducted field visits to Kihanga, Wasa, and (by Zoom conference call) Kigoma.

In each AP, the team met with WV staff, EWV facilitators, local government and religious leaders, S4T group members, EWV school groups, and groups of women. Emphasis was placed on the implementation of EWV and its perceived impacts.

METHODS

QUALITATIVE RESEARCH ACTIVITIES

Our plan at baseline was to carry out a wave of interviews and focus groups at four-month intervals, starting just before EWV was rolled out in the two intervention APs and ending after two years of implementation. We sought to triangulate with the research questions, to understand the "whys" and "hows" of the observations in the survey. We started with data collection activities in both the intervention and control APs just before the EWV rollout to gain a sense of overall challenges and opportunities for communities in this region, then pivoted to focus on the intervention APs over the course of the two years, returning to the control sites at the endline data collection period.

In the intervention APs, we targeted our recruitment of informants to get as wide a range of perspectives on EWV as possible. We held gender-separated focus groups with three categories of people: local faith leaders, community leaders and adolescents. We also held individual interviews with three categories of people: those who had been trained as EWV facilitators; those who were not facilitators but who had taken part in EWV activities; and those who had not taken part in EWV activities. This enabled us to examine differences in perception and activity across different categories of people in the intervention sites.

We also selected five households in each of the intervention communities to follow more closely over the course of the rollout and the first two years of EWV. However, follow-up with these households proved to be challenging, as families moved over the course of the study and as their household needs changed. We were not able to follow the impacts of EWV through this family strategy, as we had hoped.

Figure 4 summarizes the qualitative research plan. Figures 5 and 6 show the number of interviews and focus groups which were conducted in the intervention APs and the control APs.

We also stationed Ifakara research assistants in each of the intervention sites for month-long visits, in order to observe how the rollout was being received by the community, using a structured observation list and daily journals. This was especially useful in learning how the rollout of EWV was perceived in these communities.

Figure 4 - Qualitative Research Plan

Figure 5 - Activity Plan for Intervention Sites

Kihanga and Nyaronga					
		FAMILIES	OBSERVATION	FGDs 2 community leaders (m/f), 2 faith leaders (m/f), 2 adolescents (m/f)	IDIs Year 1: 15 facilitator trainees Year 2 and 3: 7 facilitators, 7 participants, 7 non-participants
YEAR 1	MONTH 0	5	NO	8	15
	MONTH 4	5	YES	0	0
	MONTH 8	5	NO	0	0
YEAR 2	MONTH 12	5	YES	0	21
	MONTH 16	5	YES	0	0
YEAR 3	END	5	YES	8	21
TOTAL		30		16	57

Source: EWV research team

Figure 6 - Activity Plan for Control Sites

Wasa and Kasanda			
		FGDs	IDIs
YEAR 1	MONTH 0	8	15
	MONTH 4	0	0
	MONTH 8	0	0
YEAR 2	MONTH 12	0	0
	MONTH 16	0	0
YEAR 3	END	8	0
TOTAL		16	15

In focus groups, we asked about perceptions of community challenges and perceptions about whether these challenges would get better or worse in the next five years. We also asked what participants had heard about EWV and (once the rollout had happened) whether they perceived any changes in their community as a result of EWV.

In individual interviews, we used World Vision's Faith and Family questions, followed by questions tailored to the four dimensions targeted by EWV: trust, self-efficacy and hope, integrity and quality of relationships with others. We then asked about people's perceptions of the new EWV activities in their community and whether they had noticed any changes happening in themselves (both internal and externally visible changes), their families or their broader community related to EWV.

These interviews and focus group guides were refined in 2021 to include more questions about faith, which emerged as a major determinant of individual and household well-being, and again in 2022 to include questions related to the "dose" of EWV activities and content that participants were receiving, to help to distinguish between those who had had a great deal of exposure to EWV from those who had had less. Appendices A and B are the original question guides. Appendices C and D are the revised and updated question guides.

— QUALITITATIVE ANALYTICAL METHODS —

All interviews and focus group discussions were recorded and transcribed in Swahili, then translated into English. Word files of the transcripts were sent by email to the team at the University of Alberta, providing a total of 179 transcripts. The number of transcripts is higher than the original target because the qualitative team did additional interviews in Wasa AP when travel issues made it difficult for them to access other sites, and because the team carried out additional focus group interviews in mid-2022 to explore what specific changes in the intervention communities were attributed to the influence of Empowered Worldview.

Transcripts were loaded into NVivo qualitative data analysis software for thematic coding. The coding schemes were drawn from issues and concerns that had been identified by members of the research team or World Vision stakeholders as being especially pertinent to understanding how Empowered Worldview ideas were interacting with community and household-level dynamics. Coding was done by a team in the Department of Resource Economics and Environmental Sociology at the University of Alberta.

As of January 2024, analysis and write-up of findings was ongoing, but insights on each of the research questions were prioritized for inclusion in this report. Over the course of data collection, short reports on preliminary findings were shared with the Empowered Worldview team in Tanzania, as well as with World Vision International staff and stakeholders around the world during monthly Zoom meetings.

— CHALLENGES AND LIMITATIONS OF RESEARCH

The realities of EWV program implementation and challenges with survey data collection limited the analysis that can be done and conclusions that can be drawn. Regarding overall study design, it was not feasible to implement a full Randomized Control Trial (RCT) at the individual or household level. Empowered Worldview works through community leaders, schools and groups, and there is expected to have been spillover between participants. Randomization into treatment and control at the AP level was most feasible, but with only four APs involved, this could not qualify as a RCT. Treatment and control APs are located near each other, so some leakage of knowledge and mindset between treatment and control APs is to be expected. "Treatment" with EWV was multi-faceted, especially since it was expected to multiply the effects of other WV interventions in the areas of livelihood and resilience, child protection, WASH and education. Intent to treat was the most appropriate measure of EWV treatment since WV did intend for all households, adults and children in the treatment APs to benefit. Even with a full RCT design, it would be difficult to statistically identify causal relations between multiple dimensions of mindset, behaviour and outcomes.

Survey administration was challenging, especially in Kigoma. Household dynamics and contextual factors meant that some households from the 2020 baseline could not be found for the 2022 endline survey, requiring 211 households to be replaced (7.45%) for a total of 2,833 endline households. The 2,833 households reported 3,841 adult males, 3,841 adult females, 6,121 adolescents (10-18 years), and 2,028 children under 5 years. Data were collected for 43.9% of the listed adult males (1,687 / 3,841), 56.1% of the listed adult females (2,154 / 3,841), 37.2% of the adolescents (2,280 / 6,121) and 94.9% of the children under 5 years (1,924 / 2,028). Interviews were conducted during visits to homes, yet at times missing entire households who were out working on their farm, adolescents who were at school, and children being cared for by guardians due to the absence of a parental care giver. General insecurity near the Burundi border, transportation logistics and large distances between households, limited opportunities to conduct multiple visits to the same households. These missing observations reduced sample sizes and thus increased standard errors on parameter estimates. Still, the analysis produced many results with strong statistical significance.

Empowered Worldview and related WVT supports began in the treatment sites in October 2020. Facilitators

were identified to receive extensive training in EWV and then to pass on EWV messages to their communities through various activities and community groups (including savings and farmer groups, religious services, etc.). Therefore, some community members received intensive orientation on the content of EWV while other community members experienced EWV as part of a sermon or discussion within a livelihoods-related activity. A separate set of planned EWV school activities were initiated months later. The endline survey was conducted in June-July 2022. It is doubtful that the full effects of EWV could be observed 18-20 months after the beginning of EWV implementation, partly due to the long-term nature of agriculture and nutrition. One of the corner-posts of WV activities in all four APs was Savings for Transformation (S4T) groups that formed to advance income-generation projects. Savings for Transformationh group success in turn relied on the delivery of technical support from WVT and the Government of Tanzania agricultural extension services. Most agricultural projects take many months or years to generate results, particularly agroforestry projects that involve trees. A follow-up survey after another two years would provide more information on longer-term impacts in the original treatment APs, as well as provide information on the impacts of the ex-post EWV intervention in the original control APs.

Plans for the qualitative data collection were challenged by several constraints that we did not know about in 2019 when we drew them up. These included the Covid-19 pandemic, with restrictions on travel both internationally and within Tanzania; the unrest surrounding the October 2020 Tanzanian general elections; the precarious and deteriorating security situation in the Kigoma region; and the turnover of skilled personnel at the Ifakara Health Institute, which particularly affected the translation of focus group and interview transcripts. At the University of Alberta, we also experienced turnover in trained graduate students who either completed their degrees or found permanent positions, so that until late 2022, we did not have a consistent group of graduate students working on the transcripts. In particular, graduate students who did not have a lot of prior knowledge of rural African village dynamics often struggled with coding the transcripts, so that most of the ongoing coding was done by the lead researcher. The net result was that things did not always happen on the schedule that we planned. Specifically, visits to the field did not always take place at the desired four-month intervals, especially in Kigoma. As a result, comparisons over time using our data are most useful when they contrast the initial fieldwork in 2020 with the final fieldwork in 2022. The data from the intervening field visits, however, have been used to offer valuable understanding about the internal dynamics of communities with respect to EWV and the reception which EWV met in these communities.

