END TERM EVALUATION REPORT

PROJECT:

"SANI – FOOD SECURITY, NUTRITION AND HYGENE FOR THE COMMUNITIES IN THE GREATER EQUATORIA REGION OF SOUTH SUDAN"

FUNDED BY:

ITALIAN DEVELOPMENT COOPERATION AGENCY (AICS)

Amref Health Africa / Fondazione AVSI

December 06, 2021 Juba (South Sudan)

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DISCLAIMER

The report does not necessarily reflect the views and opinions of Amref Health Africa in Italy.

Correctness of the information presented herein is bound to the evaluation outcomes of this report.

ACKNOWLEDGEMENT

Q&A Management Consultancy Team sincerely thanks Amref Italy for entrusting our company with the opportunity to conduct the End Term Evaluation in Maridi, Ibba and Isoke counties in South Sudan. We are grateful to many people who participated in the study and shared their knowledge, experience and insights to make this assessment possible.

Special thanks are to Amref Health Africa staff, namely; Andrea Bollini, Samuel Okaro and Martin Okello for their active engagement, quality assurance and coordination, which was very instrumental in ensuring that this survey was conducted successfully.

LIST ABBREVIATIONS AND ACRONYMS

AMREF	African Medical and Research Foundation
ANC	Ante Natal Care
APFS	Agro pastoralist Field Schools
AVSI	Association of Volunteers in International Service
CHD	County Health Department
CMAM	Community Management Acute Malnutrition
CNV	Community Nutrition Volunteer
FAO	Food and Agriculture Organization of the United Nations
FSL	Food security and livelihoods
PLW	Pregnant and Lactating Women
RDA	Rural Development Agency
RRC	Relief and Rehabilitation Commission
SWC	Safe water champions
VTC	Vocational Training Center
WASH	Water, Sanitation and Hygiene
AICS	Italian Development Cooperation Agency

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EXECUTIVE SUMMARY

The presented report is the End Term Evaluation Report for the project "S.A.N.I. - Improving socioeconomical, sanitation, food security and nutrition condition for the community in the greater Equatoria region" funded by the Italian Development Cooperation Agency (AICS). The evaluation was conducted in three sampled counties of Maridi, Ibba and Isoke of the Republic of South Sudan, where the project core components were implementedThe remaining areas of Yambio and Torit were not considered in the scope of this evaluation since the S.A.N.I. project only implemented the Safe Water Champions approach in the mentioned municipalities. Q&A Management Consultancy Firm Ltd conducted the evaluation in November 2021 with support from Amref Italy.

The overall goal of the S.A.N.I. project is "Improving socio-economical, sanitation, food security and nutrition condition for the targeted communities in Eastern and Western Equatoria".

The major objective of this evaluation was to assess the extent the S.A.N.I project has achieved in delivery of planned outputs and outcomes as well as progress towards achievement of the respective objectives, while highlighting enabling factors and challenges encountered.

Various data sources or collection methods were combined, analyzed and compared in an objective manner, acknowledging possible bias and other methodological limitations, in order to build a comprehensive, credible and nuanced picture of the situation on ground.

A total of 648 (423F, 225M) survey respondents were purposefully selected for interview using a structured questionnaire and reached for the impact evaluation field assessments with the following community members involved: 207 (114F, 93F) in Ibba, 213 (156F, 57M) in Isoke and 228 (153F, 75M) in Maridi.

In addition, a total of 23 semi-structured interviews were conducted with key informants (IF, 22M) that involved; County Health Department, County Nutrition Department, County Department of Agriculture, Extension workers, Health Workers at the Health Facilities, Community Leaders, Religious Leaders, INGO Staff and Project Staff.

A total of 12 Focus Group Discussions (FGDs) were conducted with Community Nutrition Volunteers, community members involved in fish farming, Farmers groups, Safe Water Champions and stove beneficiaries attracting 68 participants (37, 31M).

Key Outcome Indicators Level Findings

The main livelihood activities for the majority of households were agriculture and sales of cereals, pulses and oilseeds cited by 87.7% of households. Poultry production and sales of poultry products (birds, eggs) were mentioned by 49.6% of households, while Horticulture and sales of vegetables and fruits, and livestock and sales of small ruminants (sheep, goats and pigs) were mentioned by 44.8% and 30.7% of the respondents respectively. Only about 2.20% of households reported fishing as a livelihood activity.

49.8% of the survey respondents mentioned that they earned net income from their livelihoods activities in the past 6 months. Of those who answered "yes", 58.7% were in Isoke, while 53.1% and 38.6% were in Ibba and Maridi respectively.

In the past 12 months, only 31.6% of households said that their incomes remained the same, while 25.3% of household said that their incomes increased by less than half. On the other 25.8% of households mentioned that their incomes decreased by less than half. Only about 2.3% of household revealed that their incomes increased by more 50%.

Only about 2.5% of total households had a monthly income between 35,000-less than 40,000 SSP and 50,000 SSP and above. However, about 29.5% of total households said that they did not earn any income in the past 6 months.

Income spent on food is 63.3% with the highest percentage in Isoke at 71.4% compared to Ibba 65% and Maridi at 63.3%. This implies that the total expenditure on food has increased, hence increasing financial vulnerability. This could be attributed to the high cost of living as a result of the high inflation rates currently in South Sudan.

The most used source of water are; borehole (hand pumps) mentioned by 71.9% of household, surface water (51.2%), rainwater harvesting (33.3%) and public tap (32.6%). About 69.1% of respondents in Ibba mentioned the use of surface water (pond, earth dam, river and stream).

On time required to collect one water collection journey, 44.1%) of the respondents cited Zero (0) - less than 30 mins walk from the house, 37.5% mentioned 30 - 60 mins walk from house

55.1% of the respondents admitted that they do not treat water before drinking, while 44.9% mentioned that they treat water to make it safe for consumption. Of those who treated, the majority were in Maridi, while 90.3% of households who did not treat water were in Ibba County

Based on the 2021, SMART survey conducted by Amref, Ibba had most food secure (53% with Acceptable Food Consumption Score (FCS) households as compared to Maridi (49.6% Acceptable FCS). The latter county had significant proportion of households with poor food consumption levels (26.2%). Male HHs were better off (44.6% acceptable and 19.8% poor FCS) as compared to Female HHs (41.3% acceptable and 17.4% poor FCS).

According to AVIS Ikwoto Multi-sector Survey of March 2021, the FCS had improved in the county as only 19% had poor FCS in 2020 while 48% in 2018. Only 33% of the county's population have acceptable FCS, 48% with borderline and 19% have poor FCS.

Recommendations:

There is need to have more APFS in the area, increase marketability, strengthen operation research, research on disease and application of agro-chemicals to improve household incomes.

Improvement in the delivery of farming inputs (tools & seeds) to the farming groups and individual farmers in the county. It should be done timely and in right quantities and desired qualities. Most of the seeds were not viable; they were reported to have low viability and germination rates. Hence the need for seed testing to ensure good quality seeds are provided in the right quantities to farmers

Conduct more training for extension workers, farming groups and individual farmers in the community to increase productivity and improvement in food security. Refresher training of extension workers for enhanced agricultural, livestock and fisheries production and productivity.

Amref Italy and the partners should train and coach farmers to observe adherence to the seasonal planting or cropping calendar (March – July and August – December) in the county to boost crop productivity and incomes and change the livelihoods of the farmers.

Amref Italy and the partners should first consult farmers on types of crops they want to grow so as to supply appropriate seeds demanded by them. Consultation with community leaders is a good step that the project achieved, but needs to be subsidized with collection of inputs from farmers.

Amref Italy and the partners to consider the establishment and support to farmers cooperatives and unions for input procurement and provision to members and to strengthen marketing bargaining positions vis-à-vis with market actors such as middlemen. Creation of a water way for easy draining and refilling of the fish ponds. There should be some provisions to allow water to flow in and out of the fish pond.

Provision of transport services to the Safe Water Champions, bicycle would be appropriate to facilitate the work of the Safe Water Champions, and the provision of visibility materials.

I INTRODUCTION AND BACKGROUND

I.I Introduction

Section one of this report provides an overview of Amref (both Amref Italy and its counterpart Amref South Sudan) and AVSI and their activities in South Sudan while underlining the overall and specific objectives of the evaluation. This section goes on to highlight the background of the evaluation, description of the project, project background, goals (purpose) and objectives.

I.2 Background and Description of the Project

In 2017 Amref Health Africa and AVSI jointly designed the "S.A.N.I. - Improving socio-economical, sanitation, food security and nutrition condition for the community in the greater Equatoria region" project. A grant was awarded to Amref in 2018 by the Italian Agency for Development Cooperation (AICS) with a budget volume of 1.735.382,33 Euro for a three years period. The S.A.N.I. project operated within 2018 – 2021 through a consortium comprising of Amref (consortium lead), AVSI, AIAB, IED and DHEART.

The project came to an end on 31 August 2021, after a three month non costed extension was approved by the funding agency.

The Amref South Sudan office is part of the global Amref Health Africa country programme offices that emanated from Amref Health Africa corporate body founded in 1957 with its headquarters (HQ) in Nairobi, Kenya. Amref Health Africa's purpose is to improve the health of the people of Africa by partnering with and empowering communities and strengthening health systems. Amref Health Africa in South Sudan program redirects its projects around two thematic areas, 1) development of human resources for health and 2) strengthening health services delivery for improving access to and utilisation of preventive, curative and restorative health services in South Sudan.

The programmatic presence of Amref in South Sudan currently includes the following locations: Juba, Maridi, Ibba, Yambio, Yei, Wau and Torit. Within the framework of the SANI project, Amref led the intervention in Maridi, Ibba, Yambio and Torit with a role focusing in implementing food security activities (Maridi and Ibba only), nutrition activities (Maridi and Ibba only), WASH and hygiene promotion (Torit, Maridi, Ibba and Yambio). Founded in 1987, Amref Health Africa in Italy is a fundraising office of Amref based in Rome. Amref Health Africa in Italy contributes to the growth of the portfolio of the Country Office through designated and non-designated funds. Within this framework, Amref Health Africa in Italy is a partner to Amref Health Africa in South Sudan.

2 PURPOSE AND SCOPE OF THE EVALUATION

2.1 Introduction

This section covers the purpose of the evaluation and the scope in terms of geographic coverage and programmatic outlook looking at desired outcomes and outputs.

The main purpose was to assess the extent the S.A.N.I project has achieved in delivery of planned outputs and outcomes as well as progress towards achievement of the respective objectives, while highlighting enabling factors and challenges encountered and to render accountability to beneficiaries, stakeholders and the donor.

2.2 Scope of the Survey

This evaluation focused on all the project outputs and outcomes, lessons learnt and recommendations based on the project implementation context in Maridi, Ibba and Isoke Counties.

