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Social and Behaviour Change Communication Pre- & Post-test Comparative Analysis: Sanitation and Hygiene Topic Module

Gender Transformative and Nutrition-sensitive Project (2019-2021) in Chemba District, Sofala Province, Mozambique

December 2021

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Country	Mozambique
Project Title	Reaching the furthest behind first: Gender Transformative and Nutrition-sensitive programming to increase food and nutrition security for women, adolescent girls, and children in Chemba district, Sofala province
Geographic Area	Chemba District, Sofala Province
Sessions Conducted (6)	July - November 2021
Analysis Conducted	November - December 2021
Cooperating Partners	Government of Mozambique Pathfinder International
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Front cover photo caption: Mulima beneficiary demonstrating the use of their Tippy Tap: Handwashing Station

Credit: Julia Vettersand (2021)

Contents

Pre- & Post-test Comparative Analysis: Sanitation and Hygiene Topic Module

Executive Summary

Social and Behaviour Change Communication (SBCC) is an evidence-based strategy to improve health and nutrition by increasing and improving knowledge, attitudes and practices (KAP). The Gender Transformative and Nutrition-sensitive (GTNS) project implements SBCC activities, in parallel to resilience and post-harvest loss interventions, with the aim of contributing to women's empowerment and stunting reduction among children in Sofala, Mozambique. The SBCC strategy uses three approaches to achieve this aim: community mobilization, interpersonal counselling and media. Activities under the three approaches are categorized into three main themes within the project: Nutrition, Gender, and Sexual and Reproductive Health.

The Nutrition theme is further subdivided into four topic modules: infant and young child feeding (IYCF), maternal nutrition, malaria prevention, and sanitation and hygiene. This report focuses on the interpersonal counselling approach of the Sanitation and Hygiene topic module. These sessions targeted all 1,500 project households, specifically households of children under 2 and their spouses.

When implementing SBCC activities particularly aimed at reducing or preventing stunting, it is essential to engage in robust monitoring as behavioural change is a slow process and may not significantly impact project outcomes when looking solely at end line indicators. Nevertheless, this does not mean project efforts are not making progress at the individual level. Closely tracking knowledge, attitudes and practices linked to reducing and preventing stunting can guide project implementers in better understanding willingness to change and actual change related to desired outcomes. To measure the project's influence on beneficiaries, the project conducted pre- and post-test surveys on a sample of 120 beneficiaries immediately before and after each interpersonal counselling topic module focusing questions on knowledge, intention, self-efficacy (confidence) and self-reported behaviour. Using a comparative analysis, this report presents the findings regarding the Sanitation and Hygiene topic module.

The Sanitation and Hygiene pre- and post-test questionnaire consisted of eleven questions in six categories, across nine indicators:

- Recall of key sanitation and hygiene messages
- Knowledge of illness preventing practices
- Handwashing and health benefits thereof
- Treating water prior to consumption
- Knowledge of diarrhea symptoms and treatment
- Cooking demonstrations

Project beneficiaries in Chemba District have been exposed to national sanitation and hygiene campaigns and pre-test results reflect this effort whereby there exists a fair amount of knowledge, favourable attitudes and good practices around good practices for sanitation and hygiene to prevent illness. Nevertheless, findings have shown clear positive influence across eight of the nine indicators when comparing pre- and post-test results for sanitation and hygiene promotion, particularly understanding the importance of handwashing before preparing food and/or eating, and after cleaning a baby's bottom or using the latrine. The pre and post test results also demonstrate a need for continued messaging and counselling on where to seek treatment for diarrhea.

I. Background

The Gender Transformative and Nutrition-sensitive (GTNS) pilot project, titled "*Reaching the furthest behind first: Gender Transformative and Nutrition-sensitive programming to increase food and nutrition security for women, adolescent girls, and children in Chemba district, Sofala province*" is implemented by the World Food Programme (WFP) under the leadership of the Government of Mozambique, and in close coordination with Government and cooperating partners. The project receives multi-year funding from the Austrian Development Agency (ADA). The catchment area is limited to Mulima locality of the Mulima Administrative Post of Chemba District. The population of Chemba is 87,925 people (17,730 households), and the project aims to reach 7,500 people (1,500 households) using the criteria of at least 500 pregnant and lactating women (PLW), 500 adolescent girls, 750 children under 2 (CU2), and women living with obstetric fistula; an additional 20,000 people will be reached indirectly through Social and Behaviour Change Communication (SBCC) media activities.

The GTNS project directly supports the priorities of the Government of Mozambique and is fully aligned to WFP's Country Strategic Plan 2017-2021. The aims of the project are to improve gender equity and women and adolescent girls' empowerment; increase dietary diversity; and reduce stunting among girls and boys under 5 in the context of a changing climate. The project design is innovative and integrates multiple nutrition-specific and -sensitive interventions to address the determinants of malnutrition, with a focus on women's empowerment. It combines:

i) construction of gender- and nutrition-sensitive household and community assets (fuel efficient cooking stoves, water catchment systems, household gardens and afforestation);

ii) trainings on post-harvest loss for smallholder women and men farmers (food conservation, transformation and storage) and linkages to improved products (hermetic storage); and

iii) multi-level SBCC activities implemented at individual, household and community level[1]

[1] In parallel to its SBCC activities, the GTNS project is also generating demand for acute malnutrition treatment, including community-level mid-upper arm circumference (MUAC) screening of PLW and children under 5 (CU5) and referrals of malnourished cases by volunteer community health workers. If screening indicates malnourishment, PLW and CU5 are

II. Social and Behaviour Change Communication

SBCC is a crucial evidence-based strategy to improve health and nutrition by increasing and improving knowledge, attitudes and practices. The GTNS project's SBCC component is being implemented by WFP's SBCC partners[2] through three approaches: interpersonal counselling, media (radio), and community mobilisation (see Figure 1). Combining dynamic approaches to engage men for gender equality and behaviour change with nutrition-sensitive programming is expected to facilitate sustainable results at the household level, which can be cascaded to the wider community for replication.

*due to the COVID-19 pandemic theater performances have been adapted to a media modality

Figure 1: The three approaches of the GTNS Project SBCC strategy

The GTNS project categorizes SBCC into three main themes: Nutrition, Gender, and Sexual and Reproductive Health (SRH). The Nutrition theme is further subdivided into four topics: maternal nutrition, infant and young child feeding (IYCF), malaria prevention, and sanitation and hygiene (S&H). These four topics comprise the WFP standard SBCC package and target all 1,500 project households, focusing on households of CU2 and their partners. Topic modules consist of six sessions, facilitated by community health worker pairs who are trained and supervised by field partners.[3]

referred to their local health facility for further treatment. This activity is not included in the pre- & post-test questionnaire and results can be found in the SBCC routine monitoring.

[2] District Services of Health, Women and Social Action (SDSMAS), Pathfinder International and PCI Media

[3] Gender Dialogue Clubs consist of complex and sensitive concepts and will therefore be mainly facilitated by implementing partner field staff with some community health worker support.