FINDINGS

Research Question 1

01 Does EWV produce measurable changes in worldview and well-being in the communities where it is implemented?

OVERALL FINDING

Empowered Worldview has led to statistically significant measurable improvements in hope, self-efficacy, community capacity and stunting. Particularly noteworthy is the impact on stunting, where EWV increased HAZ 0.2 to 0.3 standard deviations and reduced stunting by 11.2-11.4% among male and female children in the intervention group compared to the control group.

JUSTIFICATION

Three difference-in-difference models were estimated for 7,300 baseline and endline observations across the Iringa and Kigoma sites. The dependent variables were a composite of hope, self-efficacy and community capacity scores for each person in each time period that was constructed from the eight positively-worded questions, with 4 indicating strongly agree, 3 indicating agree, 2 indicating disagree and 1 indicating strongly disagree. The possible range of this score is 8 to 32.

As discussed above, model specified in (1) is a base difference-in-difference model that assumes parallel trends in hope, self-efficacy, and community capacity in the treatment and control sites. The model specified in (2) includes co-variates other than EWV that could account for different trends for the treatment and control areas, including: person is a member of an economic group, person married early, household size, at least one child in the family sponsored through World Vision, and religion. The model specified in (3) includes the same variables as the model specified in (2), plus individual fixed effects to account for unobservable time-invariant individual specific factors such as previous experiences and cognitive abilities (factors that vary between households but not over time). All three models show average treatment effect on the treated (ATT = living in EWV site) that are positive and statistically significant.

HOPE

Table 2 shows summary of hope results for the model specified in (3). The results for "Post intervention" show a statistically significant rise in hope during the implementation period in Iringa, but a decline over the same period in Kigoma. The rise in Iringa may be due to a number of agricultural development programs implemented in the region, while the fall in Kigoma may have been due to the closure of the refugee camp that had diversified the local economy, provided access to higher demand for farm outputs, and provided greater availability of agricultural goods and services. Furthermore, the qualitative data found that people in Kigoma, in addition to being less optimistic and hopeful, also expressed more concerns about generational tensions - youth disrespecting elders, more delinquency (youth drinking/sexual activity) and "laziness". These factors may be particularly significant given the higher proportion of youth in Kigoma, standing at 76% compared to 69% in Iringa.

The results show the average treatment effect of EWV on hope to be positive and significant for the pooled population, though larger and statistically significant in Kigoma (where overall hope declined) and smaller and statistically insignificant in Iringa (where overall hope increased).

Table 2: Effects of EWV on Hope for Kigoma, Iringa and Pooled Across Sites

Dependent Variable Hope	Pooled b/se	Kigoma Model 3 b/se	Iringa Model 3 b/se
Post Intervention	-0.088***	-0.419**	-0.211****
ATT	-0.03 0.098**	-0.18 0.156**	-0.05 0.018
	-0.04	-0.08	-0.06
Constant	0.192**** -0.04	0.0076 -0.08	0.0097 -0.12
R-square	0.02 7300	0.084 2406	0.042 3662

* p<0.10, ** p<0.05, *** p<0.01, ****p<0.001

SELF-EFFICACY

Table 3 shows similar results for self-efficacy. **Self-efficacy rose over time in both Kigoma and Iringa over the implementation period, and there was a significant positive ATT (difference in treatment sites) for the pooled sample and the Kigoma sample.** The ATT for self-efficacy in Iringa was insignificant.

Table 3: Effects of EWV on Self-Efficacy for Kigoma, Iringa and Pooled Acrooss Sites

Dependent Variable Self Efficacy	Pooled b/se	Kigoma Model 3 b/se	Iringa Model 3 b/se
Post Intervention	0.880***	1.193	1.294****
	-0.15	-0.78	-0.22
ATT	0.389**	0.730**	-0.093
	-0.2	-0.34	-0.27
Constant	25.488****	26.761****	26.230***
	-0.04	-0.34	-0.51
R-square	0.061	0.087	0.064
	7301	2406	3663

* p<0.10, ** p<0.05, *** p<0.01, ****p<0.001

Table 4 shows similar results for community capacity, where co-variates were age, gender, whether a respondent lives in the household with a television and freedom of mobility of the respondent within the household. Similar to the above findings on hope, **there was a rise in community capacity in Iringa and a decline in Kigoma over the project period, but there was a significant positive treatment effect for Kigoma and for the pooled sample.**

COMMUNITY CAPACITY

Table 4: Effects of EWV on Community Capacity for Kigoma, Iringa and Pooled Across Sites

Dependent Variable Hope	Pooled b/se	Kigoma Model 3 b/se	Iringa Model 3 b/se
Post Intervention	0.819	-0.112	1.763***
	-0.5	-0.73	-0.64
ATT	0.721**	0.731**	0.008
	-0.31	-0.36	-0.33

Constant	36.101****	36.741****	37.899****
	-1.61	-0.09	-0.09
R-square	0.03	0.008	0.096
N	7090	3539	3551

* p<0.10, ** p<0.05, *** p<0.01, ****p<0.001

CHILD NUTRITION AND STUNTING

Figure 7 presents the distribution of HAZ (height-for-age) scores across study arms in control, treated and pooled groups. The red vertical line at -2 is the cut-off point, below which a child is considered stunted. The study population is generally unhealthy with its distribution centering around -2 compared to the WHO reference population with its distribution centering at 0 standardized HAZ score. An overall increase in stunting prevalence during the intervention period is observed as illustrated by a leftward shift in the HAZ score distribution of control (A2), treated (A3), and pooled (A1). This is also illustrated by descriptive statistics showing the overall decrease in average HAZ scores from -1.81 to -1.94. Stunting prevalence increased from 43% to 48% from baseline to end-line. This decline may be due to worsening sanitation and increases in food insecurity. One notable finding from Figure 7 is that **the HAZ score distribution for the control group (A2) has shifted leftward (i.e. worsened) considerably, particularly compared to the treated group (A3), where the HAZ score distribution has almost remained unchanged.**

The observations from Figure 7 provide a compelling visual representation of the changes in HAZ scores and stunting prevalence over the intervention period. The leftward shift in the HAZ score distribution, particularly for the control group, indicates increased stunting prevalence. However, the relatively stable HAZ score distribution for the treated group suggests that the EWV treatment may have mitigated this trend. These findings raise important questions about the differential impacts of the intervention on the control and treated groups, and other potential factors contributing to these differences.

We now shift from descriptive statistics and visual analysis to more rigorous econometric analysis of the data. This analysis allows us to control for various factors that affect stunting and precisely estimate the impact of the EWV treatment on HAZ scores and stunting, accounting for other variables.

Figure 7 - Child Nutrition and Stunting

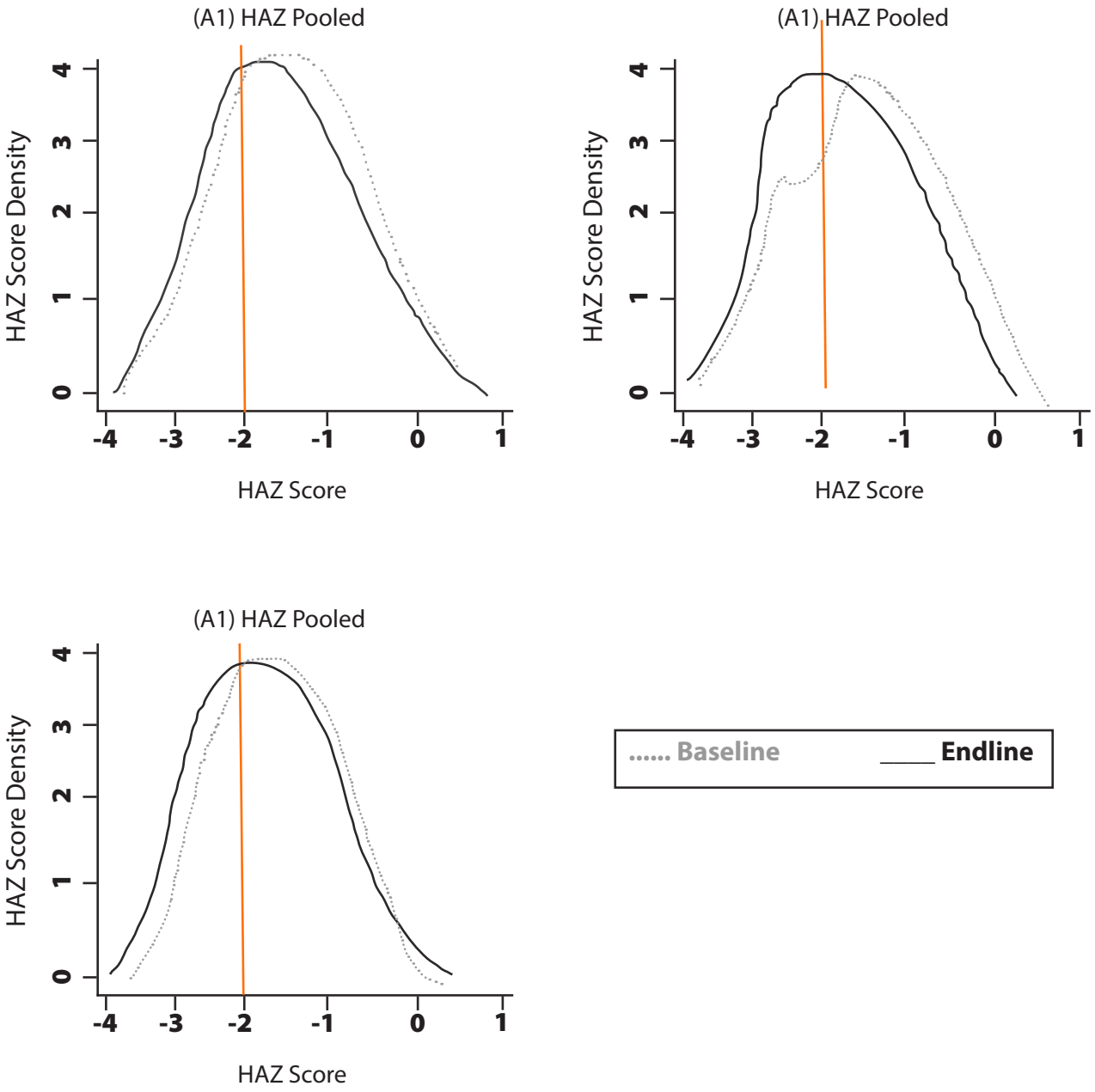


Figure 7. This figure presents kernel density graphs showing the distribution of (HAZ score) for pooled (A1), control (A2) and treated group (A3). (Note: The red vertical line represents -2 SD in the HAZ distribution which is the threshold below which a child is considered stunted (WHO, 2023).