3 APPROACH AND METHODOLOGY

3.1 Approach

The evaluation information was collected using a mixed approach method, which included household interviews using questionnaires, Focus Group Discussions (FGD) and Key Informants Interviews (KII) with community members, local government authorities, farmer groups, Community Nutrition Volunteers, Fisher Folks, INGO and Religious and Community Leaders.

For the achievement of maximum participation of the groups examined, participatory projective techniques were employed. Such techniques allowed a deeper exploration of participants' knowledge and needs, and ensured a greater sense of ownership of the evaluation process and consequently any associated future programming.

3.2 Pre-field activities (Inception Phase)

A comprehensive desk review was conducted at inception phase to understand the local dynamics and to provide a basic context and foundation for data collection and sample design. The results of this review contributed to the development of the Inception report including the data collection tools. Two inception meetings were conducted with staff, one with Amref Health Africa staff in Maridi and one with AVSI staff in Isoke to discuss the Inception Report including the methodology and the tools. This provided a platform to understand the project and the context and to develop the data collection plan in the various field locations.

3.3 Data collection (Field Phase)

Before administering the questionnaire, the enumerators were trained to ensure that data collected was in line with Amref/AVSI's requirements. The primary objective of the training was to enable enumerators to understand data collection methods/tools to ensure quality data collection, administer household questionnaire/data collection tablets and gain skills of conducting successful interviews as well as, raising their awareness on Amref/AVSI's safe guarding principles as well as ethical issues in conducting research.

3.3.1 Qualitative Methods

A comprehensive desk review was conducted to understand the local dynamics and to provide a basic context and foundation for data collection and sample design. The Evaluation Team reviewed and analyzed several project documents including the project proposal, Mid-Year reports, inception meeting report, and Log frame, and annual reports. The results of this review contributed to the identification of potential key project stakeholders, as well as the analysis and:

In addition, a total of 23 semi-structured interviews were conducted with key informants (IF, 22M) that involved; County Health Department, County Nutrition Department, County Department of Agriculture, Extension workers, Medical Officers at the Health Facilities, Community Leaders, Religious Leaders, INGO Staff and Project Staff

A total of 12 Focus Group Discussions (FGDs) were conducted with Community Nutrition Volunteers, Fisher Folks, Farmers groups, Safe Water Champions, and improved cooking stoves beneficiaries attracting 68 participants (37, 31M).

3.3.2 Quantitative Methods

A total of 648 (423F, 225M) survey respondents were purposely selected for interview using a structured questionnaire and reached for the impact evaluation field assessments with 207(114F, 93F), in Ibba, 213 (156F, 57M) in Isoke and 228 (153F, 75M) in Maridi.

3.4 The study sample

Due to the limited time and resources, an initial sample population size of 600 HHs (200HHs per location) was determined, a bigger sample size of 648 HHs was achieved during the assessments.

3.5 Data Quality Assurance

Amref South Sudan and Amref Italy supervised the evaluation process. Specifically, the team of consultants coordinated with the field team. While in the field, all enumerators were trained to assist in data collection. The enumerators sought permission (consent) to collect information and explained to respondents their right to withdraw or disengage at will and at any time during the interviews.

The questionnaire had a statement on how to address ethical considerations in the process of data collection, analysis and presentation. This included consideration for any risks related to the assessment and how these would be mitigated. Voluntary compliance from the respondents to participate in the assessment was also sought before they were requested to participate in the survey.

The consultants provided on-the ground quality assurance checks and oversight throughout data collection checking through all completed responses (on a daily basis) was done to address any inconsistencies in time, hence adding value to quality assurance. Before data analysis, data quality checks through synthesis and content analysis were carried out for consistency and correlation of internal logic between related variables.

3.6 Data Analysis and Reporting

All the HH information collected using Kobo platform¹ was edited to ensure correctness, accuracy and consistency as per the responses and observations made. These were discussed with the interviewers during a consolidation meeting prior to report writing. The Statistical Package for Social Sciences (SPSS) software was used for data analysis because it is fast, consistent, and able to handle many variables simultaneously. At bivariate level, descriptive statistics was used particularly to test relationship between dependent and independent variables.

The qualitative data collected through open-ended questions in the questionnaires and interviews were categorized, summarized, organized and analyzed according to the themes mentioned in the ToR.

¹ Kobo Toolbox is a free open-source tool for mobile data collection. It allows to collect data in the field using mobile devices such as mobile phones or tablets.

3.7 Study limitations

- There was a challenge of poor road network connecting some locations in Eastern Equatoria and the roads were in a sorrow state, filled with water making it sometimes difficult for the vehicle to move faster, therefore delaying work.
- It was difficult to locate the local government authorities for the key informant interviews, simply because they were engaged in other commitments.
- In some instances, the male youth were not willing to be attend the FGDs, simply because they were demanding for money before the interviews.
- Delay in planning with project officer in Isoke as he said he was not aware of the exactly period for the evaluation exercise and as such it affected mobilization of the groups. Inaccessibility of fish farmers in Bira boma in Isoke as their location has security concerns
- Lack of transport to the project sites as AVSI vehicles have some mechanical issues at the evaluation hence making it difficult to allocate a vehicle for the exercise
- Poor telephone networks in some locations making it difficult to mobilize the beneficiaries for the FGDs.

4 KEY FINDINGS AND ANALYSIS

4.1 Introduction

This section presents findings of the evaluation and aims at understanding the relevance of the quality of design of the project, efficiency and effectiveness, sustainability and impact of the project, community perceptions, challenges and opportunities available to inform programming in South Sudan as a result of the subsequent discussion of conclusions, lessons learnt and recommendations.

4.2 Demographic Information

A total of 648 households were interviewed in Ibba, Isoke and Maridi Counties; 423 (65.3% of the respondents were males and 34.7% were females as shown in figure below



Figure I: Gender of Households

About 301 (46.5%) of heads of households are 18-35 years old, while 288 (44.4%) are in the age bracket 36-55 years. Those in the age range less than 18 years and age range 56-64 years represent 2% and 6.9% of the total heads of households reached during the survey respectively.

		County			
Age group	Ibba	lsoke	Maridi	Total	
Less 18 years	0.50%	4.70%	0.90%	2.00%	
18 - 35 years	45.9%	60.1%	34.2%	46.5%	
36 - 55 years	40.6%	33.8%	57.9%	44.4%	
56 - 64 years	13.0%	0.90%	7.00%	6.90%	

Table I: Age of head of household

Above 65 years 0.00% 0.50% 0.00% 0.20%
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The marital statuses of heads of households were as follows: 463 (71.5%) of heads of households were married and 62(9.6%) were divorced. About 60(9.3%) and 41 (6.3%) were single and widow/widower respectively (Table 4). Only about 22 (3.4%) of heads of households were separated.

Table 2: Marital status of head of household

		County			
Marital Status	Ibba	Isoke	Maridi	Total	
Married	54.6%	84.5%	74.6%	71.5%	
Single/Never married	9.70%	7.00%	11.0%	9.30%	
Widow/Widower	10.1%	7.00%	2.20%	6.30%	
Divorced	20.3%	0.90%	7.90%	9.60%	
Separated - living apart not divorced	5.30%	0.50%	4.40%	3.40%	

On education about 233(36.0%) of heads of households had no formal education, while 223 (34.4%) mentioned having incomplete primary education. About 68 (10.5%) and 66 (10.2%) of heads of households said that they had incomplete secondary and complete primary education respectively. Only about 0.30% and 0.20% of head of households mentioned the completion of university and vocational training respectively.

Table 3: Education of head of household

	County			
Education level	Ibba	Isoke	Maridi	Total
None	37.2%	59.2%	13.2%	36.0%
Incomplete Primary	18.4%	28.2%	54.8%	34.4%
Completed Primary	10.1%	7.50%	12.7%	10.2%
Incomplete Secondary	18.8%	3.30%	9.60%	10.5%
Completed Secondary	10.1%	1.90%	7.90%	6.60%
Incomplete University	4.80%	0.00%	0.90%	I.90%
Completed University	0.00%	0.00%	0.90%	0.30%
Vocational Training	0.50%	0.00%	0.00%	0.20%

About 292 (45.1%) of households cited the presence of a PLW, while 356 (54.9%) said that there was not a PWL in the household.



Figure 2: Presence of PLW

On residential status, 505(77.9%) of households were residents, while 106(16.4%) and 37(5.7%) were classified as returnees and IDPs respectively (Table 7)

Table 4: Residential status of household

	County			
Response	Ibba	Isoke	Maridi	Total
IDPs	13.0% [27]	1.90% [4]	2.60% [6]	5.70% [37]
Residents	74.9% [155]	60.6% [129]	96.9% [221]	77.9% [505]
Returnee	12.1% [25]	37.6% [80]	0.40% [1]	16.4% [106]

4.3 Relevance

As noted by responses from the target beneficiaries, the project and all its components remained highly relevant throughout the implementation period. Components such as improved and diversified livelihoods of vulnerable groups, access to nutrition, hygiene and food security opportunities in the target were deemed the immediate needs of the people in the assessed counties.

4.2.1 Alignment to International Mandates and Obligations

Globally the project embraced components of the Sustainable Development Goals (SDGs) particularly Goal 1, 2, 3, and Goal 6.

Goal I: "End poverty in all its forms everywhere" and its corresponding targets especially targets I.5"By 2030, build the resilience of the poor and those in vulnerable situations and reduce their

exposure and vulnerability to climate-related extreme events and other economic, social and environmental shocks and disasters"

Goal 2: "End hunger, achieve food security and improved nutrition and promote sustainable agriculture" and its corresponding targets especially targets 2.2: "By 2030, end all forms of malnutrition, including achieving, by 2025, the internationally agreed targets on stunting and wasting in children under 5 years of age, and address the nutritional needs of adolescent girls, pregnant and lactating women and older persons"; Target 2.3: "By 2030, double the agricultural productivity and incomes of small-scale food producers, in particular women, indigenous peoples, family farmers, pastoralists and fishers, including through secure and equal access to land, other productive resources and inputs, knowledge, financial services, markets and opportunities for value addition and non-farm employment." and Target 2.4: "By 2030, By 2030, ensure sustainable food production systems and implement resilient agricultural practices that increase productivity and production, that help maintain ecosystems, that strengthen capacity for adaptation to climate change, extreme weather, drought, flooding and other disasters and that progressively improve land and soil quality".

Goal 3: "Ensure healthy lives and promote well-being for all" and its corresponding targets, especially targets 3.3: "By 2030, end the epidemics of AIDS, tuberculosis, malaria and neglected tropical diseases and combat hepatitis, water-borne diseases and other communicable diseases" and Target 3.8: "Achieve universal health coverage, including financial risk protection, access to quality essential health-care services and access to safe, effective, quality and affordable essential medicines and vaccines for all"

Goal 6: "Clean water and sanitation: Ensure availability and sustainable management of water and sanitation for all." and its corresponding targets especially targets 6.1: "By 2030, "achieve universal and equitable access to safe and affordable drinking water for all." and Target 6.2: "By 2030, achieve access to adequate and equitable sanitation and hygiene for all and end open defecation, paying special attention to the needs of women and girls and those in vulnerable situations." And Target 6b: By 2020, "Support and strengthen the participation of local communities in improving water and sanitation management."