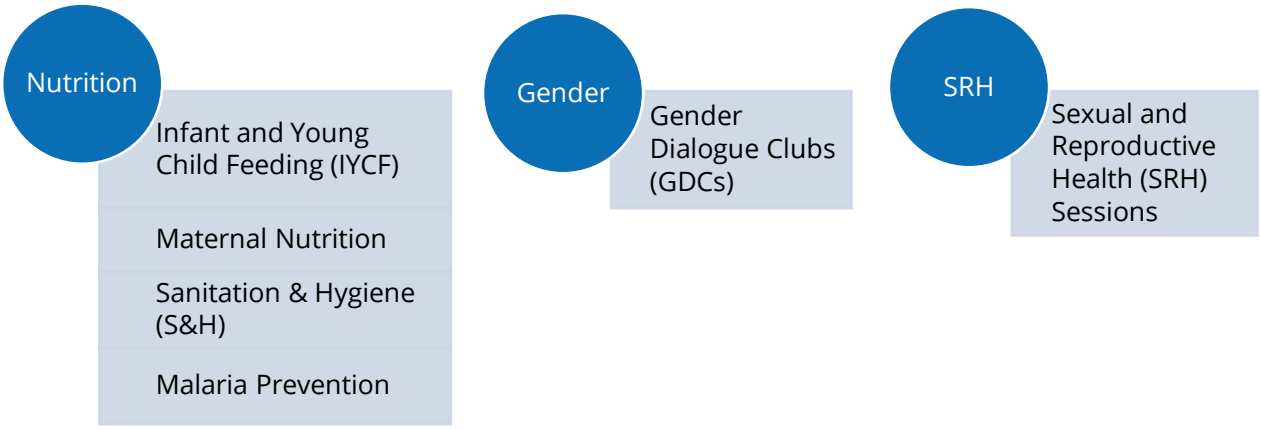

Figure 2: SBCC themes and topics of the GTNS Project

To evaluate the efficacy of SBCC activities, the GTNS project conducted pre- and post-testing to compare and analyse beneficiary knowledge, intention, confidence and self-reported behaviour. The pre- and post-test exercise focused on interpersonal counselling sessions, including cooking demonstrations.

III. Aim and Objective of Pre- and Post-testing

When implementing SBCC activities, particularly those aimed at reducing or preventing stunting, it is essential to engage in robust monitoring, as behavioural change is a slow process and may not significantly impact project outcomes when looking solely at end line indicators. Unlike the baseline and end line evaluation that focuses on whether the programme worked, regular monitoring focuses on systematic tracking of activities to assess the effectiveness of implementation efforts. This analysis also serves as evidence for project impact.

The main aim of pre- and post-testing was to understand the influence of interpersonal counselling sessions on project beneficiary knowledge, attitudes and behavioural practices in each topic module. The objective was to use a comparative analysis to determine which concepts and messages within each theme are influencing a positive change among project beneficiaries.

IV. Methodology

Each topic within the Nutrition theme was carefully reviewed to identify key areas where the project seeks to positively change knowledge, attitudes and practices among men and women beneficiaries. This was used to develop indicators to measure behavioural change over the course of each topic module. The body of research from similar contexts and documentation from the project site shows that men are generally the main decision-makers in the household, and often influence the behaviour of other household members, therefore it was imperative to consider separately assessing men and women when developing the indicators and questionnaires for each topic module. Therefore, the indicators targeted households containing male and female caregivers who were interviewed separately.

Social and behaviour change can be negatively influenced by external factors. To account for these externalities, at the individual level behaviour change can be measured not only through behavioural outcomes but also through the desire or plan to change. This can be evaluated through psychosocial domains: knowledge, intention, self-efficacy (confidence), attitude, subjective norms and perceived behavioural control (see Table 1).

Table 1: Psychosocial domains for measuring behavioural change[4]

Domains	**Descriptions** (Adopted from NCI, 2005)	**Domains**	**Descriptions** (Adopted from NCI, 2005)
Knowledge	Facts, information, and skills necessary to perform a behaviour	**Attitude**	Perceived evaluation and / or enthusiasm toward the behaviour
Intention	Perceived likelihood of performing a behaviour	**Subjective norm**	Perception about whether key people approve or disapprove of the behaviour
Self-efficacy	Confidence in one's ability to take action and successfully carry out the behaviour	**Perceived behavioural control**	Belief that one has, and can successfully exercise, control over performing the behaviour

For the GTNS context, the appropriate psychosocial indicators for this pre-/post-testing exercise were knowledge, intention and confidence. Within the pre-post questionnaires, the psychosocial indicators mentioned below were combined with questions on self-reported behaviour to give a more holistic picture of the potential behaviour change impact pathway, as well as to shed light on behavioural outcomes.

For each indicator, objectives based on SMART criteria[5] were developed to measure against the comparative analysis of the pre- and post-tests. The SMART objectives were agreed through discussion with the programme team based on context, expertise and secondary data sources. A matrix was created to consolidate this information per topic, to guide the M&E team in producing short questionnaires on WFP's corporate data collection tool (Open Data Kit – ODK) (see Annex 1 for Sanitation and Hygiene topic matrix). The indicators and SMART Objectives for all Nutrition topic modules were developed before the implementation of the first SBCC topic module, Infant and Young Child Feeding (IYCF). After completing the comparative analyses for the first three topic modules (Infant and Young Child Feeding, Malaria Prevention and Gender Dialogue Clubs), the SMART Objectives for the remaining two Nutrition topics were updated: Maternal Nutrition and Sanitation and Hygiene topics. Based on the previously completed three comparative analyses, it was found that community members were scoring higher than the SMART Objectives set and it was recommended to increase the SMART Objectives of some of the indicators to better reflect this reality. Of the 18 indicators across the Maternal Nutrition and Sanitation and Hygiene topics, 9 SMART Objectives

[4] WFP. (2019, January). *Social and Behaviour Change Communication (SBCC) Guidance Manual for WFP Nutrition*. Chapter 8: Monitoring Phase [partially adapted]. Originally titled "Table 15. SBCC-related psychosocial indicators".
[5] Specific, Measurable, Achievable, Relevant, and Timebound

were increased after careful review by the project M&E and programme focal points (see Annex 1 for Sanitation and Hygiene topic updates).

The questionnaire was used during both the pre-test and post-test to assess the change in results after a beneficiary completed the module (See Annex 2).[6] The Sanitation and Hygiene pre- and post-test focused on six main areas for desired behaviour change:

- recall of key sanitation and hygiene messages
- knowledge of illness preventing practices
- handwashing and health benefits thereof
- treating water prior to consumption
- knowledge of diarrhoea symptoms and treatment
- cooking demonstrations

In total there were nine indicators covering these areas which translate into eleven questions on the questionnaire.

The interviews were conducted in the local language of Sena which required field staff to be confident with the questionnaire to easily translate between Portuguese and Sena. WFP trained the implementing partner, Pathfinder International, to conduct the data collection. The questions were pre-tested to ensure translation was accurate and questions were understood by community members.

For the Sanitation and Hygiene topic, the target sample for both the pre- and post-test was 120 project beneficiaries (60 women and 60 men) across Mulima locality in Chemba District, Sofala. The sample size was calculated based on the feasibility to collect these results, taking into consideration the elements of limited resources and timing. The results are to provide indications as to how the response of the SBCC-indicators may be impacted by targeted community members before and after SBCC topic module sessions. The results inform the project's overall SBCC programming and field implementation. The methodology does not serve to inform other SBCC interventions and is specific for the GTNS project in Chemba.

The survey was conducted through individual interviews with men and women separately, using convenience sampling[7] during community visits. Data was collected immediately before the first of six Sanitation and Hygiene sessions for the pre-test (in July 2021) and after the sixth session for the post-test (in September 2021). The target sample is not necessarily the same individuals across pre- and post-testing as the methodology does not require tracking the same community members.

For the Sanitation and Hygiene pre-test, 120 project beneficiaries (61 men and 59 women) were surveyed across 28 communities. For the post-test, 120 project beneficiaries (60

[6] In the questionnaire, men and women were also asked a question that is related to the parallel cooking demonstration activity that occurs once in each topic module (question 3.1 in Annex 2). This data is analysed and reported separate from this comparative analysis report (see forthcoming GTNS Tableau dashboard).

[7] Convenience sampling method is selecting respondents who are easily accessible (https://www.ncbi.nlm.nih.gov/pmc/articles/PMC5606225/). For Malaria Prevention pre- and post-test data collection, enumerators surveyed eligible, accessible beneficiaries who had consented to being interviewed.

men and 59 women) were surveyed across 28 communities. Across the pre- and post-testing, 34 out of 49 communities[8] were included in the exercise.

While not a completely accurate representation of the population, this analysis will provide insight into programme implementation within the catchment area.