Table 5 presents the econometric regression results, which provide a robust confirmation of the findings from Figure 7. Column 1 presents the base model's HAZ score results before adjusting for confounding variables as specified in (4). Column 2 presents the extended model HAZ score results after controlling for covariates as specified in equation (8). Column 3 presents the base model's Stunting results before adjusting for confounders as specified in equation (4). Column 4 presents the extended model Stunting results after controlling for covariates as specified in equation (8). The full results are shown in Appendix A. This result is consistent across all regression model specifications including the base difference in difference, household, mother, and child fixed effects before and after adjusting for confounders (Appendix A.1). **Overall, the econometric analysis provides a rigorous, quantitative confirmation of the positive impact of the EWV treatment on stunting. This confirms the hypothesis that the treatment group experienced a significantly greater improvement in HAZ scores and stunting compared to the control group.**

Interestingly, the analysis shows no significant difference between the findings from the Iringa and Kigoma study arms. Given the dissimilarity of economics and social contexts of the two regions, this finding could suggest that the treatment was consistent across different geographical contexts. **We also found that good complementary feeding practices, mothers' health and food security positively affected HAZ score.** See Appendix B.

Table 5: Effects of EWV on HAZ Score and Prevalence of Stunting for Children Aged Under 5 Years

	HAZ Score		Stunting	
	(1)	(2)	(1)	(2)
EWV	0.203*** (0.06)	0.295*** (0.11)	-0.112*** (0.5)	-0.114*** (0.9)
Controls	NO	YES	NO	YES
Obsersions	870	698	970	856
R-squared	0.901	0.907	-	-
	-0.04	-0.08	-0.12	-0.12
Child Fixed Effect	YES	YES	YES	YES

* p<0.10, ** p<0.05, *** p<0.01, ****p<0.001

This table reports results on HAZ score and stunting prevalence (1-stunted, 0-not stunted). All Estimates were adjusted for child fixed effect. Estimates with and without control variables are reported for each outcome. Robust standard errors clustered at the child level in parentheses.

This finding of 11.2-11.4% reduction in stunting is consistent with findings from similar research conducted in other developing countries over a two-year period. Similar to the approach described in the EWV assessment, these studies incorporated behaviour change communication interventions, as well as nutritional and/or environmental health interventions. For instance, a study by Kim et al. (2019) in Ethiopia implemented behaviour change communication through interpersonal communication, nutrition-sensitive agricultural activities, community mobilization, and mass media to reduce child stunting by 11.2% over two years. Another study by Han Y. et al. (2021) implemented behaviour change communication through interactive information intervention on infant and young child feeding alongside food vouchers, resulting in a 9% reduction in child stunting for children aged four to 20 months in Ethiopia. Similarly, Smith et al. (2011) conducted a three-year study in Bangladesh, employing a behaviour change communication model that included women's empowerment, nutritional support, sanitation, poverty alleviation and food security programs, resulting in a 9% reduction in child stunting over two years. We note that behavioural change communication (BCC) is becoming an integral part of external development support by both secular and faith-based organizations. This particularly holds in the health and nutrition areas. Empowered Worldview is distinctive among other BCC approaches in its faith foundations (identity, vision, compassion, relation, faith in action), in fostering broad-based changes in mindset in addition to specific changes in behaviour, in the way that it engages leaders as trainers and the way that it reaches out to both adults and adolescents. We found EWV to have comparable or slightly larger average nutrition impacts than other BCC interventions even though the EWV training-of-trainers model means that people engaged in EWV with different levels of intensity.

QUALITATIVE INSIGHTS

The qualitative data provides insight into how EWV effected these changes in mindset and child well-being and why it was taken up and received well by the intervention communities.

In interviews and focus groups, participants almost always described EWV as primarily an intervention which provided them with knowledge and resources to be more successful in farming, and secondarily as a program which transformed their hearts and minds. Participants who had also been trained as facilitators were, however, more likely to see EWV as a transformative program which changed values and beliefs, as well as a useful one. Participants also believed that EWV was consistent with the teaching of their faith communities, especially teachings about love and mutual support and about self-reliance.

> ***I: How was EWV introduced to you? With the people of World Vision Tanzania?***
>
> ***R: They just called me and said come there is an EWV seminar, we went and were given education on a lot of things like time management, that we should form groups and be teachers. We were being educated so that we can form other groups. We were taught time management, having faith, and compassion. There were a lot of things. They talked about various stuff.***
>
> ***I: You don't remember? I wish to hear what they talked about and how it was introduced to you.***
>
> ***R: That we should change the world from having a negative mindset. That the people in the village still hold on to old beliefs. Some [people] have many resources and has everything but [some people have] no food, malnutrition, doesn't farm green vegetables but doesn't eat even the ones available. So, the use of resources was really a challenge. Some people have big areas, but the maize gets destroyed, you find that he doesn't have fertilizer while he could borrow. He could also farm potatoes because there is water [i.e. irrigation is possible], but he only waits for rain. Things regarding faith that we should trust in God because God has a very big part in our lives. (Participant, March 2021 Kihanga)***
>
> ***I: The way you see the EWV trainings, do they resemble/match with other teachings you get in the church?***
>
> ***R: Yes, they resemble. The first thing I see is that, for example on the topic of acts of mercy. …They resemble even scriptures that insist on assisting one another. … I see that they are two things conjoined together [EWV and scriptural teachings], meaning that they are two things but in reality, it is one thing they are as if they are all one. …***
>
> ***I: Is there any verse in the Bible you find to be inclined with the Empowered Worldview project?***
>
> ***R: The Book of Genesis says, God created man, the Earth and everything else, all those things were entrusted to man's ownership, use them beneficially for his/her life. And when you look at the Empowered Worldview, you will find the topic of self-consciousness [self-reliance], that people should use the resources available to run their life. Those are the verses I can quickly remember inclined with the Empowered Worldview. (Faith leader, March 2023, Kihanga)***

TO DECOMPOSE THE IMPACT OF EWV, WE CREATED THREE CATEGORIES:

01 CHANGES IN PARTICIPANTS' LIVES BECAUSE OF EWV

02 PARTICIPANTS' UNDERSTANDING OF HOW EWV PRODUCED THESE CHANGES

03 ACTIONS THAT PARTICIPANTS HAVE TAKEN AS A RESULT OF EWV

CHANGES IN PARTICIPANTS' LIVES BECAUSE OF EWV

Participants all agreed that the impact of EWV on their lives had been positive. Most saw the impact in the form of improved yields in agriculture, new farm ventures and new opportunities to get their harvests to market. Some also mentioned that they had acquired new self-confidence and belief that the efforts they put into improving their lives would not be in vain. There were contrasting views of how EWV had changed their family lives. Several men said they were now motivated to work more inclusively with their wives and to form a team, while several women said that they now had the strength of mind to be independent of their husbands and to carry out their own projects, with or without their husbands' permission.

> ***I: What [has] changed in your life [because of Empowered Worldview]?***
>
> ***R: This is about my relationship with my wife. Before the Empowered Worldview program, I ignored my wife in a lot of things. But after receiving the program, especially [the parts about] on transparency and participation, my life has completely changed. We are now sharing almost in each and everything, that way [we are] becoming happier. (Participant, June 2022, Nyaronga)***
>
> ***I: Okay. And has the positive perspective project changed your life in any way?***
>
> ***R: Yes, it has changed my life because I used not to cultivate my own farm and I was just cultivating by collaborating with the family. But now I have an outlook of doing cultivation [in order to] get my own needs, the point of staying back waiting [in the expectation] that your husband will finance you [has changed]. So, I have now changed and I have planned that I will be doing my own [income generating] activities. (Participant, June 2022, Nyaronga)***

Empowered Worldview was perceived to produce positive changes in several ways. Most participants note that they had received direct instruction from either World Vision staff or community facilitators which gave them new knowledge about farming and other activities. They also mentioned that participation in EWV activities put them into close contact with people they might not otherwise have known, from whom they could get new ideas. A few participants mentioned the religious teachings of EWV, often referring to Bible stories, as inspirations. By the latter stages of the project, our research assistants found that the notion of an "empowered worldview" (or a "positive attitude", mtizamo chanya in Swahili) had found its way into local speech, and people had started to identify entrepreneurial or co-operative behaviour as "empowered worldview" in everyday life.