4.2.2 Alignment with government policies and strategies

According to the evaluation findings, the project is in line with the South Sudan Vision 2040 Strategic Goal (6) which is to build a safe, secure and healthy nation and some of its key objectives include; (a) to provide access to safe drinking water; and (b) to improve sanitation and hygiene. Similarly, the evaluation findings are that the project is in line with the South Sudan National Development Strategy (July 2018-

June 2021) in particular, with the Economic Cluster Goal which is to improve food security and livelihoods, and revitalize the national economy.

The project is in line with the goal of the Economic Cluster in the South Sudan Vision 2040 Goal which is "Improve food security and livelihoods, and revitalize the national economy". Likewise the project is aligned to the strategic objective of the sector that is "to improve the productive capacity of livestock and fisheries resources.

Similarly the project is in line with the Republic of South Sudan, South Sudan Development Plan (SSDP) 2011-2013. The SSDP national priority programme areas in the Economic Development pillar include increased agriculture production, increased livestock production, and expanded and improved water and sanitation infrastructure, In the Social and Human Development pillar, one of the priority area among others include expanding access to basic health. The outcome objectives of the Economic Development Pillar among others include increasing crop production and land/ vegetation cover, increasing production of livestock and fish commodities and ensuring sustainable management of water resources to enhance access to safe water and improved sanitation services; and other uses.

The project is also in line with the Community Health System in South Sudan, "The Boma Health Initiative" whose goal is "a strengthened health system that efficiently delivers components of the BPHNS at community level to contribute to the achievement of universal coverage". Among the objectives are to develop community health structures as a formal component of the national health system at the Boma level and to increase access to quality health promotion, disease prevention, and selected curative services through community engagement.

4.2.3 Alignment with Community Needs/ Relevance to People's Priorities

A community leader in Maridi County during a KII mentioned that the project has addressed the correct community issues for example, there are now latrines in homes; improvement in home sanitation is being maintained in the community; malnutrition is being prevented in a way that communities don't rely on same type of food daily; and one borehole in Marubanga village was rehabilitated by Amref. However, much have yet to be addressed by this project in this community with regards to adequate supply of clean drinking water.

According to the community leader, the project recruited Community Nutrition Volunteers (CNVs) who were conducting screening and referrals of the malnourished children to the hospital for further assessment and treatment. These categories of our population did receive the nutrition supplies like

RUTF etc. and treatment in the health facilities. In food security, it is only the training on food storage that was done; however, the project provided adequate inputs like seeds and tools to the farmers for increased food production and food security.

In Ibba, the community Leader noted that the project was addressing the correct issues in food security as quality seeds for maze, pulses, tomatoes and Sukuma wiki were distributed to enhance nutrition for households including the provision of screaning services that improved the identification of malnourished children and referral for treatment. He continued to say that "... before the project, the community used to drink dirty water direct from source, thanks to the SANI project, communities are now more aware of the need to treat water and have access to water treatment tablets which has greatly improved water quality being consumed". "....we now see a great reduction in cases of water born infection especially among children".

The community Leader in Ibba County mentioned that the food security component was the most useful as this addressed underlying conditions that contributed to sever hunger and malnutrition. He continued to say that "...this does not make other components irrelevant because they are all interlinked and therefore must be provided as a package". He said that given the opportunity he would suggest the project should provide more seeds to improve the HHs food basket and improve HHs incomes.

Similarly, the Officer at the County Agricultural Department confirmed that, farmers were assisted with seeds such as onion, cabbage, eggplants, okra and tomatoes and the tools such as hoes, rakes and watering canes. These he said had addressed the correct issues especially in food security.

The interview with the County Health Officer in Ikwoto County revealed that all the components of the project were very useful. He continued to say that "....the government has no capacity for service delivery and therefore it is important that the project continues to offer these services until the situation improves".

However, a group of fishers in Maridi Central Payam mentioned that, no much priorities of the community were addressed by the fish farms. It was a good project but it needed more support to sufficiently address the priorities of the community in terms of food and incomes. It is a good intervention for the community but faced numerous challenges like Covid-19, inadequate feeds, little incomes, predators, water supply and replacement in the pond etc.

According to the Director of Agriculture at the County Agriculture Department in Ikwoto, the project has addressed the correct issues of the community in Food Security, Nutrition and Hygiene since an assessment was done by AVSI before the implementation.

A head Chief in Isoke Payam in Ikwoto County during a KII, mentioned that during their mobilization the project targeted the most vulnerable (widows, orphans, lactating mothers, pregnant mothers) these people are looked by the community as punished people but the project targeted them. The project addressed their problem by giving them seeds, cash money and nutrition support. Furthermore, he said, the project addressed the correct issues in food security and nutrition but with limited number of beneficiaries especially in food security.

According to Amref Health Africa Project Staff, the intervention responded to the priority needs of the target groups. Mothers and children are the targets and the needs are food security said, "....everybody grow sorghum, not greens, cereals and proteins growing, focused on nutritious food because the mothers and under 5 children had SAM and MAM due to poor feeding. These are part of our interventions to reduce SAM and MAM cases in the communities". He continued to mention that, some of the needs were hygienic needs. "....when we started, there were many households without hand washing buckets/containers and soap, clean water containers, no toilets facilities etc. So, our team sensitized them, now they have clean pots, cups etc.", said Amref Project Staff.

The project worked with the local government and we had protected water sources, drilled boreholes and repaired boreholes to ensure access to clean and safe drinking water in Maridi and Ibba.

4.2.4 Project Design

English translation of key proposal documents (May 2018) for SANI – Food Security, Nutrition and Hygiene for the Communities in Greater Equatoria Region indicated that the main gaps in WASH, Nutrition and Food Security have been detected by Amref South Sudan in year 2017 in Ibba, Maridi, Yambio and Torit. AVSI carried out two multi-sectorial surveys focusing on food security in Ikwoto County and in Torit. According to the findings, 78% of the population in the area relies on agriculture and pastoralism. Conflict related reasons lead to lack of access to seeds and/or exchange of agricultural tools for food. This, together with poor rainfalls, set the community on a food-security crisis. Moreover, the surveys indicated that only 30% of the wells and boreholes are operational and the average distance to (polluted) water sources for the households varies from 5 to 8 km.

"SANI – Food Security, Nutrition and Hygiene for the Communities in Greater Equatoria Region" was designed to address through an integrated approach the identified criticalities affecting the community,

with a focus on women and children. Target groups, direct and indirect beneficiaries and main stakeholders are 5940 people (75%W; 70% youth) engaged into agricultural, pastoral and fishery activities; the hygiene and sanitation habits as well as the knowledge on nutrition is positively influenced among 9000 people; 450 women trained as "Safe Water Champions"; 9490 PLWs (Pregnant Lactating Women) receiving nutritional services; 260 CHWs (Community Health Workers) trained on cholera prevention and treatment; 600 people (75%W) accessing improved sanitation; 650W benefiting low-impact cookers; 54 MoH employees delivering nutrition services in PHCCs (Primary Health Care Centers); 12800 <5yrs receiving nutritional services; 360 community members (65%W, 25% PLWDs (People Living With Disabilities) engaged into activities via cash based interventions.

As to indirect beneficiaries: 27000 people accessing improved food security and nutrition conditions; 34000 people accessing improved hygiene and sanitation; 36000 children receiving nutritional screening. While, the main stakeholders: are citizens of Yambio, Maridi, Ibba, and Torit and of Ikwotos County. Ministry of Agriculture, Ministry of Health, Ministry of Education. At least 20 NNGOs and INGOs operating in coordination with the food security cluster, the health cluster and the nutrition cluster; UNFAO; UNICEF; UNWFP.

4.4 Efficiency

Evaluating efficiency of the project requires assessing how the project performs in terms of planned schedules and allocated budget by looking at how the project has been using resources effectively to deliver its target results and objectives. The efficiency parameter evaluates whether the targeted project outputs were achieved within budget and schedule.

4.4.1 Implementation of activities against work plans

The project was planned to start in June 2018. However, there were some slight delays due issues related to project fund transfer. Hence, it kicked off between August and Sept, 2018 due to fund transfers.

Inputs such as agro-inputs (Hoes, panga, spades, fork hoes, water cans etc.) and Fishing gears for fish farmers. They were of good quality. SANI project provided Agro-inputs to be used by farmers to produce more nutritious food for all the vulnerable groups mentioned. They were of acceptable quality and timely delivered to the site.

There was adequate coverage of the services to the communities. Maridi and Ibba Counties were fully covered in all aspects (Food Security, Nutrition and Hygiene). The Project Staff for Amref Health Africa

mentioned that, "....we trained 80 Safe Water Champions (SWC) in Maridi County alone, in total we had 450 which were reduced to 280 in year two and we provided some stipends to SWC".

According to the Project Staff at AVSI Field Office in Isoke in Ikwoto County, the Food Security project inputs were vegetable Seeds (carrots, green paper, Okra, Egg plants, Collard, Cabbage), post-harvest materials (plastic silos), crop seeds (pigeon pea, Cassava, groundnuts,), irrigation materials for both drip and sprinkler and ox-ploughs

Over 90% of the project inputs delivered in a timely manner, inputs like seeds, varieties of them like (sorghum, bananas suckers, maize, etc., and vegetables seeds also such as onions, egg plants etc.

According to the Project Staff of Amref Health Africa, about 200 farmers were supported with agroinputs on annual basis. Hence each was provided with app. 10 kilograms of seeds varieties that were distributed.

However, some project activities were not carried out as planned for example the targeted number of SWC in Maridi. There were lots of adjustments of plans and activity schedules because there were budget variations as such money was moved to other priorities and budget lines; these variations affected the implementation of the activities on time.

In Western Equatoria, all our project areas were accessible and no restrictions except in Mambe due to pockets insecurity there.

4.4.2 Quality of management

At the field level in Maridi the staff included, the Project Manager, three (3) project officers, one (1) accountant and one (1) driver were hired within 6 months of the startup. Not all were maintained through project life for various reasons.

During a KII with AVSI project staff in Isoke Payam, the project started in June 2018, while he joined the project in the last year with few knowledge about the resources allocated to the project. However, he mentioned that transport remained a challenge during the implementation of the project. He mentioned that AVSI Foundation already have human resources that have been implementing its previous project and staff were already available on site within the first month of project implementation and that they were well maintain throughout the implementation period. The SANI project had six staff including a

Food security coordinator, Nutrition Assistant, Administrator, National trainer APFS/Extension worker, Driver and Logistician.

According to the WASH Officer, AVSI Foundation in South Sudan has been implementing FSL, Nutrition and WASH activities within the project area with different partners like: FAO for FSL, UNICEF for nutrition and WASH, WFP for nutrition. He mentioned that AVSI had a continuous presence in the area. This, combined with created linkages with local authorities and key stakeholders through constant consultation and collaboration, has given a good picture and experience in the livelihood situation in greater Equatoria, especially related to needs of food security, improved access to water, health services and hygiene and sanitation education.