V. Results

The pre- and post-test questionnaire consisted of eleven questions. All questions targeted both men and women in a household. Note that this sample is not inclusive of individuals who are intersex or transgender. Overall, all nine indicators were reached based on the SMART objectives developed for the Maternal Nutrition topic (see Table 2). When looking at the average of men and women households, five of the indicators already reached the SMART objective during the pre-test (1.2, 1.4, 1.5, 1.6 and 1.8). The SMART objective for two of the remaining indicators (1.1, 1.3, and 1.9) were quite far from the goal, by more than ten percentage points. Most notably, the SMART objective for indicator 1.7 was not met in either the pre or post-test, by a large margin of 51 percentage points on the pre-test and 57 percentage points on the post test. This will be discussed in greater detail in the discussion section.

Table 2: Pre- and Post-test Results (in percentages)

#	Indicator Detail	SMART Objective	Pre-test Result (%)			Post-test Result (%)		
			Men	Women	Avg	Men	Women	Avg
1.1	Increased percentage of S&H messages recalled by households	After complete SBCC topic area is conducted [6 weeks], 75% of households partaking in the SBCC sessions, will be able to recall 3 key S&H messages	68	69	69	100 (+32)	100 (+31)	100 (+31)
1.2	Increased level of intention of households to adopt illness preventing practices	After complete SBCC topic area is conducted [6 weeks], 75% of households partaking in the SBCC sessions, will intend to adopt practices that prevent illness (maintaining cleanliness outside home, avoiding open defecation, digging	77	80	79	88 (+11)	88 (+8)	88 (+9)

[8] Andrassone, Arnelo,Bangwe,Bhaumbha , Bucha, Candima, Cassume, Castela, Deve, Dzunga 1, Dzunga 2, Fernando, Francalino, Fumbe 1and 2, Macendua, Mandue, Mapata, Mateus, Melo 1and 2, Muandinhoza, Mulima-sede, Nhacagulagua 1 and 2, Nhacavunvu, Nhalunga, Nhamaliwa, Nhamazonde, Nhambhandha,Nhamingale, Nhancacal, Nhangue, Nhapwete, Nharugue ,Nhasulu, Nhatsete, Nhakuiyoyo, Niquice , Ofece , Shonsua, Thenda, Tomucene 1and 2, Tsera Xavier , Zenguerere, and Zomdane 1 and 2.

		garbage pits, disposing on garbage)						
1.3	Increased percentage of recalled messages specific to handwashing (with soap)	After complete SBCC topic area is conducted [6 weeks], 75% of households partaking in the SBCC sessions, will be able to recall 3 key S&H messages specific to washing hands with soap.	58	58	58	100	100 (+42)	100 (+42)
1.4	Increased percentage of households confident in practicing handwashing with soap	After complete SBCC topic area is conducted [6 weeks], 66% of households partaking in the SBCC sessions are confident they will wash their hands with soap during critical moments	80	80	80	82 (+2)	92 (+12)	87 (+7)
1.5	Increased percentage of households confident in treating water prior to consumption	After complete SBCC topic area is conducted [6 weeks], 66% of households partaking in the SBCC sessions intend to treat their water with bleach, chlorine or by boiling, before drinking.	77	75	76	88 (+11)	95 (+20)	92 (+16)
1.6	Increased percentage of households have knowledge about diarrhea symptopms	After complete SBCC topic area is conducted [6 weeks], 66% of households partaking in the SBCC sessions will know what the symptopms of diarrhea are.	82	88	84	97 (+15)	93 (+5)	95 (+11)
1.7	Increased percentage of households have knowledge about where to seek treatment for diarrhea	After complete SBCC topic area is conducted [6 weeks], 66% of households partaking in the SBCC sessions will know where they can go to seek diarrhea treatment	15	15	15	7 (-8)	12 (-3)	9 (-6)
1.8	Increased percentage of households have knowledge about health benefits of handwashing	After complete SBCC topic area is conducted [6 weeks], 66% of households partaking in the SBCC sessions will know about the	66	66	66	100 (+34)	100 (+34)	100 (+34)

		benefits of tip-tap handwashing stations.						
1.9	Increased percentage of households attempt recipes from cooking demonstrations.	After complete SBCC topic area is conducted [6 weeks], 50% of men and women partaking in the SBCC sessions will attempt to make recipes from the cooking demonstrations.	38	44	41	70 (+32)	85 (+41)	77 (+36)

Note: Values in the parentheses indicate the percentage point change, comparing values from the pre- and post-test results

The results will be presented in 6 categories: recall of key sanitation and hygiene messages, knowledge of illness preventing practices, handwashing and health benefits thereof, treating water prior to consumption, knowledge of diarrhea symptoms and treatment and cooking demonstrations.

Recalling Key Sanitation and Hygiene Messages

Findings indicate that both men and women household members demonstrated an increase of knowledge around sanitation and hygiene-related messages discussed in the Sanitation and Hygiene sessions. While the pre-test results did not reach the SMART objective of 75% of households, the majority of women and men could recall at least three key sanitation and hygiene-related messages (69% of households) (see Figure 3). By the post-test, all households surveyed were able to recall at least three key sanitation and hygiene-related messages, an average increase of 31 percentage points. The percentage for men and women only differed by 1 percentage point (see Figure 3).

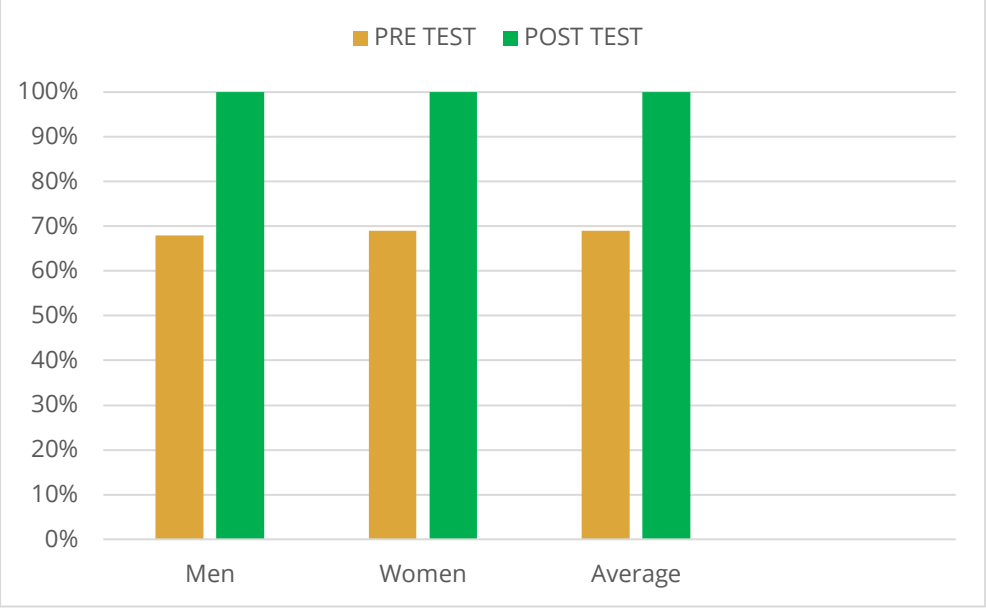

Figure 3: Percentage of households who knew at least three key sanitation and hygiene-related messages

The top three key messages recalled in the pre-test were the importance of using a latrine instead of openly defecating and urinating (54% for men and 46% for women), the importance of maintaining a clean area around the home (52% for men and 51% for

women) and the possibility of using ash to wash hands when no soap is available (48% for men and 47% for women).

The post-test results showed that all key sanitation and hygiene-related messages were recalled by households (a 31 percentage point average increase). For men, the top three key messages recalled in the post-test were that handwashing is essential before cooking, eating or feeding baby and after cleaning baby's bottom and using the bathroom/latrine (83%), the importance of drinking clean water (63%) and the importance of washing hands with soap and water (62%). For women, the top three key messages recalled in the post-test were that handwashing is essential before cooking, eating or feeding baby and after cleaning baby's bottom and using the bathroom/latrine (80%), the importance of washing hands with soap and water (66%) and the possibility of using chlorine to clean water (64%).