I heard a mother scolding a fellow [another mother] who covered a business [placed a cloth over the crate from which she was selling beers, so the goods were not visible]. … "How come you don't understand? Or you have not acquired the empowered worldview? If you are doing business make it clear to people, why are you covering it? The men on the other side laughed saying, "That's absolutely true." I saw two middle-aged men and a young man on the playground carrying young children. I heard one young man telling his colleague, "Today the mother of your child is not around, I see you walking around with a baby." He replied, "In life you have to help each other, why should I not carry my son when his mother is tired? After all the baby is from both of us. Just look at yourself with a positive attitude and change your mindset." (Observer at a netball game, November 2021, Kihanga)

I: What do you think has changed in your life apart from working hard? You said you have been working harder, what else has changed in your life?

R: What has changed in my life is visions [of future success], thinking I can't do something because of thinking what the community will think of me, I have stopped that. I have now improved, that when I say I'm going to do something I am sure I will do those things and I will succeed. … I now have peace and I am sure about my life, I am not afraid of doing anything in fear that someone might bewitch me, I'm past that. I pray to God to have a long life so that I can do bigger things. … for example to take children to school so as they can achieve their goals and improve their lives. (Participant, March 2022, Nyaronga).

ACTIONS THAT HAVE RESULTED FROM EWV

Participants described new agriculture and livelihood ventures, especially those that resulted in concrete improvements, such as additions to the family home and expansions of farm and garden production. Participants also said they had changed some of their interpersonal behaviors, especially husbands who said they now listened to their wives' ideas.

I: Do you feel any interior changes due to the empowered worldview?

R: Yes, there are a lot.

I: Have you incurred any new thoughts?

R: Yes, from the Empowered Worldview program I have planned to take [add] at least one cow per year, as well as increase my agricultural farm a little bit annually.

I: Okay, why do you think that the changes that you have mentioned are due to the positive outlook?

R: In the past, I used not to see the future.

I: Seeing the future how? How were you thinking in the past?

R: My thought was very far behind, first of all I was working as if I didn't want to work at all. But now when I am doing something, I am doing it saying, "I am doing this with all the efforts so that Lord will help me to step forward". I think that in the other coming up years I am supposed to change from where I am to another place in the same area [move to a better house and garden]. So that I can change from this house and enter another house. (Participant, March 2021, Kihanga)

I: Personally, has positive thought changed your life?

R: Yes, it has changed; first I never thought I would have electricity in my house.

I: Mmh, now you have electricity? How did you get it?

R: I did what I was taught at the first time of animal husbandry, it helped me, and I paid for electricity.

I: Wow! So you got money from animal husbandry and connected electricity. … what else did you see after getting education regarding positive thought? What other changes did you notice?

R: Hah, there are a lot of changes, I have a fish pond, a farm of avocados, chickens and pigs so I see changes. I have already built [a piggery] and at the back of my house I was farming tomatoes and I have even built a small house … and I know God will help me.

I: He will help you because God blesses hard work.

R: In my purpose I want God to help me.

I: Very good, and God will enable you, I believe that, and when we come back next time will find a lot of changes.

R: Extremely [very much so], you will find them because I believe the [fish] pond that I dug will result in another pond, because I have put my heart and faith in it.

I: And have these changes changed your heart?

R: I am satisfied completely because I am doing this with my heart [confidence], not just doing it out of luck [expecting that any positive outcomes are due to luck] no; I do this with my heart expecting I will get something. (Participant, March 2022, Kihanga)

FINDINGS

Research Question 2

02 Does EWV have a positive multiplier effect on the impact of other World Vision interventions in the areas of nutrition and child protection? What factors contribute to this multiplier effect?

OVERALL FINDING

Empowered Worldview facilitates the positive impact of the following factors that affect stunting of children under five years of age: food security, access to health services, mothers' health and good child feeding practices. This empirical result has two important implications. First, households that start with low levels of these factors will experience dampened effects of EWV on child stunting. Second, World Vision interventions – especially in health – that successfully target any of these factors will have magnified effects when combined with EWV.

JUSTIFICATION

The decline in the prevalence of stunting from 11.2% to 11.4%, and the increase in HAZ by .2 to .3 represents the added value of EWV on top of all other World Vision interventions combined (livelihood, WASH, maternal and newborn health, child protection, etc.). We could not measure the direct added value of EWV on top of each World Vision intervention separately because we could not separate survey respondents who received and didn't receive those specific interventions. The closest we could get is measuring the added value of EWV on what these interventions try to achieve (food security, sanitation, access to health services, etc.). For instance, we are not able to say exactly how much EWV added value of this much to a specific World Vision livelihood intervention, but we can say the value of EWV to food security of households was greater than the value of EWV to households which are not food secure, which suggests that EWV adds value to World Vision interventions that improve food security.

To address questions 2 and 3, the team (unpublished preliminary results) investigated the complementarity between EWV, which addresses human internal constraints (hope, self-efficacy and self-esteem) and key external constraints affecting child stunting such as food security, access to health services, sanitation, access to safe drinking water, household wealth, mother's health and complementary feeding practices. We found evidence that EWV enhances the positive influence of food security, mother's health, access to health services and child complementary feeding practices. Each of these factors can be targeted by World Vision programming, especially in the health area.

Table 6 (on the following page) shows negative and significant coefficients for the interaction between EWV and household food insecurity indicating that **children living in food-secure households experienced a larger impact of EWV on stunting compared to children living in food-insecure households.**

Table 6 also indicates a positive and significant coefficient for the interaction between EWV and access to health services. This suggests that **children living in households with access to health services experienced a larger impact of EWV on stunting compared to children living in households without access to health services.**

Table 6 shows a negative and significant coefficient for the interaction between EWV and mother's health, **indicating that children born to healthy mothers experienced a larger impact of EWV on stunting compared to children born to unhealthy mothers.** A healthy mother is more likely to give birth to a healthy child, initiate breastfeeding early and frequently and is less likely to sustain pre- and postnatal infections, which enhances the impact of EWV on her child's health.

Table 6 also shows a positive and significant coefficient for the interaction between EWV and good complementary feeding practices, indicating that **children whose mothers engage in good complementary feeding practices experienced a larger impact of EWV on stunting compared to children with poor complementary feeding practices.**

Table 6: EWV and External Determinants of the HAZ Measure of Stunting		
	Ordinary least squares	Child fixed effects
	(1)	(2)
EWV	0.323***	0.295***
	(0.1)	(0.11)
EWV *Food Security	-0.128***	-0.126***
	(0.05)	(0.05)
EWV *Access to Health Services	1.456**	0.644***
	(0.63)	(0.24)
EWV * Sanitation	-0.044	0.004
	(0.21)	(0.25)
EWV *Household Wealth	0.01	0.006
	(0.05)	(0.05)
EWV *<32-Month-Old	-0.471****	-0.499****
	(0.09)	(0.09)
EWV *Male Child	0.036	0.059
	(0.07)	(0.07)
EWV *Mother's Health	-0.003****	-0.002****
	(0.00)	(0.00)
EWV *Mother's Age	0.007	0.004
	(0.01)	(0.01)
EWV *Good Complimentary Feeding Practices	0.307*	0.374*
	(0.18)	(0.21)
EWV *Kigoma	0.02	-0.011
	(0.08)	(0.08)
Constant	-1.798****	-1.818****
	(0.13)	(0.02)
Controls	YES	YES
Child Fixed Effect	NO	YES
R-squared		0.907
N	859	698

* p<0.10, ** p<0.05, *** p<0.01, ****p<0.001

Table 6. Interaction between the impact of EWV and physical factors addressing stunting.

Note: This table reports results on the interaction between the impact of EWV and physical factors addressing stunting (HAZ score). Estimations of ordinary least squares (column (1)) and child fixed effects (column (2)) are reported. All Estimates were adjusted for control. Robust standard errors clustered at the child level in parentheses.

QUALITATIVE INSIGHTS

The qualitative data provide insight about the challenges experienced by communities, especially those related to child well-being. The quantitative data indicate that the impact on well-being outcomes is greatest when Empowered Worldview takes place alongside other interventions or changes in households' standards of living.

Both participants and facilitators said that people in their communities were generally able to meet children's needs for food and shelter. They emphasized the sharing of resources between neighbouring households, especially food. They said that the major barriers to children's well-being were obstacles to school success, especially the lack of school fees and necessary items like uniforms. If EWV is successful in helping people to enhance their livelihood, or if other interventions address the question of school fees and living expenses for children, these conditions may change.

> ***I: Have you ever helped the children of the people surrounding you?***
>
> ***R: Yes. … At times they come and tell me, "We feel hungry". I cook food for them, I give them, they eat. At times they tell me, "We do not have even money for soap, we do not have exercise books." I buy for them because some of them stay alone, their parents are far. So, I try to help them where I can.***
>
> ***I: Their parents are far?***
>
> ***R: Yes… They are in the bush; they stay in the fields.***
>
> ***I: So, the children are living alone?***
>
> ***R: They live alone at home. (Facilitator, November 2020, Kigoma)***

> ***The environment of our children has become difficult because in our village its geography is not accessible. The children come from far away when they come to school. Even if at school they eat food but, on the way, you find they have to walk many kilometres... That is, you find about ten kilometres, thirteen, fourteen, fifteen until twenty to arrive at school. Now the child returns home, he or she very tired, takes a bath and eats food to prepare tomorrow for school, so you find that when he or she comes to school the child is dirty because the environment they live on... It is difficult for them because when he or she lives far away, then you find now their health is not good because their environment is difficult. At school you find that even drinking water for children is a problem so sometimes you find the children they have to go to the river to fetch drinking water for them it is a problem at school so, the health challenge for children has been a problem because they drink unsafe water. (Facilitator, November 2020, Iringa)***

In both Iringa and Kigoma, participants said that the quality and availability of health and educational services, although not great, had been improving.