4.4.3 Partnership and Coordination arrangement

There was good cooperation from relevant local government authorities. When asked on their working relationship with AVSI, the Director for Agriculture at Ikwoto County Agriculture Office said that, there were scheduled coordination meetings held with FSL partners in the County. He commented that working with AVSI was very nice, activities implementation was always coordinated and this helped in avoiding duplication of service. There were uncountable meetings of coordination conducted by AVSI and meetings organized by Relief and Rehabilitation Commission (RRC). These meeting improved service delivery in the county since there are other partners like CARE, Caritas and other national NGOs

Coordination efforts have been of significant; we have had evidences such as less duplication or misuse of resources allocations in the projects areas. Hence, over the period conducted joint supervision with partners of the health/nutrition cluster to assess impact and provide support to the front-liners at the health facilities for improved performance in health care services. Furthermore, as a result of this teamwork, synergies have been built to support his others and it has significantly reduced on logistical cost and effective transport system attained to conduct the exercises as required.

Amref is the lead for the SANI project, while AVSI is a sub-grantee for the SANI project. AVSI focuses largely on food security using a similar methodology and approach to the one promoted in while in Maridi and Ibba., Amref also works with County Health Departments (CHD) to coordinate all partners' activities to ensure resources are well utilized and in line with the government strategic plans. Amref works with the State Ministry of Agricultures who seconded the extension workers to support the training of farmers, monitoring of farming activities in the project areas, design and construction of fish ponds in promoting fish farming and sustaining productivity in the areas.

The organizations working in food security and livelihoods and WASH in this area are Amref Health Africa; ACTED working in Food Security and Livelihoods (FSL) and drilling of boreholes; Rural Development Agency (RDA), World relief (WR)-food security; South Sudan Red Cross (SSRC)-borehole rehabilitation; Medair implements health projects; Star Trust Organization (STO)-provided markets for the farmers as World Food Programme buys through them; WFP buys farm produce from farmers through Star Trust Organization (STO); FAO supplies agriculture inputs (seeds and tools) to farmers and UNICEF coordinates the nutrition activities ; and ACH. The activities of the organizations are coordinated through health/nutrition cluster.

During KII with the Project staff, it was found that, there was very good coordination with other development actors in FSL, health and nutrition and WASH effective. He mentioned that the coordination mechanisms were in place were the regular consultations with development actors. The project staff participates in the health/nutrition cluster coordination meetings and activities.

Nutrition Focal Person of Maridi County Department of Nutrition said that her roles related to SANI project included: supervision of Nutrition Assistants in the County health facilities, provision of mentorships to the Nutrition Assistants, reporting, requisition of nutrition supplies such as OTP and RUCF. On any joint supervision activities led by nutrition staff in this county, she mentioned that there is a joint monthly supervision involving the County Department on Nutrition, Amref, and Health Pool Fund. In Ibba County, the County Department of Nutrition in Ibba County, said that they conduct joint supervision every after three months, with the partners and the partners involved in the supervision includes, the WFP, UNICEF and CHD

4.4.4 Risk Management

Insecurity in the Western Equatoria was due to the presence of anti-government movements, slowed down the calendar of two APFS. The problem was buffered by opening two other APFS in accessible areas, however, it remained a priority to solve the problem of accessing Mambe and Rumbe to resume work with groups.

Amref participated in regular partners' coordination meetings; the project was able to identify possible risks in the project areas. On insecurity and coordination, Amref works with UNOCHA and the national security to ensure the movement of staff and field activities are coordinated for safety of Amref staff and partners. For risks at the health facilities such as abuse of substances, ethical standards, safety measures or loss of equipment/supplies Amref works with; county health departments and the officials

at the state ministry of health to mitigate such risks. This is done through regular monitoring of the activities at the health facilities, weekly health cluster meetings and on spot visits to assess the quality of services being offered to the community.

The mobility of AEFWs is a critical element: AEFWs are unable to visit all camps and homes with the required regularity. The underlying reason is the precariousness of the means of transport that connect the localities, mostly very isolated and distant from each other. Where possible, the project made up for it by offering a transport schedule with its own cars. However, the project must continue to operate also counting on the precariousness of local private transport (motorcycles).

The Director of Agriculture at the Ikwotos County Department in Eastern Equatoria State said that several challenges are affecting the projects implementation e.g. flooding, poor roads, and long distances of the Payams. Logistic challenges affect the County Office most as the locations are very far and thanks to the NGOs for supporting some times and actually the county office relies on the NGOs in the County. There are also minor security issues, this is affecting the implementation, and the communities sometimes fight among themselves but not outsiders. There was also the problem of late distribution of seeds and tools.

According to the Director at County Department of Agriculture in Maridi County in Western Equatoria State, the main challenges of the project were as follows:

- Lack of support to farmers for clearing bushes and trees on farm lands. Equipment and machinery like tractors to uproot trees and expand land for large scale farming were not available in the communities.
- Bad and/or poor road infrastructure and network linking farmers to market and buyers in other parts of the county. Farmers don't access the markets in Juba and in other states due to poor road conditions. For example, Maridi – Juba, Maridi – Rumbek etc. farmers in Maridi County are unable to transport their produce to such markets.
- Low prices in the local markets due to increase in supply of farm produce into the markets within the county.
- Lack of transport services for farm produce. There are not trucks/lories that could facilitate the transportation of farm produce into bigger and external and viable markets in other parts of the country with high demands for farm produce.

- Insecurity. There are some pockets of insecurity along roads to potential markets.
- Inadequate skills and knowledge of farmers in modern farming practices and the will to venture into large scale commercial farming.
- Poor storage facilities. Due to this challenge, farms produce rot in houses for lack of better storage facilities in the communities.
- Pests and diseases for example the army worms for maize etc. and other insects like termites and the lack of access to agro-chemicals.

4.5 Effectiveness

This section looks at the project effectiveness in terms of the extent to which planned activities and resulting outputs and outcomes (short-term impacts/ immediate effects) were achieved. Based on the available documentation, we analyzed the (1) Mid-year project management report, October 2020 to March 2021; (2) the Annual Project Management Report October 2019 to September 2020; (3) the Annual Project Management Report, October 2018 to September 2019 and; (4) the Annual Project management Report September 2017 to August 2018

4.5.1 Effectiveness in achievement of project activities and outputs and outcomes

RI Promoted agricultural, pastoral and fishery production. Target population access an enhanced variety of nutritional products and the involved geographical areas benefits of improved agricultural outcomes;

Indicator 1.1: HH reporting increased income consequently to selling agro-pastoral and fishery products on the local market.

When asked on whether they earned any net income from their livelihoods activities in the past 6 months, about 323 (49.8%) responded in the yes. Of those who answered "yes", 58.7% were in Isoke, while 53.1% and 38.6% were in Ibba and Maridi respectively.



Figure 3: Earned Income

On monthly income generated from the various income generating activities, about 140 (21.6%), of total household had incomes of below 5,000 SPP, while 153 (23.6%) and 75 (11.6%) of household earned 5,000-less than 10,000 SSP and 10,000-less than 15,000 SSP respectively.

Only about 2.5% of total households had income between 35,000-less than 40,000 SSP and 50,000 SSP and above. However, about 29.5% of total households said that they did not earn any income in the past 6 months.

	County			
Average monthly income	Ibba	Isoke	Maridi	Total
Below 5,000 SSP	39.6%	1.40%	24.1%	21.6%
5,000-less than 10,000 SSP	18.8%	34.7%	17.5%	23.6%
10,000-less than 15,000 SSP	11.6%	12.7%	10.5%	11.6%
15,000-less than 20,00 SSP	1.90%	3.80%	6.10%	4.00%
20,000-less than 25,000 SSP	4.80%	1.90%	1.30%	2.60%
25,000-less than 30,000 SSP	4.30%	2.30%	0.90%	2.50%
30,000-Less than 35,000 SSP	I.40%	4.70%	0.40%	2.20%
35,000-less than 40,000 SSP	1.90%	2.30%	0.00%	1.40%
40,000-less than 45,000 SSP	1.00%	0.90%	0.00%	0.60%

Table 5: Average monthly income of households

45,000-less than 50,000 SSP	0.00%	0.90%	0.00%	0.30%
50,000 SSP and above	0.00%	0.50%	0.00%	0.20%
No income earned	14.5%	33.8%	39.0%	29.5%

On whether their incomes have changed in the last 12 months, about 31.6% of households said that their incomes remained the same, while 25.3% of household said that their incomes increased by less than half. On the other 25.8% of households mentioned that their incomes decreased by less than half. Only about 2.3% of household revealed that their incomes increased by more 50%.

Table 6: Changes in household income in the last 24 months

Changes in incomes	County				
	Ibba	Isoke	Maridi	Total	
Decreased by less than half	41.5%	16.0%	20.6%	25.8%	
Decreased more than 50%)	25.6%	10.8%	9.20%	15.0%	
Remained the same	16.9%	50.7%	27.2%	31.6%	
Increased by less than half	12.1%	20.2%	42.1%	25.3%	
Increased more than 50%	3.90%	2.30%	0.90%	2.30%	

Based on the findings of the survey, households' incomes increased from between 172.9% and 601.4% with an average of 426%. The highest increases were 601.4% and 505.0% for Maridi and Ikwotos respectively. However when we compare the achievement against the target value there was no improvement in incomes registered in any of the three Counties as shown in below Table.

Table 7: Changes in household	income in the last 24 months
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Location	Baseline	Target	Achieved	Achieved against	% Achieved
	(Project)	(Project)	(survey	project	against project
			findings)	baseline value	target value

lkwotos	4%	51%	20.2%	505.0%	-39.6% (60.4%)
lbba	7%	51%	12.1%	172.9%	-23.7% (76.3%)
Maridi	7%	51%	42.1%	601.4%	82.5% (17.5%)

Based on SANI report of October 2021, the monthly cash income averaged 42,831 SSP (85.7 US\$) per household. This is comparatively higher in Maridi (48,272 SSP; 96.5 \$US) than Mundri (41,671 SSP, 83.3 US\$) and lowest in Ibba (33,070 SSP, 66.1 US\$) and 29% higher in FHHs (44,256 SSP, 88.5 US\$) as compared to MHHs (41,984 SSP, 84 US\$). These seem to hang market availability and access to farm land in Maridi compared to Ibba and Mundri areas. Also FHH has better income because women are more engaged in economic activities at home other man that tend to migrate to urban areas their income are not easily reflected in the HH income agricultural (33%), sale of livestock/livestock products (23%), skilled labour (16%), salaried work (6%).

The main livelihood activities for the majority of households were Agriculture and sales of cereals, pulses and oilseeds cited by 87.7% of households. Poultry production and sales of poultry products (birds, eggs) were mentioned by 49.6% of households, while Horticulture and sales of vegetables and fruits, and livestock and sales of small ruminants (sheep, goats and pigs) were mentioned by 44.8% and 30.7% of the respondents respectively. Only about 2.20% of households reported fishing as a livelihood activity.