The key message that had the largest percent increase in recall from the pre-test to post-test (by 41 percentage points) was knowing that handwashing is essential before cooking, eating or feeding baby and after cleaning baby's bottom and using the bathroom/latrine (see Annex 2, Section B for a full list of key messages).

Illness Preventing Practices

Findings indicate that both men and women in the households surveyed demonstrated an increase of intention related to adopting illness prevention practices in the Sanitation & Hygiene sessions. The pre-test results met the SMART objective of 75% of households, with the majority of households (79%) intending to adopt illness prevention practices (see Figure 4). By the post-test, 88% of households stated an intention to adopt illness-preventing practices, an average increase of 9 percentage points. More specifically, the percentage for women increased by 8% and for men increased by 11% (see Figure 5).

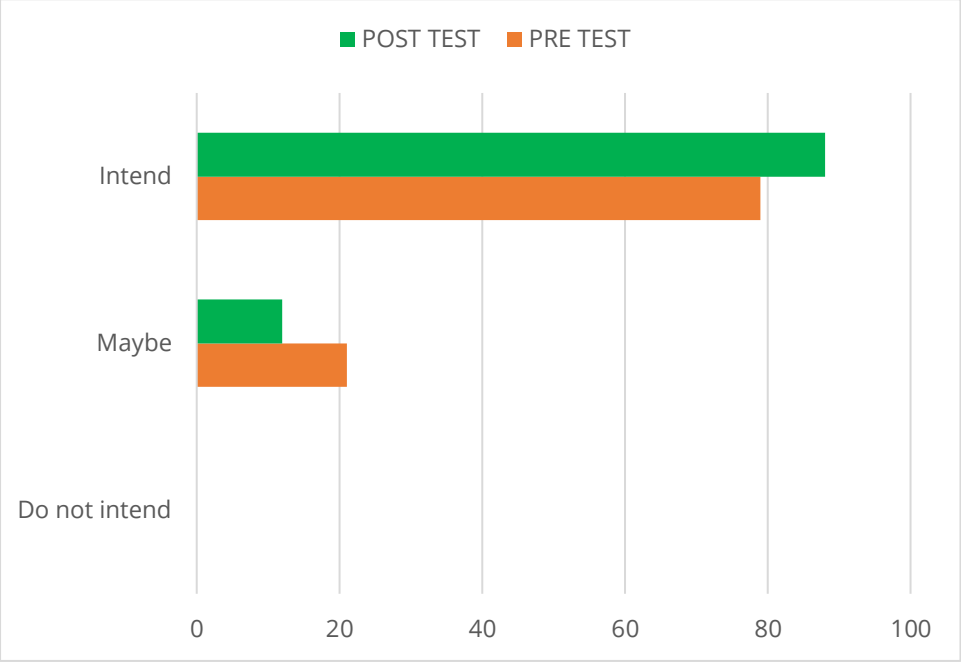

Figure 4: Household level of intention to adopt illness preventing practices

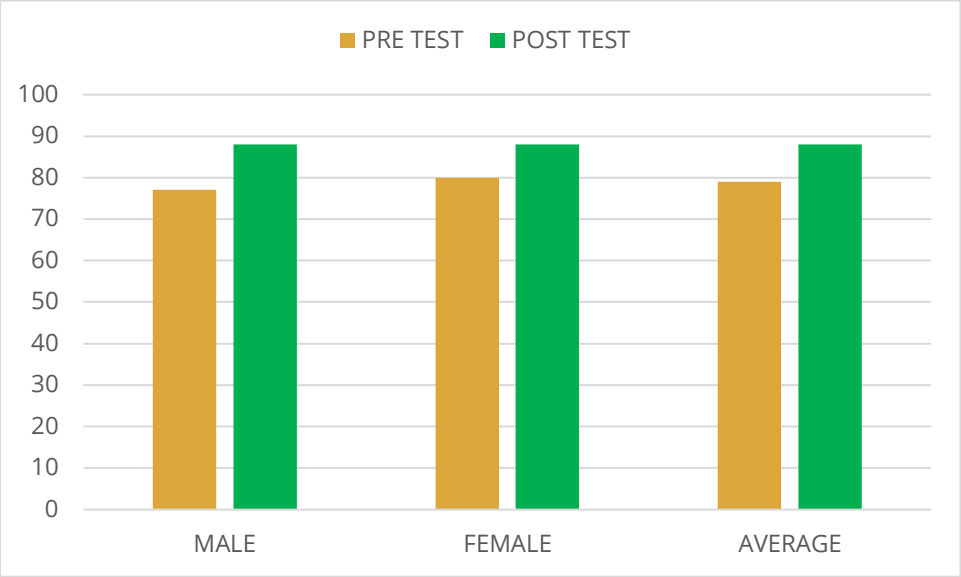

Figure 5: Percentage of men and women who intend to adopt illness preventing practices

The illness preventing practices mentioned in the data were:

- avoiding open defecation and urination
- using clean water for cooking and drinking
- cleaning water by boiling it for 20 minutes or by adding a small amount of either bleach or chlorine (one teaspoon per 10 liters)
- washing hands with running, instead of stagnant, water
- washing hand with soap and water
- washing hands with ash when soap is not available
- washing hands during critical moments (before preparing food, before eating or feeding baby, before breastfeeding, after cleaning baby's bottom and changing the diaper, and after using the bathroom/latrine).

Handwashing and Its Benefits

Findings indicate that both men and women households demonstrated an increase of knowledge about the benefits of handwashing specifically with soap as discussed in the Sanitation and Hygiene sessions. While the pre-test results did not reach the SMART objective of 75% of households, the majority of households could recall at least three critical moments in which it important to wash hands with soap (58% of households) (see Figure 6). By the post-test, all households surveyed were able to recall at least three critical moments in which it important to wash hands with soap, an average increase of 42 percentage points. The results were identical for both women and men.

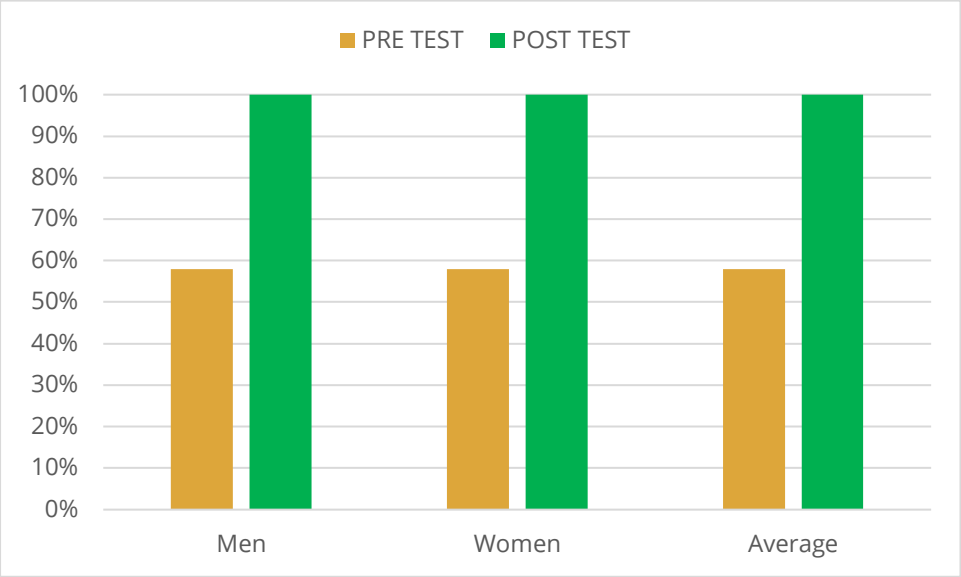

Figure 6: Household recall of key messages related to handwashing

Additionally, there was an increase in confidence amongst households surveyed that they would wash their hands during critical moments. On average there was an increase by 8 percentage points. When disaggregated by gender the percentage point increase demonstrated a wider range, with 2% for men and 12% for women. The percentage of households who responded to the question with "maybe" decreased from 20% to 11% (a 9% reduction) (see Figure 7). Interestingly there was also a three percent increase in households who did not intend to wash their hands in critical moments from the pre-test to post-test (from 0% to 3%, respectively) (see Figure 7).