In both sites, participants also identified moral and spiritual issues affecting children and their parents, particularly hopelessness about the future and jealousy or social division between the better-off and the less-well-off. In Iringa, participants were particularly concerned about the use of witchcraft within families, while in Kigoma, they were particularly concerned about a culture of disrespect and laziness developing among youth, influenced by access to global media.

Facilitators in the two intervention sites identified some site-specific concerns about child well-being. In Kigoma, these were the existence of "night markets" where adolescents would go to buy or sell or socialize with their peers, which often meant staying out all night and the vulnerability of girls to assault while going to and from the markets. In Iringa, these were the impacts of parental alcoholism which means that parents spend money on beer rather than children's needs and do not supervise children if they're drunk.

FINDINGS
Research Question 3

03 Does EWV have differential impacts on different subgroups of communities where it is implemented?

OVERALL FINDING

People living in the four APs that comprise our study populations vary in important ways – hope, poverty and stunting -- that are likely to affect EWV implementation and outcomes.

JUSTIFICATION

Table 7 below summarizes results on factors associated with heterogeneity of hope, poverty and child stunting.

With respect to the level of hope, women had lower hope levels than men, and people in Kigoma had lower hope levels than people in Iringa. Adults had higher hope levels than adolescents, although children of parents with higher hope levels were likely to have higher hope levels than children whose parents had lower levels of hope. People who had adequate food security, people who engaged in religious activities regularly or people who had an adult earning a cash income in their household also expressed higher levels of hope. It is beyond the scope of this study to consider why different demographic groups demonstrated varying levels of hope, but it is helpful to understand that hope levels were found to be related to poverty.

People with higher levels of hope were less likely to be asset poor. In addition, women were more likely than men to be poor, residents of Kigoma were more likely to be poor than residents of Nyaronga and people who had experienced a recent disaster also had a greater likelihood of being poor. Thus women in Kigoma with low hope and recent experience of disasters may be particularly well-positioned to benefit from World Vision interventions which can in turn enhance the impact of EWV.

With respect to the probability that a child under the age of five would be stunted in their growth, stunting was more likely in the presence of health concerns such as access to health care and food security. Children with healthy mothers, living in food secure households with access to health care were less likely to be stunted. Children in Kigoma were more likely to be stunted than children in Nyaronga. Kigoma children with poor access to health care, living in food insecure households, may warrant special attention in the implementation of EWV and other WV assistance.

Of particular significance to this study: there was no significant difference in rates of stunting between children in intervention sites (pooled) and control sites (pooled) at baseline. This supports the idea that EWV was largely responsible for mitigating the significant declines in stunting in the communities which received this intervention.

Table 7: Summary of Quantitative Findings Regarding Sub-groups of Participants at Baseline

Sub-group	Hope level at baseline	Probability of poverty at baseline	Probability of stunting for <5 yrs at baseline
Intervention	No difference	No difference	No difference
Women/proportion of women in household	Lower	Higher	No difference
Mother's health	No difference	No difference	Lower
God's child feeding practices	No difference	No difference	Lower
Adults	Higher	No difference	No difference
Children of parents with high hope levels	Higher	No difference	No difference
Kigoma	Lower	Higher	Higher
Food secure	Higher	No difference	Lower
Engages in religious activities	Higher	No difference	No difference
Adult income earner in household	Higher	No difference	No difference
Large family size	No difference	Decreased	No difference
Experienced disaster	No difference	Increased	No difference
Access to health	No difference	No difference	Lower

QUALITATIVE INSIGHTS

The qualitative data provided insights as to why and how EWV might be perceived differently by people with different characteristics. Qualitative data was especially useful in illuminating three categories:

1. Differences between Iringa and Kigoma

2. Differences between community members with intensive exposure to EWV (facilitator) and community members with less intensive exposure (participants)

3. Differences related to faith and religion

Kigoma and Iringa

People in Iringa express more positive (hopeful) beliefs about the future than in Kigoma. In Iringa, reasons for hope include improvements in community infrastructure and changing community norms around family relations, especially the rights of women. Obstacles include declining harvest, children who are educated but can't find jobs and cynicism about development organizations which make promises but don't follow through, in addition to the fear of jealousy and witchcraft. People in Kigoma expressed less hopefulness – relations between spouses and between parents and children were described as deteriorating, and alcoholism and substance abuse was common. Witchcraft was less of a concern. In both sites, young people were more optimistic than adults.

Group interviews conducted with Kigoma leaders in August 2023 suggested that the closure of the refugee camp by the Tanzania Refugee Services Department and UNHCR, and the related translocation of about 22,000 refugees to another refugee in early 2021, had significant negative effects on well-being. The group interviews conducted in August 2023 indicated that the local Kigoma residents suffered as a result in the following ways:

1. Reduced access to the health services that had been available at the refugee camp

2. Reduced availability of the fortified flour that had been available to camp residents

3. Reduced opportunities to sell products like cassava and fish to camp residents

4. Reduced access to the tree planting advice and material that had been provided to camp residents

Conflicts related to the 2021 General Election and drought conditions were identified as other negative influences in Kigoma during the study period.

Facilitators and Participants

Facilitators and participants had different perceptions of EWV. Participants understood EWV as a livelihood intervention which enhanced their ability to succeed in farming and small business. In particular, they mentioned the provision of seeds and credit through small groups, along with new ideas about "scientific farming". Facilitators understood EWV as a program for changing attitudes and beliefs, especially about self-efficacy and the ability to set goals and succeed in reaching them. In particular, facilitators talked about improved relationships with members of their family and being encouraged to share ideas, authority and responsibility with their spouses. They also said that the encouragement to try new things was transformative, even when it meant doing things that were different from what their neighbours did.

Faith

One important finding was that both facilitators and participants saw the content of EWV as resonant with what they learned in their faith communities (both Christian and Muslim), especially because EWV emphasized love and concern for others and having confidence in oneself. We revised our qualitative interview guide in 2022 to focus more on this dimension of EWV. We speculate that this resonance means that EWV is more "resonant" for people whose background in faith is already strong.

The "behaving, believing, belonging" typology of faith engagement (Wilson 1966) is useful for understanding how people in these communities live their religious commitments. In all sites, the "behaving" dimension is most prominent. When talking about faith, people emphasize that having strong faith enables people to behave better. Four "behaving" themes emerged:

1. Faith enhances interpersonal relations, especially between husbands and wives.

2. Faith enables people to resist temptations (especially gossip, witchcraft and sexual misbehaviour).

3. Women are generally more active in faith life than men.

4. Having strong faith means that God can help when everything else fails.

The importance of the "behaving" dimension of faith was also evident when participants and facilitators talked about the relationship they perceived between Empowered Worldview and the values of their faith community. They saw the faith elements in Empowered Worldview reinforcing the stories and teachings of their own faith community:

> ***I: So you've heard of the Empowered Worldview, can you tell me what it is?***
>
> ***R: An Empowered Worldview is something that motivates a person [to be] active in [economic] activities. When I read the Bible, we are told the pioneer was Ibrahim, father of faith… When you look at his activities, what he did and how he succeeded, then I realize that what we have learned about the Empowered Worldview is built on the foundations of God. …***
>
> ***I: Who gave you that seminar on an empowered worldview?***

R: First and foremost, it was Pastor X who [taught] about the empowered worldview, and when he taught us, I was thankful to God. Because that man is a Pastor, he [explained] the religious mind … He told us what is going on in our lives, he opened the Bible passages, and showed us the founding father of empowered worldview was Abraham, father of faith. … .

I: Okay, and have you ever heard of an Empowered Worldview in church?

R: Yes, after we have learned, we took it as facilitators to go and show in the churches, to convey the message of an empowered worldview.

I: And the teachings of the Empowered Worldview are they similar or different from what you give in church or in the mosque?

R: Let me make it clear that the teaching of the Empowered Worldview is exactly the same … so when speaking about the Empowered Worldview it's related to the word of God.

(Facilitator, November 2022, Nyaronga)

FINDINGS

Research Question 4

04 **How effective were the tools selected and used to assess mindset (hope, self-efficacy, community capacity, women's empowerment) in the context of rural Tanzania?**

OVERALL FINDING

The survey tools used to solicit information on underlying levels of hope and self-efficacy were very effective and we recommend their further evaluation and use. The survey tool used to solicit information on underlying levels of community capacity was somewhat less effective, but deserves further testing.

JUSTIFICATION

The research team sought expert advice from Dr. Anthony Scioli regarding assessment of hope and he provided two models of questions with about 40 separate questions (Scioli et al,2011). The research team then selected 12 questions, including eight that were worded positively and four that were worded negatively.

Responses to the questions followed the Likert format. Table 8 shows the mean and standard deviation of the responses, which range from 1 (strongly disagree for questions 1-8, strongly agree for questions 9-12) to 4 (strongly agree for questions 1-8, strongly disagree for questions 9-12). The mean ranged from 2.95 for question 5 to 3.41 for question 1. Respondents were less likely to strongly disagree with the negative questions, particularly question 11.