Livelihood	County				
Activities	Ibba	Isoke	Maridi	Total	
Agriculture and sales					
of cereals, pulses and	86.0%	88.3%	88.6%	87.7%	
oilseeds					
Horticulture and sales					
of vegetables and	41.1%	24.9%	66.7%	44.8%	
fruits					

Table 8: Main livelihoods of households

Livestock and sales of				
small ruminants(15.0%	24.9%	50.4%	30.7%
sheep, goats and pigs)				
Poultmy and duction				
Poultry production	10.7%	24.49/	40.4%	40 / 9/
and sales of poultry	10.6%	24.4%	47.6%	47.0%
products (birds, eggs)				
Sale of animal				
products (milk,	9 20%	1.40%	16 7%	9.00%
curdled milk, meat,	8.20%	1.40%	16.7%	9.00%
etc.)				
Casual labour related				
to agricultural	28.5%	131%	10.5%	171%
activities	20.070	10.170	10.070	
Casual labour related	24.6%	6 60%	5 70%	12.0%
to non-farm activities	24.0%	0.00%	5.70%	12.0%
Skilled labour				
(tailoring carpontmy				
(tailoring, carpentry,	6.80%	0.90%	3.10%	3.50%
masonry, barber, auto-				
mechanic, etc.)				
Salaried work	3.90%	4.70%	16.2%	8.50%
Selling of natural				
resources (charcoal,	3.90%	19.2%	5.70%	9.60%
grass, firewood)				
Fish and sale of fish	5.80%	0.50%	0.40%	2.20%
Other petty				
trading/small business	I	0.000/	1 200/	1 200/
5	2.40%	0.00%	1.30%	1.20%

of handicraft etc.)				
Trade (commercial activity)	4.30%	1.90%	4.80%	3.70%
Cash-based transfer				
(UN/NGOs/Charitable	0.00%	0.00%	0.90%	0.30%
Organizations				
Services (hairdressing, catering)	2.90%	0.50%	2.20%	1.90%
Transport (Bodaboda)	5.80%	1.40%	2.60%	3.20%
Transport (minibus)	0.00%	0.50%	0.00%	0.20%
No income source	3.40%	12.7%	0.40%	5.40%

In Maridi, the interview with the CAD officer noted that low prices in the local markets were due to increase in supply of farm produce into the markets within the county, poor transport services to transport farm produce to bigger, external and viable markets in other parts of the country with high demands for farm produce, insecurity along roads to potential markets and poor storage facilities, all created barriers for the livelihood component of the project.

Indicator 1.2: HH conducting agro/pastoral and/or fishery activities with adequate competences and consequently reducing their financial vulnerability (the total expenditure for food items reduced by 10% by the end of the project

Based on SANI, narrative report updated in October 2021, household expenditure areas included food (50% of income), constituting a major expenditure item; health (19%); clothing (15%), education (10%) and debt servicing (7%). Expenditure on food was highest in Maridi (52%) as compared to Ibba (51%) and lowest in Mundri (42%) and also generally higher in FHHs (52%) than MHHs 48%).

The evaluation found that income spent on food is 63.3% with the highest percentage in Isoke at 71.4% compared to Ibba 65% and Maridi at 63.3%. This implies that the total expenditure on food has

increased, hence increasing financial vulnerability. This could be attributed to the high cost of living as a result of the high inflation rates currently in South Sudan.



Figure 4: Expenditure on food

The FGD with fisher flocks in Ibba Country confirmed the presence of fish farms/ponds constructed by Amref in there county in Nambiya called Baime fish firm which is the only functional one and Rumbe in Marko which is no longer functional. A female participant in the same FGD mentioned that there were 35 farmers (20 male and 15 female) who were actively involved in the fish farm project.

Another male participant in the same FGD mentioned that "...to a lesser extent, we have not benefited much from the fish project, imagine since its commencement in 2019, we only harvested once, a quantity of about 21kg which was all consumed by the group members and most of the fish are still very young". He continued to say that "...if you want this project to succeed, support farmers to establish more fish ponds to match demand".

The FGD also raised the issue of theft of fish which they said hindered the growth of the project, one male member had this to say "...we work hard but you realize each time there is mature fish, they just disappear from the ponds and this has discouraged many of us, we need security for the fish pond to stop theft". He concluded

In Maridi, the support to fisher folks was also mentioned by the CAD where the officer reported two fish farming groups in Kosobola supported by Amref and another fish pond at the Catholics church in

Maridi. Though the fish is, till at infant stages and on small scale, he did note that it was an important initiative towards improving nutritional status of the beneficiaries.

RESULT AREA 2: Improved access to water, health services and hygiene and sanitation education; reduced rate of waterborne diseases. Target population access clean water for household consumption, access water for agricultural purposes and to achieve an adequate diet by using low-impact cookers

The SANI project report (October 2021) indicated that over 15,000 people have access to clean water in Maridi/Ibba counties. Ten bore holes with an average population of 1500 persons. A total of 31 bore holes were rehabilitated by end of the project, while 2 new bore holes drilled during the project period.

The SMART survey Amref conducted in 2021 shows access to improved drinking water is at 67.5% in Maridi and Ibba at 84.1% as of April, 2021. The below Table shows that access to water for human consumption increased by 420.5% and 337.5% over the targets of 20% respectively. The SMART survey indicated that the majority of the populations are accessing clean water from bore holes followed by open dug wells. Only 2/10 (23%) households treated their water before drinking, with treatment higher in Maridi (26%) as compared to Ibba (20%) and least in Mundri (19%) and slightly higher among MHHs (24%) than in FHHs (23%). Water treatment methods included: use of chemical tabs or solution (54%); standing and self-straining (27%), boiling (17%) and filtering (11%). **Table 9: Achievements of indicators 1.1 to 1.3**

Indicator	Indicator	Target	Attained	Achieved against
				target value
1.1	Households accessed safe water	1,500 households	Over 15,000 people have access to clean water in Maridi/Ibba counties 10 bore holes with an average population of 1500.	100%
1.2	Boreholes	30	31 bore holes	100%

	rehabilitated	boreholes	rehabilitated by end of the project	
1.3	New boreholes created	2 new boreholes	2 new bore holes created during the project period	100%

On the main sources of drinking water, the findings of the survey were that, the most used were borehole (hand pumps) mentioned by 71.9% of household, surface water (51.2%), rainwater harvesting (33.3%) and public tap (32.6%). About 69.1% of respondents in Ibba mentioned the use of surface water (pond, earth dam, river and stream).

Table 10: Source of drinking water

Source of drinking water	County				
	lbba	Isoke	Maridi	Total	
Piped water into dwelling	11.1%	14.9%	19.7%	15.3%	
Piped water into yard/plot	8.20%	32.5%	2.80%	15.0%	
Public tap	12.1%	49.1%	34.7%	32.6%	
Borehole (hand pump)	68.6%	82.0%	64.3%	71.9%	
Protected well/spring	10.6%	30.3%	0.90%	14.4%	
Unprotected dug well/spring	31.4%	30.3%	3.80%	21.9%	
Pond, Earth dam, river, stream	69.1%	30.7%	55.9%	51.2%	
Rainwater harvesting (tank/barrel)	44.0%	33.8%	22.5%	33.3%	
Cart with small tank/drum	4.80%	0.90%	0.00%	1.90%	
Tanker-truck	0.00%	2.20%	0.50%	0.90%	

On time required to collect one water collection journey, 286 (44.1%) of the respondents cited Zero (0) - less than 30 mins walk from the house, while 243 (37.5%) mentioned 30 - 60 mins walk from house (Table).

Time required	County			
	lbba	Isoke	Maridi	Total
Zero (0) - less than 30 mins				
walk from the house	32.9%	16.7%	84.5%	44.1%
30 - 60 mins walk from house	54.6%	48.7%	8.90%	37.5%
More than 60 mins walk from				
house	12.6%	34.6%	6.60%	18.4%
Water piped in the house	0.00%	0.00%	0.00%	0.00%

Table 11: Time required for one water collection journey

On treatment of water, 357 (55.1%) of the respondents admitted that they do not treat water before drinking, while 291(44.9%) mentioned that they treat water to make it safe for consumption. Of those who treated, the majority were in Maridi, while 90.3% of households who did not treat water were in Ibba County. This implies that community practice on water treatment requires a lot of awareness raising



Figure 5: Water Treatment for HH use

The three most common methods used by households for treating water were; let it stand and settle (28.7%), boiling (27.7%) and adding bleach/chlorine.

In Maridi, the interview with the Community Leader revealed that whereas the project had addressed the correct issues such as ensuring that homes have latrines, improvement in sanitation, reduced cases of malnutrition especially among children. He continued to say that "... the presence of the Community Nutrition Volunteers (CNVs) who were conducting screening and referrals of the malnourished children to the hospital for further assessment and treatment has been a key success of the project and this should continue to eliminate cases of malnutrition completely". He however noted lack of clean water has remained a persistent problem in the community as people from Nambia are still collecting and using dirty water from Nambia stream.

Surprisingly, in Ibba with the highest percentage of people not treating water, the community Leader noted that "... before the project, the community used to drink dirty water direct from source, thanks to the SANI project, communities are now more aware of the need to treat water and have access to water treatment tablets which has greatly improved water quality being consumed". "....we now see a great reduction in cases of water born infection especially among children".

Table 12: Method of water treatment for safe drinking

Water treatment method	County

	lbba	Isoke	Maridi	Total
Boil	20.0%	33.3%	29.7%	27.7%
Add bleach / chlorine	45.50%	34.3%	3.50%	27.6%
Strain it through a cloth	15.0%	2.00%	0.00%	5.70%
Use water filter (ceramic,				
sand, composite, etc.)	0.00%	5.10%	0.00%	5.70%
Solar disinfection	0.00%	0.00%	0.60%	0.20%
Let it stand and settle	20.0%	2.00%	64.0%	28.7%

According to the Humanitarian Needs Overview (HNO, 2021), Forty-one per cent of South Sudanese households access their water from an unimproved water source. The highest proportion of households relying on surface water are in Upper Nile, followed by Jonglei and Central Equatoria. Every fifth person is unable to collect enough water for drinking, and every third reports insufficient access to water for hand washing. The availability and quality of water have shaped how households prepare food, which influences the nutrition status of families. Only 35 per cent of households have access to an improved water source in under 30 minutes without facing any protection concerns73 and 35 per cent of among the newly displaced population, and in areas hosting recently returned refugees and IDPs.

In Chahari, interviews were conducted with Water Management Committee members who revealed that they conducted mobilization for fencing of water points, they manage Household collection of finances for maintain the water points, cleaning around the water points, report any breakages to the authority and providing feedback to the community. One respondent noted that much as the WASH component has addressed a critical need, more still needs to be done in terms of ensuring that broken taps are fitted back. She continued to mention that"...while the contributions by HHs would help us to buy spare parts for the water system, most HHs dot want to contribute".