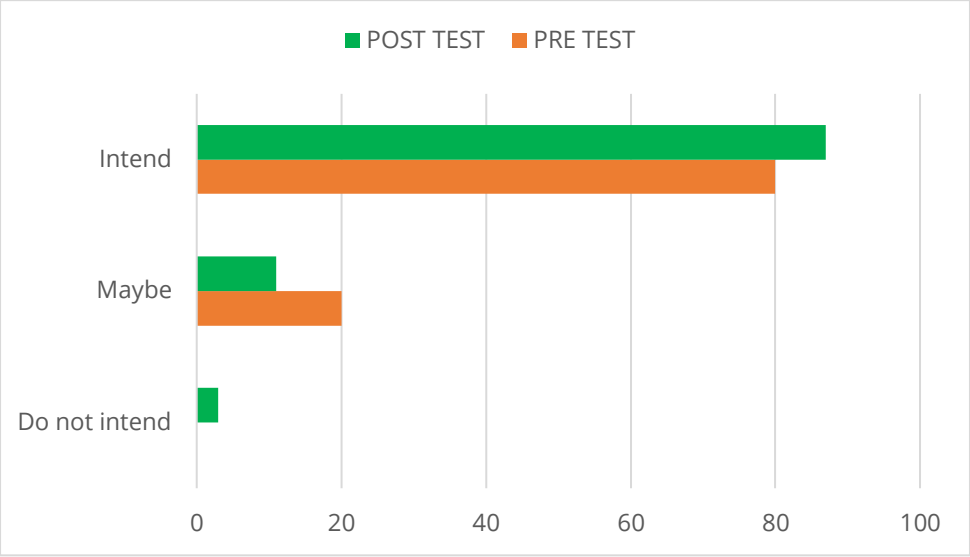

Figure 7: Household confidence to wash hands in critical moments

Other facets of handwashing that were measured were the benefits and the use of tip-tip handwashing stations. Regarding the benefits of handwashing stations, 100% of respondents in the post-test demonstrated an understanding that using the tip-tap station was better for hygiene than using still water. This was a change from the pre-test where 66% of respondents understood that using running water was more hygienic than using still water (see Figure 8).

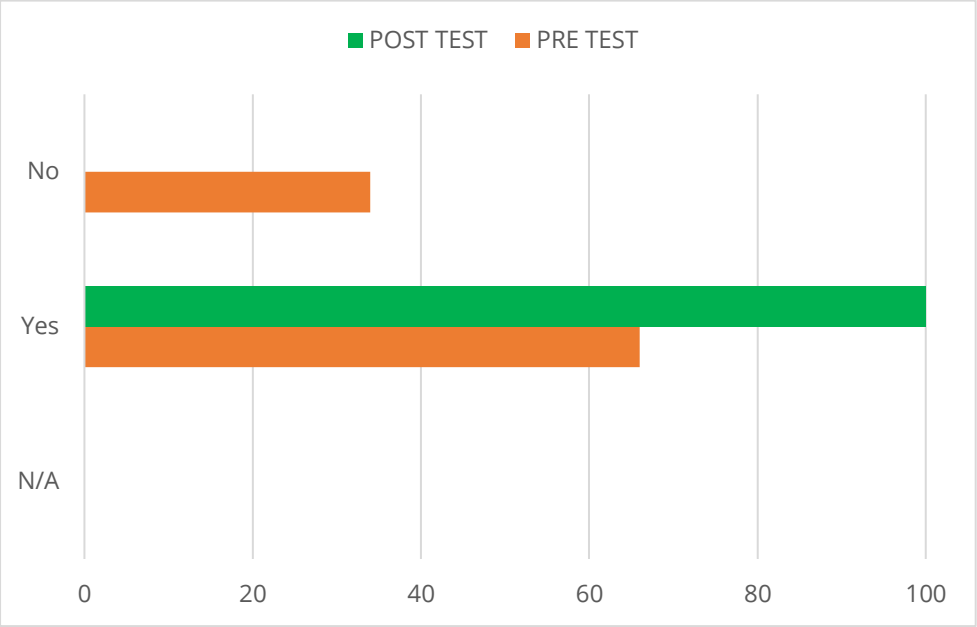

Figure 8: Percentage of households who understand the benefit of tip-tap handwashing stations

Regarding use of tip-tap handwashing stations, 66% of respondents in the pre-test indicated that they used the stations, and 32% indicated that they did not use the stations. 2% did not possess a tip-tap station. In the post-test, these figures changed such as 95% of respondents indicated that they use the tip-tap stations, while 5% indicated that they do not use the stations (see Figure 9).

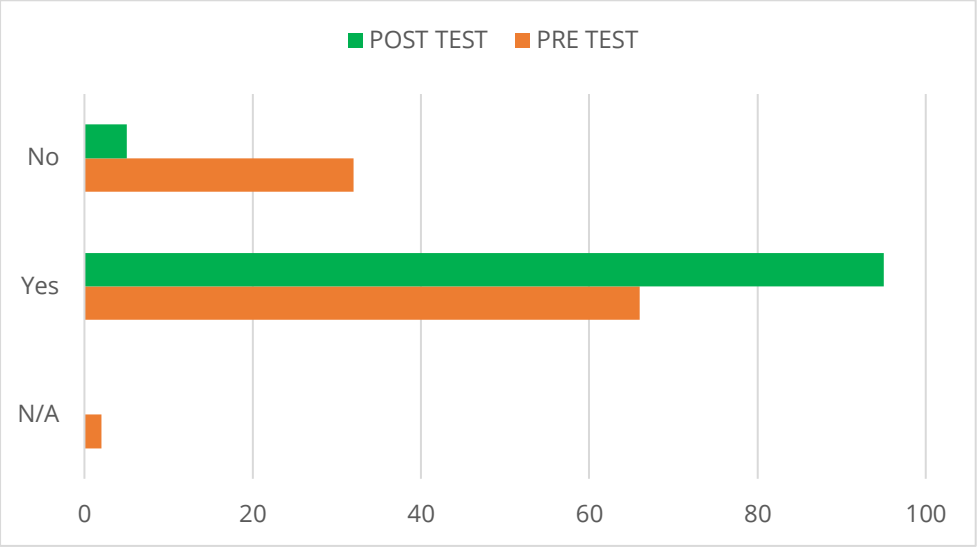

Figure 9: Percentage of households who use tip-tap handwashing stations

Treating H2O Prior to Consumption

Findings indicate that households demonstrated an increased intention to treat their water prior to drinking it. The pre-test results surpassed the SMART objective of 66% of households by ten percentage points (76% of households) (see Figure 10). By the post-test, this figure increased to 92% of surveyed households. When disaggregated by gender, the percentage of men increased to 95% for women and 88% for men. Note that treating water by boiling was not presented as an option as our KAP (Knowledge,

Attitudes and Practices) study found this treatment method to be too consuming of scarce resources, namely time and firewood.