Chorieva (2021) conducted item response theory analysis of the relationship between the responses to the 12 questions and the latent concept of hope. Item response theory analysis was conducted and revealed that the most informative question was question 7. The analysis also shows that questions 1-8 were good for discriminating among people with intermediate levels of hope, while questions 9-12 were good for discriminating among people with extremely low or extremely high hope. Due to this complementarity, we recommend that World Vision consider using this 12-item scale in its future studies of hope.

Table 8: Hope Measurement Questionnaire		
Positive Items	**Mean**	**SD**
1. I feel loved by someone	3.41	0.6
2. There are people in my life that I completely trust	3.31	0.65
3. I'm making progress towards important goals	3.27	0.59
4. I have a purpose in life	3.17	0.63
5. I can handle any current or future difficulties	2.95	0.77
6. The future will bring opportunities for a better life	3.04	0.65
7. My faith in a higher power gives strength to pursue my dreams	3.25	0.64
8. My spiritual beliefs empowered me to succeed in life	3.3	0.64
Negative Items		
9. I never felt any spiritual force or presence	2.85	0.86
10. I have doubts about achieving things that matter to me	2.36	0.83
11. I'm running out of options for improving my life	2.32	0.87
12. I worry that someone may betray me	2.57	0.92
Cronbach's alpha (All Items)	0.64	

Source: Adapted from Scioli et al (2011) and Scioli personal communication.

Following Underwood et al (2013) we define community capacity as "individual and aggregate strengths of members to overcome barriers and find or cultivate opportunities to improve overall well-being of a given community as well as that of individual community members" (Underwood et al, 2013, p.106). Our study team selected and adapted 15 Likert-scale questions from Underwood et al (2013) to measure community capacity as a composite of social cohesion (1, 2, 15), collective efficacy (3, 4, 5, 6, 11, 12, 13), conflict management (14), leadership type and (7), leadership effectiveness (8, 9, 10). Table 10 shows the 15 items.

Similar to her work on hope, Chorieva (2021) conducted item response theory analysis on the self-efficacy and community capacity questions. For generalized self-efficacy, Chorieva found that the 9 questions (all positively worded) provide high information content and demonstrate good and acceptable levels of correlation with each other and with the sum of all other indicators. Items 1-7 provide good information for people with different levels of self-efficacy, especially at lower and moderate levels. Table 8 shows the 9 items.

For community capacity, Chorieva found that the positively-worded questions 9, 10 and 8 had the greatest information content across the lower and middle levels of community capacity, while the negatively worded question 11 shows higher information content at higher levels of community capacity. It is notable that questions 8, 10 and 9 all related to leadership effectiveness, while questions, 9, 10 and 11 all relate to attention to the well-being of children. Questions 6 and 13 have the least information content.

Table 9: Generalized Self-Efficacy Measurement Survey						
Note: 1 - Not at all; 2- Hardly true; 3 - Moderately true; 4- Exactly true	Obs.	Mean	SD	Skew	Kurt	Correlation with total score (Item excluded)
Item 1. I have the skills and knowledge I need to solve difficult problems.	5384	2.50	0.91	-0.05	2.19	0.67
Item 2. I know how to handle unforeseen problems.	5384	2.46	0.89	-0.03	2.24	0.69
Item 3. I am able to succeed in ways that really matter to me.	5384	2.68	0.90	-0.24	2.29	0.66
Item 4. I am capable of finding support from others when I need it.	5384	3.21	0.80	-0.82	3.19	0.60
Item 5. I draw inspiration from my spiritual beliefs.	5384	3.30	0.77	-0.94	3.50	0.56
Item 6. I am confident that I can participate in community activities.	5384	3.13	0.88	-0.74	2.73	0.71
Item 7. I am confident that I can contribute to solutions faced by my community	5384	2.88	0.94	-0.38	2.20	0.71
Item 8. There are people in my life that I can completely trust.	5384	3.25	0.80	-0.87	3.21	0.44
Item 9. The things I need to solve my problems are readily available to me.	5384	2.25	0.89	0.23	2.29	0.45

Source: Schwarzer and Jerusalem, 1995

Table 10: Community Capacity Measurement Survey						
Community capacity items	Strongly disagree	Disagree	Agree	Strongly agree	Domain	Corr. w/ total score
1. People in this community readily help each other	1145	3043	767	404	Soc Coh	0.58
2. People in this community tend to trust each another	908	3137	979	335	Soc Coh	0.57
3. People in this community actively care for people outside of their family who are poor, weak or vulnerable	757	2403	1386	806	Col-Eff	0.52
4 . People in this community work together to improve the well-being of all children	571	2576	1441	753	Col-Eff	0.56
5. The activities that are being implemented in this community to improve the well-being of children are the most important	1162	3147	842	183	Col-Eff	0.60
6. People in this community wait for government or NGO support in times of need	480	1973	1876	974	Col-Eff (-)	0.30

7. Women take leadership roles in our community councils, or in community groups	1088	3167	807	264	Lead-typ	0.50
8. Our leaders listen to input from everyone in the community, including the most vulnerable groups, when making a decision	1055	3403	657	188	Lead-eff	0.61
9. Our leaders work hard to improving the well-being of children in this community	868	3267	975	200	Lead-eff	0.65
10. Our leaders are able to obtain assistance from outside the community to improve the lives of our children	989	3397	761	156	Lead-eff	0.64
11. In this community, when children are malnourished, we wait for the government to solve the problem	196	1271	2262	1574	Col-Eff	0.27
12. In this community, if a school building needs some repairs, we wait for other outsiders to come and fix it	362	1590	2169	1205	Coll-Eff	0.24
13. In this community, when children drop out of school, we are not able to do anything about it	392	1447	2287	1199	Coll-Eff	0.08
14. When conflicts arise among the members of this community, we are usually able to solve the problem	1722	3047	396	115	Conflict	0.38
15. People in my community have close friends of different religions	1669	2877	626	170	Soc Coh	0.41

CONCLUSION

The results of this project indicate strong support for the theory of change. Of greatest importance, EWV has a demonstrable and significant impact on child well-being, as measured by levels of stunting. However, research participants perceive the impacts of EWV as operating primarily at the level of improvements in household livelihoods and secondarily at the level of changes in values.

The positive impacts of EWV are even greater when external constraints on well-being, such as household food security or access to medical care, are diminished. Therefore, **EWV is most effective when implemented alongside other interventions to support child well-being.** By concurrently targeting internal constraints such as hope, self-efficacy and self-esteem, and external factors such as food security, maternal health, access to healthcare and complementary feeding practices, interventions have the potential to yield amplified effects in improving child well-being and development.

The resonance between the values of faith communities and the messaging of EWV suggests that faith involvement will also enhance the benefits of EWV. Research participants identified strong faith as a driver of positive behaviours for individuals and reported that these behaviours were also supported by the content of EWV programming.

The impacts of EWV are variable across different subgroups of the study population. Women, people experiencing poverty, and people living in Kigoma, were less likely to experience positive outcomes when EWV was rolled out in their communities.

The APs in Iringa and Kigoma experienced very different mindset contexts during the 2020-2022 implementation period, with conditions in both Iringa APs improving while conditions in both Kigoma APs declined. Empowered Worldview had significant positive impacts on mindset in the Kigoma APs, but that was insufficient to completely offset underlying deterioration in Kigoma.

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Appendix 1. Focus Group Guide at Baseline

Developed and refined by a team of World Vision, University of Alberta and Ifakara Health Institute, Gran Melia Arusha, Arusha, Tanzania, Oct 16-18, 2019. Led and coordinated by Sally Mtenga, Amy Kaler, Nesserian Mollel and Rhonda Breitkreuz

Note: This instrument has been developed for research on the effects of World Vision's Empowered World View (EWV) capacity building. It is consistent with a Theory of Change that links participation in EWV to training to changes in mindset, with changes in mindset causing changes in behaviour, and changes of behaviour causing changes in child well-being outcomes. These qualitative instruments explore the challenges faced by the community; four dimensions of mindset change identified by World Vision staff as particularly salient to improved child well-being; and subjective understandings of the EWV program. Each instrument has footnotes explain where it fits into the overall research plan.

A. BASELINE FOCUS GROUPS: COMMUNITY CHALLENGES 1

1. To be used in the baseline in each of the two intervention sites and each of the two control sites (the last question may be omitted in the control sites). In each of the four sites, at least one focus group will be held with:

- ***community leaders (non-faith-based)***
- ***faith-based community leaders***

To be modified depending on the target group

Perceptions on Community Challenges

1. What are the biggest problems in your community for children?

2. What are the biggest problems in your community for men?

3. What are the biggest problems in your community for women?

4. Compared to five years ago, are any of these problems getting worse?
a. What is causing them to get worse?

5. Compared to five years ago, are any of these problems getting better?
a. What is causing them to get better?

6. When you think about life in your community in five years' time, do you think life will be better/worse than it is now?
a. What do you see getting better?
b. What do you see getting worse?

7. (Optional) World Vision is coming to your community. One of the programs they want to implement is called Empowered Worldview.

a. Have you heard of World Vision? If so, what have you heard?
b. Have you heard of Empowered Worldview? If so, what have you heard?
a. Probe: what has caused you to be on good terms/not on good terms with family members? Remember, you don't need to give us names of specific people.
b. Probe: If you need help with a problem, who would you turn to for help?

8. Some people have many friends whom they can share their thoughts with, while others keep their thoughts and feelings to themselves. Which one is more like you?
a. Probe: when you are making a big decision or when you are not sure what to do, whom do you talk to, if anyone?