Indicator 2.4: Access to safe defecation increased by 10% during project period;

The findings of the survey conducted by the Amref South Sudan office throught the Safe Water Champions indicated that safe defecation is at 84% in the project area. The study shows that 16% of the population in the project areas still practice open defecation and there is need to continue with sensitization of the community to practice safe defecation largely.

The SMART survey report shows access to latrines, hand washing and use of soap were generally high while open defecation was low (16%). However, water treatment before drinking was low overall. Overall, 37% (Maridi), 39%(Ibba) and 54%Mundri of households did not meet the Minimum Sphere standards for WASH, standards for trekking time (less than 30 minutes), trekking distance (less than 500m) and queuing time at water points (less than 30 minutes) respectively.

When asked on whether the household has own toilet facility, 455 (70.2%) of the respondents answered yes with 97.1% and 86.0% in Ibba and Isoke respectively.

Household has toilet facility	County				
······	Ibba	Isoke	Maridi	Total	
Yes	97.1%	86.0%	27.2%	70.2%	
No	2.90%	14.0%	72.8%	29.8%	

Table 13: Household latrine ownership

When asked on the type of toilet facilities used by the household members, about 296 (45.7%) and 277 (42.7%) of the respondents cited pit latrine with no slab/open pit and traditional pit latrine (no water) respectively. About 34.4% of respondents mentioned the use of pit with slab, while 26.5% said they use open air defecation. Of those who said that they defecate in the open, the majority (78.9%) were from Maridi County. On the other hand the use of pit latrine with slab were more prevalent in Isoke (56.6%) and Ibba (38.6%).

The above finding is consistent with the FSNMS Round 25, which indicated that, the only counties reporting 90 percent or more households always defecated in latrines were Nzara (97 percent), Maridi (96 percent), Tambura and Ezo (95 percent), Ibba (91 percent) and Yambio (91 percent)

Table 14: Typ	e of toilet	facility used	l by household
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Type of toilet facility used by	County

households	Ibba	Isoke	Maridi	Total
Flush to piped sewer system	4.80%	4.40%	0.00%	3.10%
Flush to septic tank	3.90%	9.20%	0.00%	4.50%
Flush to pit latrines	6.80%	14.5%	0.00%	7.30%
Ventilated improved pit latrine	6.30%	14.9%	7.00%	9.60%
Pit latrine with slab	38.6%	56.6%	6.60%	34.4%
Composting toilet	2.40%	24.1%	2.30%	10.0%
Flush to somewhere else /				
don't know	4.80%	3.50%	0.90%	3.10%
Pit latrine with no slab/open				
pit	65.2%	63.2%	8.00%	45.7%
Traditional pit latrine (no				
water)	57.5%	83.6%	6.10%	42.7%
Partly) open pit (no roof or no				
wall)	26.6%	17.1%	9.0%	17.7%
Communal latrine	19.3%	3.50%	6.60%	9.60%
No Facility/bush/field	0.50%	1.30%	78.9%	26.5%

Result 3: Reduced malnutrition rate through enhanced health services and adequate community based strategies for nutrition; improved quality of primary health care and improved community sensitization so to increase the demand and the consumption for primary health care services.

Indicator 1.1: 30% improvement of FCS (Food Consumption Score) and HHS (Household Hunger Scale) among communities with least access to nutrition, hygiene and food security opportunities in the target locations;

Based on the 2021, SMART survey conducted by Amref, Ibba had most food secure (53% with Acceptable FCS) households as compared to Maridi (49.6% Acceptable FCS). The latter county had significant proportion of households with poor food consumption levels (26.2%). MHHs were better off (44.6% acceptable and 19.8% poor FCS) as compared to FHHs (41.3% acceptable and 17.4% poor FCS).

According to AVIS Ikwoto Multi-sector Survey of March 2021, the FCS had improved in the county as only 19% had poor FCS in 2020 while 48% in 2018. Only 33% of the county's population have acceptable FCS, 48% with borderline and 19% have poor FCS.

Based on the above two surveys, Ibba and Maridi Counties showed an over-achievement of 109% and 189% acceptable FCS, against project target values of 48.4% and 26.2% respectively. However, Ikwotos County registered an underachievement of 78% against the target FCS value of 41.9%.

Location	Baseline	Target Acceptable FCS	Achieved Acceptable FCS	% Achieved Against baseline value	% Achieved Against Target value
lkwotos	59.8%	41.9%	33%	-55.2% (44.8%)	-78.8%
lbba	69.2%	48.4%	53.0%	-76.6% (23.4%)	+109.6%
Maridi	24.2%	26.2%	49.6%	+205% (105%)	+189%

 Table 15: Food Consumption Score (FCS)

When asked on how they obtained their food in the past month, about 88.6% of household said they source their food from own agricultural production (crops and vegetables), and 53.5% rely on market purchases for their food. On the other hand, 32.4% and 26.8% households said that they obtained their food from livestock own production (meat, milk, eggs, poultry, etc.) and seeds stocks respectively. About 96.9% and 90.3% of households in Maridi and Ibba obtain their food from own agricultural production (crops and vegetables) respectively. On the other hand about 46.9% of households in Maridi

County source their food from livestock own production (meat, milk, eggs, poultry, etc.). Fishing was mentioned by 16.9% of respondents in Ibba compared to only 7.5% of households in Isoke.

Source of food (Multiple	County			
Response)	Ibba	lsoke	Maridi	Total
Own agricultural production (crops and				
vegetables)	90.3%	78.4%	96.9%	88.6%
Livestock own production (meat, milk,				
eggs, poultry, etc.)	35.3%	15.0%	46.9%	32.4%
Labor (paid in food)	28.0%	19.7%	13.2%	20.3%
Fishing	16.9%	7.50%	12.7%	12.4%
Hunting (wild animals)	26.6%	30.5%	4.40%	20.5%
Food assistance/aid	0.00%	21.1%	14.9%	12.0%
Seed stocks	39.1%	21.1%	20.2%	26.8%
Borrow/taken on credit	22.7%	37.6%	3.90%	21.4%
Bartered (exchange items for food)	7.70%	20.7%	1.80%	10.0%
Market purchase	32.4%	47.9%	80.3%	53.5%
Other (specify)	1.00%	0.50%	9.20%	3.50%

Table 16: Sources of food for households

As indicated in the below Table, 70.4% of household reported that adults consumed two meals in the previous day and that 50.8% of children ate two meals in the previous day. Of the adults who said that they ate two meals in a day, 88.7% and 75.9% were from Isoke and Maridi respectively. On the other hand about 54.6% of adults who reported eating one meal were from Ibba.

Table 17:	Number of	meals eaten	by adults and	children	the previous	day
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Number of meals	County			
eaten	lbba	lsoke	Maridi	Total
Meals eaten by adults				
One (I) meal	54.6%	4.70%	18.4%	25.5%

Two (2) meals	45.4%	88.7%	75.9%	70.4%
Three (3) meals	0.00%	5.20%	5.30%	3.50%
Meals eaten by				
children				
One (I) meal	3.90%	0.50%	9.60%	4.80%
Two (2) meals	64.7%	35.7%	52.2%	50.8%
Three (3) meals	22.7%	41.8%	34.6%	33.2%

The County Agricultural Department in Maridi noted that, farmers were provided with inputs such as seeds (kufu) and tools. The tools received included pangas, slashers, hoes etc. while the seeds were for maize in addition to training the farmers. He also said that "...the project provided some demonstration plots which has contributed a lot in further enhancing farmers knowledge and provision of nutritious food". The County Agricultural Department confirmed that, farmers were assisted with seeds such as onion, cabbage, eggplants, okra and tomatoes and the tools such as hoes, rakes and watering canes. These he said had addressed the correct issues especially in food security.

The KII with the chief in Maridi, revealed the project also contributed a lot changing health care seeking behavior and attitudes of the people in the community. He continued to mention that "… people can now accept health care services and can turn up for the nutrition services at the health facilities, which used not to be the case".

In terms of rating the performance of the project in reducing malnutrition in women of children bearing age and under 5, the Nutrition Officer at the CHD in Maridi mentioned that averagely the project did well especially in reducing cases of malnutrition in the county. He continued to say that "...more attention needs to be given to Mboroko and Don Bosco areas including addressing needs particularly in Moku and Maridi hospital.

The chief in Maridi noted that, the most useful component of the project was the nutrition, he said that "...the work of the CNVs was very visible within the communities as many screenings for under 5 and the Pregnant and Lactating Women (PLW) and the referrals of SAM and MAM cases in the community to the health facilities saved many lives, this component of the project must continue". In the same

interview, the chief noted that in the next phase, the project should be extended to cover areas of Darelsalam, Napere and Mablindi 2.

In Maridi, the KII with the Nutrition Officer at the County Health Department revealed that traditionally, pregnant women are not permitted to eat eggs, chicken and other types of bush meats, similarly under 5 and I year old children are also forbidden from eating some types of bush meats for example the red monkey.

When asked about challenges in nutrition, the County Nutrition Focal Person from the CHD mentioned that in Ibba County, some areas are very far for the CNVs to reach and therefore reducing the benefits of their outreach nutritional services, much as some bicycles were distributed, the distance to be covered remains massive. Similarly, he noted that when the bicycles break down, spare parts are unavailable to fix them. He continued to note that "...some care givers prefer to share nutritional supplies other than going to the health facilities to collect their own ration and as such you do not get the results you want from the children as they did not receive the recommended amount of supplies meant to help them recover".

In Isoke, the interview with the Director of Agriculture at the CAD revealed that the Demo plots and support with vegetable gardens supported in more than 5 locations e.g. Lonyore, Momoria, Bira, Hicuri etc made the agricultural component more useful. He continued to say that "...the project addressed the right issues, imagine community members were not growing vegetables before the project but now they are cultivating vegetables, and even supplying the markets within the county and Torit market". The Director also noted that some farmers were cutting trees to create farmlands trees without replacing them and this he said directly affects agricultural production.

The Medical Director in Isoke noted that Nutrition supplies for the children continues to remain a serious need and very important in ensuring that the national needs of malnourished children is addressed.

The KII with the CNV in Isoke noted that under 5 children defaulters, absentees and non-responding beneficiaries from the SC, OTP and FSFP sites often increased during the raining season. She continued to say that "... the main reason for them defaulting is garden work, some of them are providing casual labor in the gardens to earn a living".

In a FGD with farmer Group in Isoke, training was conducted for only 6 (2 females and 4 males) participants who were selected to participate on behalf of the 30 other group members in the

community, the training took four days and it was of importance. However, one of the male respondents in the same FGD had this to say "... some of us who did not attend the training and I believe we missed a lot because it's not the same getting trained by fellow farmers".