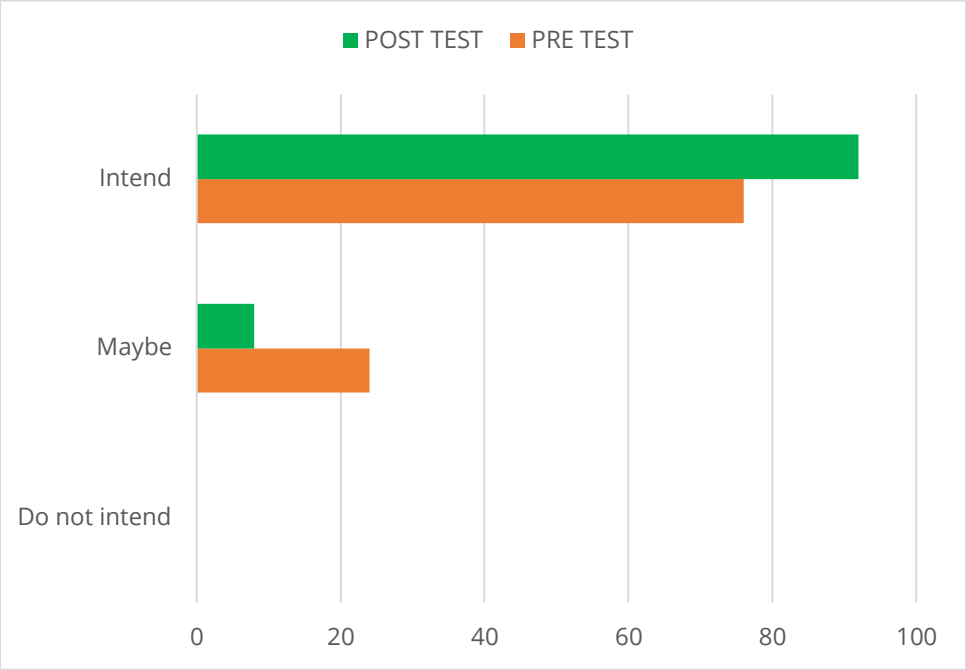

Figure 10: Percentage of households intending to treat water before use

Diarrhea Symptoms and Treatment

Findings indicate that both men and women households demonstrated an increase of knowledge in recognizing the symptoms of diarrhea. The pre-test results far surpassed the SMART objective of 66% of households, with 84% of households able to recognize at least three symptoms of diarrhea. The post-test showed an 11% increase in knowledge of diarrhea symptoms (see Figure 11). More specifically, there was an increase by fifteen percentage points for men and five percentage points for women (see Figure 11).

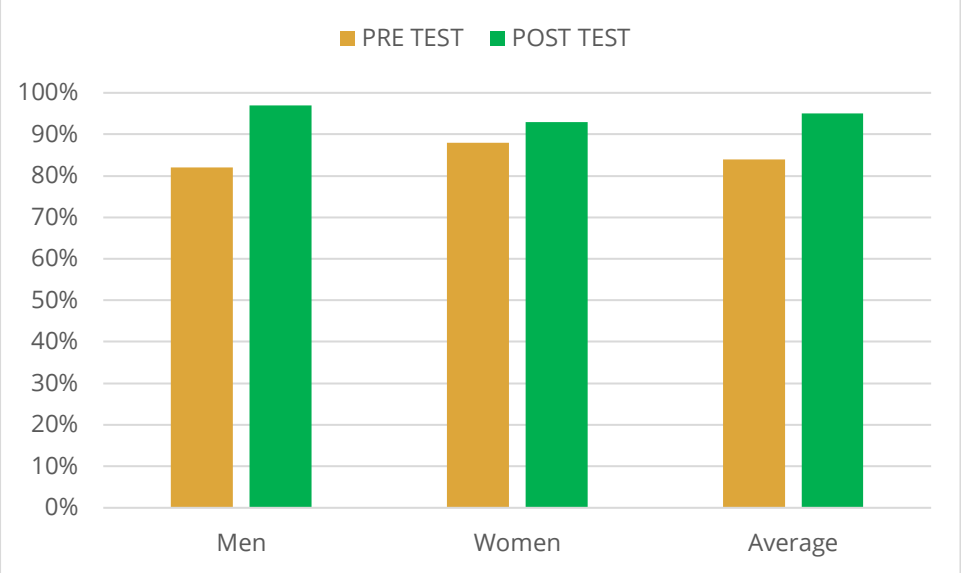

Figure 11: Percentage of households who knew at least three signs and symptoms of diarrhea

Of all the data, there was only one SMART objective that showed no change from pre-test to post-test. These were the findings for the question on where household members can go to seek treatment for diarrhea symptoms. The results in both pre and post test data exceeded the SMART objective related to the question. In both cases, 100% of respondents knew where to go to seek treatment for diarrhea symptoms (see Figure 12). Of those respondents, 8% indicated in the post test that in addition to a healthcare facility, they can seek treatment at one of the WFP mobile brigades in the region. In the pre-test, 10% of men and 14% of women indicated that they could seek out a mobile brigade in addition to a healthcare facility.

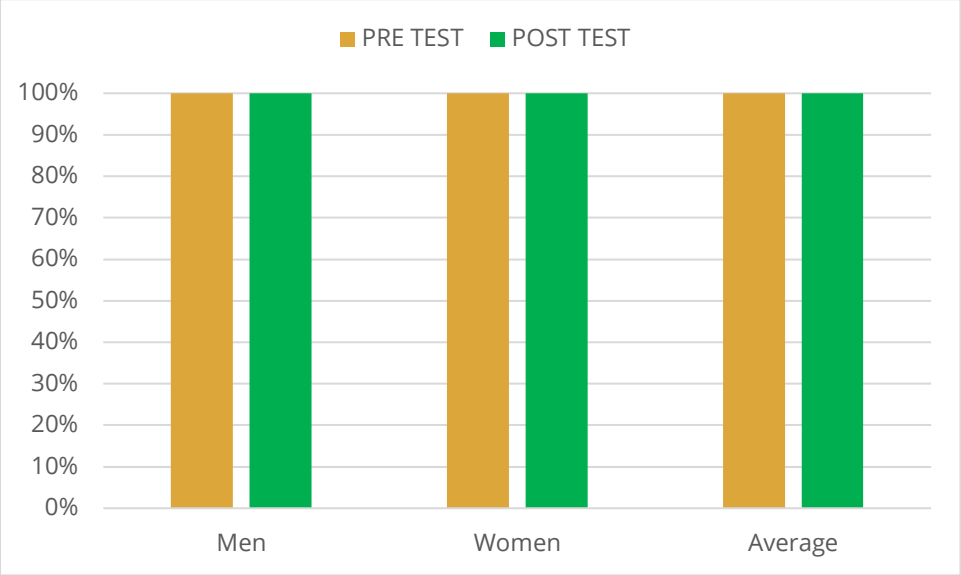

Figure 12: Percentage of households who knew where to go to treat diarrhea

Cooking Demonstrations

Lastly, the findings from the cooking demonstration question indicate that both men and women households demonstrated an increase attempt at cooking the recipes shared in the sanitation and hygiene module. While the pre-test results did reach the SMART objective of 50% of men and women attempting the recipes, there was an increase in attempts between pre and post, by 36 percentage points. When disaggregated by gender, the percentage increased from 38% to 70% for women and increased from 56% to 85% for men (see Figure 13).