9. Do you believe you are respected in your community?

a. Probe: how do people show their respect to you?

DOMAINS OF EWV[1]

Domain 1: Perceptions and experience related to Empowered World View (EWV)

1. What is Empowered World View, in your opinion?

2. How was the EWV introduced to you?

3. Do you see any differences between EWV and other interventions in your community?

Domain 2: Changes that have occurred as a result of Empowered World View

1. Has EWV in any way changed your life ?

1.1. Probe: what has changed?
1.1.1. Do you feel any changes in your heart?
1.1.2. Do you have any new ideas?
1.1.3. Have you had any changes in your livelihood?

2. Why do you think the changes are due to EWV?

Domain 3: How the changes have occurred as a result of Empowered World View (EWV

1. Did you experience challenges or difficulties because of the changes from Empowered Worldview? Probe: how did you overcome the challenges?

2. Do you think you lost anything because you took part in EWV?

3. Are there any changes that you wished that they could happen as a result of your engagement with EWV but have not yet happened?

Researcher: Thank the participants for their precious time

To be asked in follow-up interviews at 8 months, 12 months, 16 months and 24 months after EWV implementation of:

- five families that are being followed closely in one of the intervention sites
- 10-15 people who have been trained as facilitators in each intervention site
- 10-15 who have not completed EWV training in each intervention site

Appendix 2. In-Depth Interview Guide

Developed and refined by a team of World Vision, University of Alberta and Ifakara Health Institute, Gran Melia Arusha, Arusha, Tanzania, Oct 16-18, 2019. Led and coordinated by Sally Mtenga, Amy Kaler, Nesserian Mollel and Rhonda Breitkreuz

Note:
This instrument has been developed for research on the effects of World Vision's Empowered World View (EWV) capacity building. It is consistent with a Theory of Change that links participation in EWV to training to changes in mindset, with changes in mindset causing changes in behaviour, and changes of behaviour causing changes in child well-being outcomes. The tool explore the challenges faced by the community; four dimensions of mindset change identified by World Vision staff as particularly salient to improved child well-being; and subjective understandings of the EWV program. The instrument has footnotes explain where it fits into the overall research plan.

To be modified depending on the target Individual

Introduction

My name is ……., I am here on behalf of the researchers from the Ifakara Health Institute (IHI) and researchers from the university of Alberta in Canada. I and my colleagues are here to learn more about the interventions that have been implemented by the World Vision Tanzania with a specific focus on the Empowered World View (EWV). We want to understand about how you feel about the EWV and its goal and other aspects of your life. There is no wrong view or response. All your views and opinions are very valuable and therefore, feel free to speak to us. We hope that the information gathered from this evaluation will help World Vision with implementing the project in other areas.
Kindly feel free to let me know where you feel that I need to clarify the question.
Before we ask questions, I would like us to read the participant information sheet, then you can provide your indication (consent) to participate in the study.

Researcher: - Take the participant through the informed consent form. Remember to explain thoroughly about the objective of the evaluation and remind the participant about the three important aspects that need to be observed during interview (confidentiality, openness in self-expression and respect for voluntary participation)
Emphasis: The researcher should explain to the participants that; any question is asked within the context of Empowered World View except for those who will participate in the baseline study.

1. Faith and Family[2] 1

To be asked in the baseline interviews of *five families that are being followed closely in one of the intervention sites
***10-15 people who have been trained as facilitators in each intervention site.**

To be asked in follow-up interviews at 8 months, 12 months, 16 months and 24 months after EWV implementation of:

- five families that are being followed closely in one of the intervention sites
- 10-15 people who have been trained as facilitators in each intervention site
- 10-15 who have not completed EWV training in each intervention site

1. What are the most difficult challenges facing you and your family in your household?

1.1. What are the most important things you are trying to achieve in your household?

2. When there are big decisions facing your household, who makes these decisions (examples: buying or selling farm, having children, starting business, spending money)?

2.1. Do you make any decisions by yourself? Which ones?

3. Do you think you and your family are in good health?

3.1. How do you know that you and your family are/are not in good health?

3.2. What things do you do to try to protect your health and your family's health?

3.3. What are the challenges in protecting your health and your family's health?

4. Do you have good relationships with the people who live near you (neighbours)?

4.1. What do you and your neighbours do which shows that you do/don't have good relationships?

4.2. How has is it been difficult/easy for you to maintain good relationships with people around you?

4.3. Do you assist the children of people around you in any way/do they assist your children in any way?

5. Are you able to get the money that you need to meet your household's need?

5.1. What makes it possible/difficult to get the money you need?

6. Do you have many friends outside your family that you share ideas with/confide in?

6.1. Where do you meet these friends? What things do you share or confide in with these friends?

7. Do you have friends or neighbors of a different religion?

7.1. What makes it difficult/easy to maintain good relations with people of a different religion in your community?

8. Do you spend a lot of time doing things for your faith? (examples: praying, going to church/mosque, reading scripture, taking part in services)?

8.1. Why is your faith important/not very important in your life?

2. Dimensions of Mindset

TRUST

1. Generally speaking, would you say that most people can be trusted or that you need to be very careful in dealing with people?

a. Probe: why do you think so?

2. Can you tell us about a time in the past year when you put your trust in someone in your community?

3. Can you describe some people in your community whom you trust?

a. Probe: we don't need people's names, just to know about the characteristics of people whom you trust

b. Probe: your neighbours? Your family members? People in your congregation?

4. If something bad happened to you or your family, do you believe that other people would help you?

a. Probe: Can you tell us about a time when you needed help and someone helped you?

b. Probe: Can you tell us about a time when you needed help but nobody helped you?

DEPENDENCY/SELF-EFFICACY

1. Can you tell us about a time in the past year when you were able to solve a problem that you or your household were experiencing?

2. Some people feel they have completely free choice and control over their lives, but other people feel that what they do has no real effect on what happens to them. Which kind of person is more like you?

a. Probe: What things in your life do you think you can control?

b. Probe: What things in your life are outside your control?

In the past year, have you started doing any new activities that you did not do before in order to meet the needs of your household? (new)Probe: What new activities have you started? (new)
Probe: Why did you start them? (new)

3. Some communities can find solutions to a lot of their own problems, but other communities need help from outside to solve their problems. Which community is more like yours?

a. Probe

i. Can you give an example of a problem that you think your community can fix?

ii. Can you give an example of a problem that can only be fixed if people from outside the community help you?

INTEGRITY

1. Can you tell us about a time in the past year when you observed somebody being honest or telling the truth even if it was difficult?

2. Do you think that being honest and truthful leads to success in life, or do you think that people who lie and cheat are the ones who prosper?

a. Probe: Do you think that hard work and co-operation leads to success in life, or do you think that people who are lazy and selfish are the ones who prosper?
b. Probe: can you give an example of people who succeed by working hard and co-operating/succeed by being lazy and selfish? Remember, you don't need to give us names of specific people.

3. What personal qualities are you trying to teach your children?

QUALITY OF RELATIONSHIPS

1. Can you tell us about a time in the past year when you provided help to someone in your community?

2. Can you tell us about a time in the past year when someone in your community helped you?

3. Some people have good relationships with their families, although others they don't have good relationships with their families. Which one is more like you?
a. Probe: Why are you in good /not in good terms with your family members? Don't mention the name of the respective person.

4. Many people have friends whom they can exchange ideas, while others they do not have good relationships with others. Which one is more like you?

a. Probe: When you want to make decisions on important issues or when you are not sure, whom do you share with in case there is someone?

5. In case you need assistance, whom will ask for assistance?
a. Probe: Are there people whom can support you when you face challenges?

4. Do you feel that you are respected in your community?
b. Probe: How do people show respect you?

Domain 1: Perceptions and experience related to Empowered World View (EWV)

1. What is Empowered World View, in your opinion?

2. How was the EWV introduced to you?

3. Do you see any differences between EWV and other interventions in your community?

Domain 2: Changes that have occurred as a result of Empowered World View (EWV)

1. Has EWV in any way changed your life ?

1.1. **Probe:** *what has changed?*
1.1.1. Do you feel any changes in your heart?
1.1.2. Do you have any new ideas?
1.1.3. Have you had any changes in your livelihood?

2. Why do you think the changes are due to EWV?

To be asked in follow-up interviews at 8 months, 12 months, 16 months and 24 months after EWV implementation of:

- five families that are being followed closely in one of the intervention sites
- 10-15 people who have been trained as facilitators in each intervention site
- 10-15 who have not completed EWV training in each intervention site

Appendix 3. Focus Group Guide at Endline

Community Challenges

1. What are the biggest problems in your community today for children?

2. What are the biggest problems in your community today for men?

3. What are the biggest problems in your community today for women?

4. Compared to five years ago, are any of these problems getting worse?

a. What is causing them to get worse?

5. Compared to five years ago, are any of these problems getting better?

a. What is causing them to get better?

6. When you think about life in your community in five years' time, do you think life will be better/ worse than it is now?

a. What do you see getting better?
b. What do you see getting worse?

7. (in sites where Empowered Worldview has been implemented) World Vision has been in your community for a year or so now. One of the programs they implemented is called Empowered Worldview.

a. Have you heard of World Vision? If so, what have you heard?
b. Have you heard of Empowered Worldview? If so, what have you heard?
i. What are the main ideas of Empowered Worldview, as you understand them?
ii. (for faith leaders) Are these ideas similar to any ideas from the religious teachings of your faith? Where do you see the similarity?
c. Do you know anyone who has done Empowered Worldview training?
i. What kind of training did they do?
ii. Have you seen any changes in these people's hearts because of the training?