In Isoke, KII with the Agricultural Extension officer noted that after his training he did organise several trainings for farmers. He continued to mention that "... to make the trainings relevant, the project should provide ox-plough to open bigger land and as well as diversify the seed varieties provided to include groundnuts which were not in this project in addition to ensuring that the seeds are delivered in time to allow farmers start farming early".

In Isoke, FGD with the CNV revealed that they received training on screening and referral on nutrition, the training helped in enhancing referrals when a case is identified and also how to screening. She continued to say that "...there are only 3 CNVs in Isoke who are conducting awareness raising on nutrition and WASH in the communities, conduct measurements of children from 6-59 weeks and do referrals of CMAM cases and other cases

4.6 Impact

In assessing the project impact, this evaluation inquired on the perceived changes expressed by beneficiaries as well as changes that are observed as signs of change in the lives of the target beneficiaries which would lead to result and objective achievement by the end of the project as briefly presented below.

On benefits from the outputs and activities of the project, the project manager, said that the lives of the farmers changed meaningfully –e.g. use of green manure practice, adopted crop rotation techniques, use of liquid manure and mulching techniques in use, built storage –post harvest handling improved and use of quality seeds through –viability tests adopted and simple irrigation techniques to grow crops during draught/dry season scaled up

During a FDG with farmers from farmers groups in Isoke Payam (Ikwoto County) said that, AVSI project has helped the farmers a lot in terms of the seeds and the tools they received. The farmers were able to cultivate and produce enough farm yields to support their children with school fees and pay for other essential needs like food, clothes and many others. One of the participant said "I wish the project comes back again to support us more"

Similarly, a farmer group in Ibba County, in Western Equatoria State said, they benefited from the seeds such as onion, cabbage, eggplants, pulses, maize, kale, okra, hibiscus, red pepper and tools such as hoe,

rake, wheel barrow, panga, watering cans and axe that were distributed by Amref and the quality of the seeds and tools were of acceptable quality. In addition they were trained on good agricultural practices for production of nutrient dense food crops and both male and female were beneficiaries of the training. The group mentioned that the provision of tools and seeds strengthened their capacity in a way that, they were able to produce enough food crops for both consumption and sale on time and the therefore before the project, people were unable to produce enough crops but through the implementation of the project, food crops were in abundance.

During a FGD with a group of four women in Isoke Payam in Ikwoto County, they said that all of them received the cooking stove. One of the members testified that some of them also received some seeds like cow peas, tomatoes, eggplant, okra, simsim and Kale. We benefited from the project, through trainings conducted by AVSI and inputs like cooking stove and crop seeds. Yes, the group replied, the improved stoves simplified their cooking using charcoals and it saves time. According to AVSI Ikwoto Multi-Sector Survey of March 2021, about 59% of households uses stoves/Konun (low impact cooker), compared to only 24% uses in 2018.

The findings of the survey were that only 55 (8.5%) of respondents were provided with low impact cooker. For those who revived the cookers about 5.7% and 25.6% said that they benefitted a great deal and benefitted somehow respectively as shown in below Table.

Extent of benefits of low	County			
	Ibba	lsoke	Maridi	Total
Benefited a great deal	12.6%	2.20%	2.80%	5.70%
Benefitted some how	32.4%	31.1%	13.1%	25.6%
Did not benefit at all	45.9%	39.0%	59.2%	47.8%
Benefited a great deal	12.6%	2.20%	2.80%	5.70%
Don't know	15.8%	19.7%	10%	15.2%

Table 18: Access to and extent of benefit from the use of low-impact cooker

On the extent of benefits from the agro pastoral field schools, 49.3% of respondents said that they benefitted a great deal and 40.3% benefitted somehow from the outputs and activities of the APFS. Most of the greatest benefits of the APFS were registered by APFS in Ibba (63.7%) and Isohe (60%).

Response	Ibba	Isoke	Maridi	Total
Benefitted a great deal	63.7%	60.0%	24.1%	49.3%
Benefited some how	33.9%	40.0%	47.0%	40.3%
Did not benefit	1.60%	0.00%	27.7%	9.80%
Don't know	0.80%	0.00%	1.20%	0.70%

Table 19: Extent of benefits of th

In a FDG with fish pond beneficiaries in Ibba County, the members said that they benefited to a greater extend in a way that, they received training on how to feed the fingerling and harvest the fish. Tools were also provided to them such as hoe, panga, water cane, wheelbarrow, slasher, and axe that could support them in the project. The project changed their life in a meaningful way because they were able to change diet from the fish they harvested even if once, it was important in one's body. From the tools they received, it supported them in other activities like farming.

During a FDG with SWC in Maridi Central Payam, Maridi County, they said that through the SANI project, they acquired knowledge and improved practices on WASH and this enabled them to be instrumental in realization of the following changes in the lives of people in the communities as outline below:

- Access to safe drinking water has reduced health complications related to water borne diseases like diarrhea, typhoid etc. in the communities.
- The increased use of pit latrines in the communities and the observed reduced rate of open defecation.
- Home sanitation has improved as most households use garbage pits to dispose kitchen refuse, drying racks and lines, maintained clean cooking place, practiced regular hand washing, possess hand washing containers etc.
- Health complications related poor personal hygiene like worms' infections have also reduced.

- Food hygiene and environmental sanitation has improved.
- Safe water handling and storage improved. Water being kept in clean containers and covered to avoid contamination at households.

They said that the implementation of the water and sanitation, food security, nutrition and hygiene project was satisfactory. However, more still needs to be done as several locations and communities have no access to safe water due to lack of boreholes. Thus the communities are coping by accessing drinking water from open water sources like unprotected spring wells, streams etc. with high risk of infections.

CNVs in a FDG in Ibba County in Western Equatoria State mentioned that that they received training on health and nutrition from Amref and they benefited to a greater extent in a way that, the knowledge they received from the training, they were able to put into practice to the community. They sensitize the community on key health and nutrition messages especially on WASH on how to make drinking water safe by applying water guards before drinking. On hygiene they aware the community to always make sure their compounds and toilets are clean all the time.

The CNVs said they were trained on screening and referrals of malnourished children and PLW from the community to the OTP/TSFP sites, and they benefited in a way that, they acquired knowledge on how to screen patients suffering from malnutrition and refer them to the health facilities. One of the CNVs said that he is aware of the moderately acute malnourished (MAM) Pregnant and Lactating Women (PLW) being referred and treated at the TSFP nutrition facility and they benefitted to a greater extent by receiving CSB++ immensely, and the project has benefitted the under 5 in many ways, by improving their health status from adverse to constructive.

In Maridi Central Payam in Maridi County, CNVs during a FGD, they said that, they were trained in 2018 by Amref. The training covered SAM. MAM, ODEMA, MUAC and health and that they benefitted by gaining knowledge on health education, and how to measure and screen nutrition cases with the MUAC. According to them, the skills and knowledge they received from the training helped them in conducting sensitization sessions with the communities and transmitted key messages focusing on Covid-19, breast feeding, water, hygiene and sanitation. When asked on the possible impact of the messages they delivered on the practices and behavior of the communities on health and nutrition, they said that cases of malnutrition have significantly reduced in the community and that there were increased demand for nutrition services. According to the CNVs, their health care seeking behaviors

have changed. The members of the community feel empowered to seek care at the health facilities for their Under 5 children and Pregnant and Lactating Women.

During a FDG with CNVs in Isoke Payam in Ikwoto County, it was mentioned that AVSI trained the four CNVs on health and nutrition. As to the benefits of the training, they said that most of the CNVs had no knowledge about nutrition from anywhere, but after the training, running activities of nutrition in the community became easy. One of the participants said that, "he had no knowledge on nutrition but now he can train the community and facilitate topics related to nutrition with confidence". Furthermore the CNVs, said that they received training on screening and referral on nutrition, the training helped in doing referral when a case is identified and also how to do screening. Now we can do screening and even provide referral to the hospital and do follow-up. We also received some allowance during the training, it also helped us to support our selves to buy some essential things for our use.

During a FDG with SWC in Maridi Central Payam, Maridi County, the participants said that due to the outputs and activities of the SWC in WASH, the following observed changed were evident in the communities;

- Improved food hygiene: covering of food and use of paper bags to protect food from exposure to germs;
- Improved use of pit latrines and proper waste disposal practices.
- Hand washing has become part of daily life activity in the community.

By the adoption of these practices, they mentioned that the prevalence of water borne diseases like diarrhoea, dysentery, typhoid etc. in the community has reduced.

FDG with Water Management Committee members, in Chahari Payam in Ikwotos County found that, some training sessions were done on hygiene and sanitation to the community, this has helped to change the attitudes of more families to have safe drinking water and household/ personal hygiene. They said that the session for hygiene has changed the lives of communities in Chahari Centre through personal hygiene and home cleanness as observed by us water management committee members. The community also received training from a mentor and are now are able to use latrines.

The findings of a KII with a WASH Officer at AVSI Field Office in Isoke Payam in Ikwoto County indicated that the youth and women were trained on Income generating activities. Pregnant and lactating mothers were trained in home nutrition and food preparation and children under 5 are being given nutrition supplies. Farmers benefited by acquiring knowledge and skills in modern farming methods, tools and seeds. According to the Officer, the community and stakeholders are called for participatory

dialogue meeting twice a year, at beginning of the year and at the end of the year; this meeting was to plan for the year and to evaluate the year activities. During implementation, the trained CAHWs are engage in animal vaccination; County Agriculture extension workers are engage in provision extension service to the farmers.

According to the fish folks during a FDG in Ibba County in Western Equatoria State, they benefited to a greater extend in a way that, they received training on how to feed the fingerling and harvest the fish. Tools were also provided to them such as hoe, panga, water cane, wheelbarrow, slasher, and axe that could support them in the project. The project changed their lives in a meaningful way because they were able to change diet from the fish they harvested even if once, it was important in one's body. From the tools they received, it supported them in other activities like farming. The fish pond group mentioned that they harvested fish but only once, since the project started. According to them the harvested tilapia fish was very delicious, it was not sold but rather consumed by the group members, since it was the first time they harvested, there was no need to sell before testing so they decided to eat the first harvest.

The findings of a FDG with fish pond beneficiaries in Maridi County were that, the group harvested 136 pieces of fish; approximately 17 kilograms of fish in September 2021 after a spell of 2 years. According to them, the fish were 9-month old fish but were still in a small size and that this harvest was overdue as fish are normally harvested after 3 months. Fish matures in this period of time when fed well on recommended feeds types, quantities and quality. With this harvest, they said the group earned 17,000 South Sudanese Pounds only from the sale of this first harvest fish. There are supposed to be 4 cycles in a 12-month period of growing fish. This translates to about 4 harvests and sales in a year. This farm harvested once in almost 8 cycles. The fish folk's group participants were the target beneficiaries of the fish farming project. According to the above participants, the fish pond located in Kosobola Boma in Maridi Central Payam is managed by a women group. They said that the group received support from Amref in form of the seeds/fingerlings provision, trainings and tools such as hoes, spades, rakes, panga, wheel barrow and gumboots and some which have worn-out.