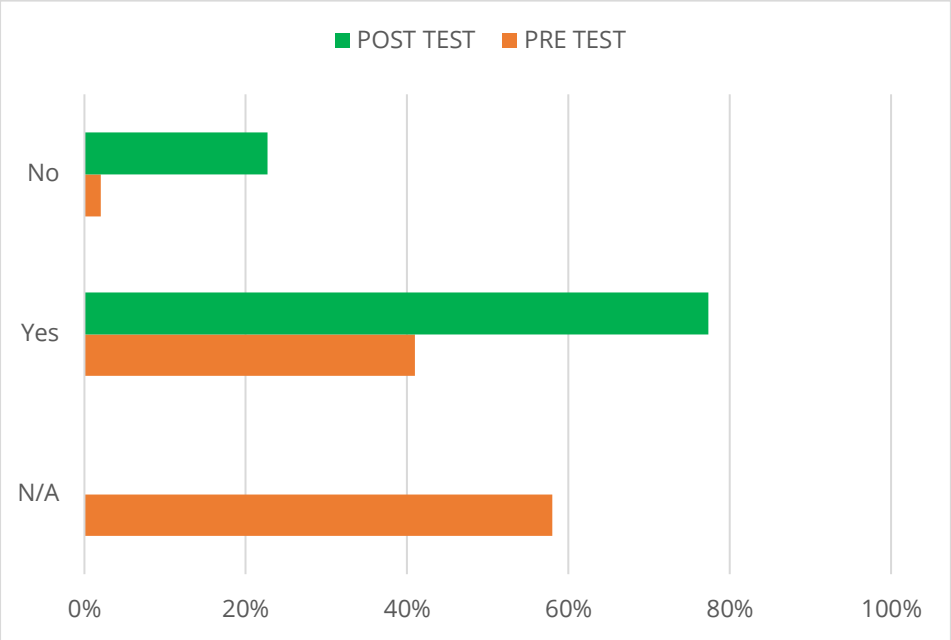

Figure 13: Percentage of households who practiced recipes from cooking demonstrations

VI. Discussion

Many project beneficiaries displayed existing knowledge, positive attitudes and good practices regarding sanitation and hygiene in pre-test results. Subsequently, the post-test results suggest that the topic module sessions had a solid positive impact on knowledge and intention amongst caregivers in all six areas of desired behaviour change: recall of key sanitation and hygiene messages; knowledge of illness preventing practices; handwashing and health benefits thereof; treating water prior to consumption; knowledge of diarrhoea symptoms and treatment and cooking demonstrations.

The post-test results for every topic module within the Nutrition (IYCF, Malaria Prevention Maternal Nutrition and now Sanitation and Hygiene) exceeded all SMART objectives. However, one SMART objective within the S&H module yielded results that warrant greater discussion; this was the results for the pre and post test data in regards to household knowledge on where caregivers can go to seek treatment for diarrhea. In both the pre and post-test, when surveyed on where they can to go to seek treatment, all households (100% of respondents) stated that they could seek out a healthcare facility; 14 of those respondents in the pre-test and 10 in the post-test said they would seek a combination of mobile brigades and health care facility. However, very few respondents knew of a second option to seek treatment. Given the relatively isolated geography of chemba district, and the persistent poverty in the region, it is not surprising that households do not have access to or awareness of treatment options. Very few physical healthcare facilities exist, and many such facilities are difficult to travel to, due to poor road conditions and the expense of transportation. However, it is worth noting that all of the caregivers surveyed recognized the value of healthcare facilities in addressing their treatment needs. What the findings suggest is that there is a great need for such facilities,

and that increased messaging about the existence and benefits of mobile brigades is needed.

In analysing the findings, another notable data set lies in the cooking demonstration results. There are two main points worth noting. Firstly, when disaggregating the findings by gender, men demonstrated a large shift from pre to post test results. In the pre-test, only 38% of men attempted the cooking demonstrations. Meanwhile in the post test this figure increased to 70% of men. This demonstrates a willingness from men to take on gender roles that are not traditionally prescribed to them or socially reinforced. This is remarkable in a setting steeped in longstanding family traditions which are often difficult to shift from. Attention should be given to the Positive Deviance Approach[9], which identifies community members who deviate from social norms in a healthy manner. Encouraging men, who are often key decision makers, from the community to spread positive deviant norms is a very powerful tool toward the end of behaviour change.

The second notable data set within the cooking demonstration question is reflected by disaggregated data relating to women. The data shows that women also experienced a large shift from pre to post test in their attempts at making recipes shared in the cooking demonstrations, from 56% to 85%. The post-test figures were significantly higher for women (85%) than for men (70%). This point of information is important in that it implies a greater willingness from women to cook meals that are highly nutritive and made with locally grown ingredients. However, it also highlights the longstanding gender norms which prescribe household and care work to women. In this framework women have more opportunity to try nutrition-rich recipes but also a consistent expectation to do labour which is typical not compensated, including cooking, cleaning and childcare.

There is emerging evidence demonstrating the linkages between water, sanitation, and hygiene (WASH) and nutrition. Both undernutrition and malnutrition are directly correlated with poor sanitation and there are multiple indirect contributors that exacerbate low dietary intake and disease, including food insecurity, insufficient childcare practices, low maternal education, limited access to health services, lack of access to clean water and sanitation, and poor hygiene practices[10]. Inadequate nutrition is a cause and effect in the cycle of poverty, especially non-income poverty, and is triggered by poor sanitation and hygiene. Non-income poverty is particularly relevant in the Chemba district as the majority of residents are smallholder farmers who grew enough food for consumption, but barely enough for income generation. With long dry seasons resulting in an arid climate for significant portions of the year, maintaining a sustainable, nutrient dense diet becomes a challenge. Poor nutrition contributes to illness which, when compounded by poor sanitation and hygiene, increase one's risk of infection and disease, resulting in a weakened physical state which worsens undernutrition. This vicious cycle of poverty and poor health ultimately affects one's development, which has devasting and generational impacts on individuals, families, and communities. In order to improve nutritional outcomes for no and low-income individuals and families in Chemba and

[9] WFP. (2020). *Gender Analysis: Gender Transformative and Nutrition Sensitiive (GTNS) Stuting Prevention Project in Mozambique, 2019-2021.* Chemba District, Sofala Province: WFP.
[10] Chase, C. and Ngure, F. (2016). *Multisectoral Approaches to Improving Nutrition: Water, Sanitation and Hygiene* [online]. World Bank Group.

similar localities, sanitation and hygiene interventions such as the interpersonal counselling sessions and other multi-sectoral methods posed by the GTNS program are helpful. Access to clean water, health facilities, and awareness of good sanitation and hygiene practices have a positive affect on nutritional outcomes by disrupting immediate and underlying causes of malnutrition[11].

VII. Conclusion

Project beneficiaries in Chemba district have received and possess some prior knowledge of the important of proper hygiene and sanitation. Pre-test results reflect this wisdom whereby there exists a decent amount of knowledge, favourable attitudes and good practices around sanitation and hygiene. Nevertheless, findings have demonstrated clear positive growth across all but one of the nine indicators when comparing pre and post-test results for Sanitation and Hygiene, particularly in understanding the importance of washing hands before preparing food, eating or breastfeeding and after changing a diaper and using the latrine.

It is recommended that the GTNS M&E team revisit the topic module Indicator and SMART Objectives Matrix and reconsider evaluating the SMART objective #7 within the Sanitation and Hygiene module regarding knowledge about where to seek treatment for diarrhea. Additionally, it is suggested that any future development of SMART objectives factor in the strong performance from project beneficiaries across knowledge, attitudes and practices in the three prior Nutrition sessions implemented (IYCF, Malaria Prevention and Maternal Nutrition) and findings from the KAP study.

Routine monitoring of SBCC by assessing psychosocial and behavioural indicators, such as this pre-and post-test comparative analysis, provides information that can support field implementation by revealing necessary adaptions to better reach programme objectives, and to increase nutrition and health outcomes. Notwithstanding positive findings from the pre- and post-test analysis, revisiting sanitation and hygiene concepts, such as promoting handwashing with soap (or ash when soap is not available), but especially accessing healthcare facilities for diarrhea treatment, and incorporating them into any forthcoming refresher trainings would be useful for sustaining behaviour change among community members in Chemba. Additionally, the research results indicate that greater resources are needed to design and implement sustainable, accessible health care provisions and systems to serve the needs of the people of Chemba District.

[11] (2015) *WASH and Nutrition: Water and Development Strategy Implementation Brief.* [online] USAID.