Appendix 4. Revision of Qualitative Instruments for Endline

Developed and refined by a team of World Vision, University of Alberta and Ifakara Health Institute, Gran Melia Arusha, Arusha, Tanzania, Oct 16-18, 2019. Led and coordinated by Sally Mtenga, Amy Kaler, Nesserian Mollel and Rhonda Breitkreuz

Note:
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Introduction

My name is ……., I am here on behalf of the researchers from the Ifakara Health Institute (IHI) and researchers from the university of Alberta in Canada. I and my colleagues are here to learn more about the interventions that have been implemented by the World Vision Tanzania with a specific focus on the Empowered World View (EWV). We want to understand about how you feel about the EWV and its goal and other aspects of your life. There is no wrong view or response. All your views and opinions are very valuable and therefore, feel free to speak to us. We hope that the information gathered from this evaluation will help World Vision with implementing the project in other areas.
Kindly feel free to let me know where you feel that I need to clarify the question

Before we ask questions, I would like us to read the participant information sheet, then you can provide your indication (consent) to participate in the study.

Researcher: - Take the participant through the informed consent form. Remember to explain thoroughly about the objective of the evaluation and remind the participant about the three important aspects that need to be observed during interview (confidentiality, openness in self- expression and respect for voluntary participation)

Emphasis: The researcher should explain to the participants that; any question is asked within the context of Empowered World View except for those who will participate in the baseline study

1. Faith and Family[1]

1. What are the most important things you are trying to achieve in your household?

2. When there are big decisions facing your household, who makes these decisions (examples: buying or selling farm, having children, starting business, spending money)?

2. 1. Do you make any decisions by yourself? Which ones?

3. Do you think you and your family are in good health?

3.1. How do you know that you and your family are/are not in good health?

3.2. What things do you do to try to protect your health and your family's health?

3.3. What are the challenges in protecting your health and your family's health?

4. Do you have good relationships with the people who live near you (neighbours)?

4.1. What do you and your neighbours do which shows that you do/don't have good relationships?

4.2. How has is it been difficult/easy for you to maintain good relationships with people around you?

4.3. Do you assist the children of people around you in any way/do they assist your children in an way?

5. Are you able to get the money that you need to meet your household's need?

5.1. What makes it possible/difficult to get the money you need?

6. Do you have many friends outside your family that you share ideas with/confide in?

6.1. Where do you meet these friends? What things do you share or confide in with these friends?

7. Do you have friends or neighbors of a different religion?

7.1. What makes it difficult/easy to maintain good relations with people of a different religion in your community?

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8.1. Why is your faith important/not very important in your life?

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TRUST

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a. Probe: why do you think so?

2. Can you tell us about a time in the past year when you put your trust in someone in your community?

3. Can you describe some people in your community whom you trust?

a. Probe: we don't need people's names, just to know about the characteristics of people whom you trust

b. Probe: your neighbours? Your family members? People in your congregation?

4. If something bad happened to you or your family, do you believe that other people would help you?

a. Probe: Can you tell us about a time when you needed help and someone helped you?

b. Probe: Can you tell us about a time when you needed help but nobody helped you?

i. Can you give an example of a problem that you think your community can fix?

ii. Can you give an example of a problem that can only be fixed if people from outside the community help you?

DEPENDENCY/SELF-EFFICACY

1. Can you tell us about a time in the past year when you were able to solve a problem that you or your household were experiencing?

2. Some people feel they have completely free choice and control over their lives, but other people feel that what they do has no real effect on what happens to them. Which kind of person is more like you?

a. Probe: What things in your life do you think you can control?

b. Probe: What things in your life are outside your control?

In the past year, have you started doing any new activities that you did not do before in order to meet the needs of your household? (new)Probe: What new activities have you started? (new)

Probe: Why did you start them? (new)

3. Some communities can find solutions to a lot of their own problems, but other communities need help from outside to solve their problems. Which community is more like yours?

a. Probe

i. Can you give an example of a problem that you think your community can fix?

ii. Can you give an example of a problem that can only be fixed if people from outside the community help you?

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1. Can you tell us about a time in the past year when you observed somebody being honest or telling the truth even if it was difficult?

2. Do you think that being honest and truthful leads to success in life, or do you think that people who lie and cheat are the ones who prosper?

a. Probe: Do you think that hard work and co-operation leads to success in life, or do you think that people who are lazy and selfish are the ones who prosper?

b. Probe: can you give an example of people who succeed by working hard and co-operating/ succeed by being lazy and selfish? Remember, you don't need to give us names of specific people.

3. What personal qualities are you trying to teach your children?

being lazy and selfish? Remember, you don't need to give us names of specific people.

QUALITY OF RELATIONSHIPS

1. Can you tell us about a time in the past year when you provided help to someone in your community?

2. Can you tell us about a time in the past year when someone in your community helped you?

3. Some people have good relationships with their families, although others they don't have good relationships with their families. Which one is more like you?

a. Probe: Why are you in good /not in good terms with your family members? Don't mention the name of the respective person.

4. Many people have friends whom they can exchange ideas, while others they do not have good relationships with others. Which one is more like you?

a. Probe: When you want to make decisions on important issues or when you are not sure, whom do you share with in case there is someone?

5. In case you need assistance, whom will ask for assistance?

a. Probe: Are there people whom can support you when you face challenges?

4. Do you feel that you are respected in your community?

b. Probe: How do people show respect you?

DOMAINS OF EWV

RA's should check with the WV team about how spread is EWV in the community. If it has not been extensively implemented these questions should not be asked. Instead ask the following:

Have you heard of EWV? If so what do you think about it?

1. What is Empowered World View, in your opinion?

2. How was the EWV introduced to you?

3. In addition to the time that you were introduced to EWV, have you heard about it at other times? When?

a. Probe: Have you heard of EWV at your church or mosque? (new)

b. (if yes): Is EWV similar to/different from other teachings you have received at your church/mosque? (new)

4. Have you ever talked about EWV with anybody? Who?

5. When was the most recent time that you talked about EWV?

6. Do you see any differences between EWV and other interventions in your community?

Appendix 5 – Interactions between EWV and Factors Affecting Stunting

	OLS	HFE	MFE	CFE
	1	2	3	4
Post Treatment	-0.231	-0.369	-0.29	-0.336
	-0.24	-0.28	-0.27	-0.28
Treat	-0.169	0	0	0
	-0.1	(.)	(.)	(.)
EWV	0.323***	0.287***	0.278***	0.295***
	-0.1	-0.11	-0.11	-0.11
EWV*Food Insecurity	-0.128***	-0.133***	-0.124***	-0.126***
	-0.05	-0.05	-0.05	-0.05
EWV*Access to Health Services	1.456**	0.567**	0.684***	0.644***
	-0.63	-0.23	-0.22	-0.24
EWV*Sanitation	-0.044	-0.001	0.031	0.004
	-0.21	-0.24	-0.23	-0.25
EWV*Household Wealth	0.01	0.005	-0.004	0.006
	-0.05	-0.05	-0.05	-0.05
EWV*<32-Month-Old	-0.471****	-0.469****	-0.439****	-0.499****
	-0.09	-0.08	-0.08	-0.09
EWV*Male Child	0.036	0.1	0.107	0.059
	-0.07	-0.07	-0.07	-0.07
EWV*Mother's Health	-0.003****	-0.002***	-0.002***	-0.002****
	0	0	0	0
EWV*Mother's Age	0.007	0.005	0.005	0.004
	-0.01	-0.01	-0.01	-0.01
EWV*Good Complimentary Feeding Practices	0.307*	0.390*	0.302	0.374*
	-0.18	-0.2	-0.19	-0.21
EWV*Kigoma	0.02	-0.018	-0.026	-0.011
	-0.08	-0.09	-0.09	-0.08
Kigoma	-0.004	-	-	-
	-0.11	-	-	-

Food Insecurity	0.087**	0.099***	0.094**	0.093**
	-0.03	-0.04	-0.04	-0.04
Access to Health Services	0.968****	1.229****	1.129****	1.202****
	-0.17	-0.18	-0.17	-0.2
Sanitation	0.048	-0.02	-0.093	-0.016
	-0.18	-0.21	-0.2	-0.22
Household Wealth	-0.002	-0.006	0.004	-0.007
	-0.04	-0.04	-0.04	-0.04
<32-Month-Old	0.349***	0.412***	0.426***	0
	-0.11	-0.14	-0.15	(.)
Mother's Health	0.000****	0.000***	0.000***	0.000***
	0	0	0	0
Mother's Age	-0.004	0	-0.002	0
	-0.01	-0.01	-0.01	-0.01
Good Compli-mentary Feeding Practices	-0.281*	-0.306*	-0.198	0
	-0.16	-0.18	-0.17	(.)
Constant	-1.798****	-1.899****	-1.902****	-1.818****
	-0.13	-0.03	-0.03	-0.02
Controls	Yes	Yes	Yes	Yes
Household Con-trols	No	Yes	Yes	Yes
Mother's controls	No	No	Yes	Yes
Child Fixed Effect	No	No	No	Yes
R-squared		0.893	0.896	0.907
N	859	713	704	698

* p<0.10, ** p<0.05, *** p<0.01, **** p<0.001

OLS indicates ordinary least squares, CFE indicates child fixed effects, HFE indicates household fixed effects, and MFE indicates mother fixed effects.

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