Acronyms

ADA	Austrian Development Agency
CU2	Children Under 2 (years)
CU5	Children Under 5 (years)
GTNS	Gender Transformative and Nutrition-sensitive (project)
GDC	Gender Dialogue Club
IYCF	Infant and Young Child Feeding
KAP	Knowledge, Attitude and Practices (Study)
MUAC	Mid-Upper Arm Circumference
ODK	Open Data Kit
PLW	Pregnant and Lactating Women
SBCC	Social and Behaviour Change Communication
SDSMAS	District Services of Health, Women & Social Action
SMART	Specific, Measurable, Achievable, Relevant and Timebound
SRH	Sexual and Reproductive Health
S&H	Sanitation & Hygiene
WFP	United Nations World Food Programme

Annex 1: Sanitation and Hygiene Indicators and SMART Objectives

#	Indicator detail	SMART Objective [Updated]	Respondent	Behavioural domain	Psychosocial indicators	Reference (template question)
2.1	Increased percentage of S&H messages recalled by households	After complete SBCC topic area is conducted [6 weeks], 75% of households partaking in the SBCC sessions, will be able to recall 3 key S&H messages	WOMAN/MAN	S&H (GENERAL)	KNOWLEDGE	1
2.2	Increased level of intention of households to adopt illness preventing practices	After complete SBCC topic area is conducted [6 weeks], 75% of households partaking in the SBCC sessions, will intend to adopt practices that prevent illness (maintaining cleanliness outside home, avoiding open defecation, digging garbage pits, disposing on garbage)	WOMAN/MAN	S&H (GENERAL)	INTENTION	2
2.3	Increased percentage of recalled messages specific to handwashing (with soap)	After complete SBCC topic area is conducted [6 weeks], 75% of households partaking in the SBCC sessions, will be able to recall 3 key MN messages specific to washing hands with soap.	WOMAN/MAN	S&H (GENERAL)	KNOWLEDGE	3
2.4	Increased percentage of households confident in practicing handwashing with soap	After complete SBCC topic area is conducted [6 weeks], 66% of households partaking in the SBCC sessions are confident they will wash their hands with soap during critical moments	WOMAN/MAN	S&H (GENERAL)	CONFIDENCE	4
2.5	Increased percentage of households confident in treating water prior to consumption	After complete SBCC topic area is conducted [6 weeks], 66% of households partaking in the SBCC sessions intend to treat their water with bleach, chlorine or by boiling, before drinking.	WOMAN/MAN	S&H (GENERAL)	CONFIDENCE	5
2.6	Increased percentage of households have knowledge about diarrhea symptoms	After complete SBCC topic area is conducted [6 weeks], 66% of households partaking in the SBCC sessions will know what the symptoms of diarrhea are.	WOMAN/MAN	S&H (GENERAL)	KNOWLEDGE	6

2.7	Increased percentage of households have knowledge about where to seek treatment for diarrhea	After complete SBCC topic area is conducted [6 weeks], 66% of households partaking in the SBCC sessions will know where they can go to seek diarrhea treatment	WOMAN/MAN	S&H (GENERAL)	KNOWLEDGE	7, 8
2.8	Increased percentage of households have knowledge about health benefits of handwashing	After complete SBCC topic area is conducted [6 weeks], 66% of households partaking in the SBCC sessions will know about the benefits of tip-tap handwashing stations.	WOMAN/MAN	S&H (GENERAL)	KNOWLEDGE	9, 10
2.9	Increased percentage of households attempt recipes from cooking demonstrations.	After complete SBCC topic area is conducted [6 weeks], 50% of men and women partaking in the SBCC sessions will attempt to make recipes from the cooking demonstrations.	WOMAN/MAN	S&H (GENERAL)	BEHAVIOR	11

Annex 2: Sanitation and Hygiene Questionnaire

WFP	**SBCC Monitoring Questionnaire – Sanitation and Hygiene** **To be filled in by: Beneficiaries - Interviewed by Pathfinder Staff** **Version 2 - August 2020**	**Moçambique** **GTNS Project** Pathfinder INTERNATIONAL Sexual and reproductive health without fear or boundary

Introduction

Read introduction to beneficiary

Hello, My name is _____. I work for the local organization Pathfinder, supporting the Ministry of Health and WFP. You have been selected by chance within the GTNS (Khaliro Adidi) project beneficiaries at this site for this interview. You will gain no material benefit from agreeing to conduct this interview. You will not receive any extra assistance than you would otherwise have received. The survey is voluntary and you can choose not to take part.

The purpose of this interview is to obtain information about the health behaviours of community members. It helps us understand whether we are implementing our program properly and whether we are addressing the needs of the population we serve. The information that you give will be confidential. The information will be used to prepare reports, but all information will be confidentially and no names will be shared.

This interview will only take about 20 minutes.

Please provide the most accurate answer that you can to best inform and improve the program.

If you agree, we will now start the questions.

If respondent says 'Yes' – start the data collection. If respondent says 'No' – thank you for his/her time and end the interview.

1. General information - INTERVIEWER TO FILL IN

1.1 . Name of community [drop down list]: Andrassone, Arnelo, Bangwe, Bhaumbha, Bucha, Candima, Cassume, Castela, Deve, Dzunga 1, Dzunga 2, Fernando, Francalino, Fumbe 1, Fumbe 2, Macendua, Mandue, Mapata, Mateus, Melo 1, Melo 2, Muandinhoza, Mulima-sede, Nhacagulagua 1, Nhacagulagua 2, Nhacavunvu, Nhalunga, Nhamaliwa, Nhamazonde, Nhambhandha, Nhamingale, Nhancaca, Nhangue, Nhapwete, Nharugue, Nhasulu, Nhatsete, Nhakuiyoyo, Niquice, Ofece, Shonsua, Thenda, Tomucene 1, Tomucene 2, Tsera, Xavier, Zenguerere, Zomdane 1, Zomdane 2

1.2. Beneficiary is a □ Man □ Woman [ALL RESPONDENTS SHOULD RESPOND TO ALL QUESTIONS]	1.3. Date __ / __ / ____ dd mm yyyy

label::English	hint::English
SECTION A. GENERAL INFORMATION	
Today's date	
Type your name and second name (Enumerator)	
Name of community	

	Sex of Beneficiary	
SECTION B: Questions for men & women		
1	Can you please recall key S&H messages?	Do not read options to beneficiary. Mark each option that the caregiver mentions.
	Please specify other	
2	On a scale of 1 to 3 – with 1 being 'do not intend to', 2 'maybe will do so' and 3 being 'intend to' – to what extent do you intend to adopt practices that prevent illness, such as clean outside of your house, avoid open defecation, construct open pits for garbage and properly dispose of garbage? You can only choose one option.	Read options to beneficiary
3	Can you please recall at least 3 critical moments when you should wash your hands with soap?	Do not read options to beneficiary. Mark each option that the caregiver mentions.
	Please specify other	
4	On a scale of 1 to 3 – with 1 being 'not confident' 2 being 'somewhat confident', and 3 being 'fully confident', to what extent do you feel confident that you will wash your hands with soap during critical moments? You can only choose one option.	Read options to beneficiary
5	On a scale of 1 to 3 – with 1 being 'do not intend to', 2 'maybe will do so' and 3 being 'intend to' – to what extent do you intend to treat your water before you drink it, such as boiling, adding bleach or adding chlorine? You can only choose one option.	Read options to beneficiary
6	What are the symtoms of diarrhea?	Do not read options to beneficiary. Mark each option that the caregiver mentions.
	Please specify other	
7	If your baby/child has diarrhea, very liquid stools more than three times in a day, where is the main place you can take them for treatment?	Do not read options to beneficiary. Mark each option that the caregiver mentions.
	Please specify other	
8	If your baby/child has diarrhea, very liquid stools more than three times in a day, where would you want to take them for treatment?	Do not read options to beneficiary. Mark each option that the caregiver mentions.
	Please specify other	
9	Using a tip tap handwashing station is good for my family's health because the moving water is safer than still water from a bucket - True or False?	

10	I use the tip tap handwashing station in my home - yes or no?	If applicable
11	Did you try to make the recipe(s) from the cooking demonstration at your home anytime over the last 6 weeks?	If applicable
	Do you have anything you want to ask about what we discussed now?	
	Comments	