According to the responses in FGD with 5 a farmer group in Maridi Central Payam in Maridi County, there are boreholes in specific locations and communities. That means, there are other locations/areas that have no boreholes. In some areas, they community members access water from a school borehole, while others depend entirely on unprotected streams and spring wells. According to the participants, the rehabilitated water points have increased access to safe drinking water in the community. Diseases

related to water (water borne) diseases such as diarrhea, typhoid etc. among the Under 5 children and women have also reduced. Time and distance to water sources have also reduced significantly in some of the communities. Women spend less time to fetch water.

During a KII with an Extension Officer with the Ikwotos County Department of Agriculture, he mentioned that he had attended several trainings from different Organization including AVSI for 10 days, FAO for 21 days and Caritas for one month. All the topics were related to his field of work and it was helpful to transfer the same knowledge and skills to the farmers, He indicated that AVSI supported him as the extension officer with monthly incentives to help his family while carrying the activities for the farmers. With the skills and knowledge he acquired, he trained farmers in land preparation, nursery bed establishment and post-harvest management, row planting and spacing and early planting and weeding, storage management, thinning and crop filling.

According to the Director at the County Department of Agriculture in Ikwotos County, The County Department benefited indirectly, however support of stationary, extension workers given some bicycles, participating as facilitators in the trainings and receiving incentives during the training are benefits got from the project. The Director remarked that, ""If the community have benefited from the funding then County office has achieved or benefited from it, however during training, facilitators are always called from the county office and they are given facilitation fees which helps them"

During a KII with the Director in the County Agriculture Department (CAD) in Maridi, the incumbent said that, the Department (CAD) did not benefit from the Amref project as there was not any direct support to the County. However, some farmers received training and capacity building during the implementation of the project. The farmers benefited from the produce that they produced. They have understood the use of modern farming practices that could increase crop production have become more skillful in crop production and more aware of seasonal calendar as they plant during the appropriate season. This is a very good practice. According to the Director, the reliance of farmers on less effective traditional methods of farming is being abandoned. Farmers were trained in modern methods of farming and this resulted in increased crop yields and productivity. Food production has also increased in the communities, and livelihoods have improved as there are adequate food stocks in the communities. About 70% of households have increased their food production in the communities. Trainings of farmers and groups significantly contributed to this increase in food production. However, the Director stressed that more training are still needed for most farmers in the community.

The interview with the CHD in Ibba revealed that, he was not personally involved, however mentioned that four of his Health workers including the Nutrition officer and Nutrition assistant were trained by the project in identifying children with MAM and SAM cases in the community. He continued to say that "...as a result of the training the trained personnel were able to manage critical severe malnutrition cases than before the training". He also said that "...from my understanding, the project is engaged in Health, Hygiene and Nutrition for children under 5, pregnant and lactating women as a way to promote health, nutrition and WASH Services"

Similarly, the same interview with County Medical Director in Ibba County revealed that CHD received Register Book of very good quality which the health facilities were using to keep records.

The hospital is lsoke in lkwoto County is involved in running some of the activities of SANI project like nutrition, said Medical Doctor/Hospital Director. He added that, AVSI has a lot of presence at the hospital with different projects including the SANI project which ended; he continued to mention that "… we have been working together in nutrition activities with AVSI, all the facilities such as Outpatient therapeutic center (OTP); Therapeutic Supplementary Feeding Program (TSFP) and; Stabilization Center (SC) are available in the hospital, with AVSI support". The Medical Director said that, the tools provided by AVSI are the once used at the facility currently. AVSI supported the hospital with reporting tools, some the reporting tools are been used by the CNV and nutrition supervisors at the hospital.

He continued to mention that the CNVs have gotten the best training, they have been doing their activities both at the facility and during outreach, the hospital sometimes has over 100 patients and they are attended to by the CNVs with awareness raising messages on nutrition and available services at the hospital. All in all the CNVs have contributed immensely to improved health and nutrition care and services at the hospital and in the communities.

During a FGD with members of the Water Management Committee in Ikwoto County, one female respondent mentioned that, ".....the trainings were done by AVSI on hygiene and sanitation practices and management of the water in the community, sanitation and hygiene at the home stead and, planting of vegetables near water point". They said that they benefitted from the water project, because now it is easy to collect water from the taps than from hand pump. The same water is used for irrigation/ kitchen garden. Accordingly, they said "......the WASH components really helped us, it has eased the time we always spend in movement for 5 hours but now we have a distance of 5 to 10 minutes to collect safe water".

4.6 Sustainability

Sustainability is related to whether the positive outcomes of the action and the flow of benefits are likely to continue after the project funding ends. Sustainability is an essential criterion to measure long term benefits of a project after it has ended.

4.6.1 Institutional sustainability

4.6.1.1 County Department of Agriculture

According to the County Department of Agriculture in Ikwotos County, the County Department was supported with stationary, extension workers were trained and given some bicycles. The capital investment in form of bicycles is a major aspect of sustainability for extension services provision to the community as it has enhanced mobility for extension workers. The extension workers now have the necessary experience in participating as facilitators in the trainings organized by AVSI. Therefore, the knowledge and skills they acquired from the project coupled with the improved means of transport will enable them to continue providing outreach extension services to farmers. Nonetheless, the State Ministry of Agriculture and development partners should consider regular refresher trainings for the extension workers and the provision of some motivation in form of monthly cash incentives and/facilitation fees so as to consolidate and sustain the gains made by the ended SANI project

4.6.1.2 County Nutrition Department (CND)

The County Nutrition Department coordinates nutrition services at the County level, supervising Nutrition Assistants in the County health facilities, provision of mentorships to the Nutrition Assistants, reporting, requisition of nutrition supplies. In addition the CND nutrition staff now regularly (after every three months) participate in joint monthly supervision involving Amref, and Health Pool Fund, and in some counties the partners involved in the supervision includes, the WFP, UNICEF and CHD. There is the need to continue providing refresher training for the nutrition assistants at the health facilities to upgrade their skills. In addition it is imperative that nutrition supplies be provided to the CND for distribution to the health facilities managed by the government to ensure the sustainability of nutrition services that were made possible with SANI project funding.

4.6.1.3 Health facility (PHCC/PHCU)

The SANI project supported the government health facilities such as the hospital in Isoke in Ikwoto County, the project supported the Outpatient therapeutic center (OTP); Therapeutic Supplementary Feeding Program (TSFP) and; Stabilization Center (SC) at the hospital, provided CMAM and reporting tools. Adequate drugs and transport for emergency cases from the distant Payams and nutrition suppliers for the children were also provided by SANI project. In addition the CNVs at the hospital

were trained by AVSI and given monthly incentives. With the knowledge and skills the CNVs acquired during involvement with the project, it is believed that they will continue to provide services at the health facilities and during outreach expeditions such as transmitting messages on nutrition.

4.6.1.4 Water Management Committee

The SANI project made spare parts available for common Indian Mark II hand pumps and supported the central role of the Ministry's expertise in carrying out repairs. For each water point rehabilitated, the project has newly formed or updated the respective water management committees. The basic training provided to the water management committees on hygiene and sanitation practices is an aspect of sustainability for the continuation of water provision to the communities in the target locations.

Funding for future operations and maintenance of the water points could as well be enhanced through the collection user's fees from households and other beneficiaries. However, issues such as the availability and affordability of required spares parts for the boreholes, and the limited skills of the water management committees in the maintenance of the water yards will pose obstacles and hinder the progress of in the provision of adequate and safe water to the needy communities. Hence the need to provide refresher training for the members of the water management committee, and select and train some of the members as hand pump mechanics and provide them with basic tool kits and backstopping support to ensure sustainability of the water supply infrastructure. Amref, AVSI and the State Ministry of Rural Water supply to expedite the provision of spares parts for the water yards and ensure regular technical backstopping and supervision of the water infrastructures.

4.6.2 Sustainability of impacts to beneficiaries

It is expected that all trainings provided to beneficiaries including crops and vegetable farmers, fisher pond operators, ox traction beneficiaries, and extension workers, community nutrition volunteers, safe water champions, community health worker, and water management committees by Amref and AVSI technical experts will ensure sustainability. However, several management and program issues have an impact of the project's sustainability and will determine sustaining activities after August 2021. Details of such major sustainability aspects are given below:

4.6.2.1 Crops and vegetables farmers

Farmers were trained in improved agronomic practices and on vegetables production including establishment of nurseries and transplanting of seedlings into gardens. The SANI project has helped the farmers with different types of seeds and tools, the tools and equipment provided included; hoes, Pangas, rakes and sickles for cutting grasses, ox ploughs, wheel barrows and machetes; crops and

vegetable seeds distributed included maize, cowpeas and beans, water melon, onions, cabbages, carrot, kale, eggplants and amaranthus. The trainings provided as well as the hand tools and equipment availed to the farmers comprise a major aspect of sustainability for the SANI project. Farmers have been capacitated and it is believed that they will continue to cultivate using the tools and equipment they received from the project and produce crops and vegetables for home consumption as well as for the market.

Many of the staple crops and vegetable products such as maize, cowpeas and beans, water melon, onions, cabbages, carrot, kale, eggplants and Amaranthus, targeted by the project are in high demand locally. Farmers are expected to sell some of the agricultural produce so as to earn cash incomes for purchase of food items not produced by the household, and for meeting other household expenditures on health, education and investment in income generating activities. Amref, AVSI and partners will have to support farmers with some seeds and tools and refresher training on improved crop and vegetable husbandry practices to sustain the gains of the SANI project. In addition and especially for the ox plough technology, if there is no ready supply of additional ploughs and spare parts there is the danger that the future of ox plough progress in the target locations could be stalled.

Furthermore, to strengthen the bargaining powers of the crops and vegetable producers vis-à-vis the middlemen, and to realize economies of scale, Amref, AVIS and the County Department of Agriculture should consider organizing farmers into cooperatives and/producer groups.

4.6.2.2 Agro-pastoral field schools (APFS)

12 active APFS (7 in EES; 5 in WES of which 2 are dedicated to fish farming and 3 to agriculture) have been established and supported. In the Ikwoto area, the demonstration fields have been fenced and have witnessed the introduction of innovative irrigation technologies (sprinkler and drip irrigation) and the provision of "climate smart" equipment (solar pumps) in favor of the APFS. These were made possible through the co-operation between the SANI project and other projects in food security funded by FAO.

In Eastern Equatoria (June 2020), vegetable seeds of different varieties and types were procured and distributed than those distributed by FAO and calibrated on the requests and interests expressed by the groups. As an example, the project distributed 'black beauty' eggplant, 'California wonder' peppers, 'Copenhagen' cabbage, 'Nantes' carrots, 'red creole' onions, 'Pusa Sawani' ocher and 'Cal j' tomatoes.

In Maridi and Ibba, the APFS were established with the cooperation of the community who provided material land and local materials and labor for the physical infrastructure. The five APFS in the Ibba and Maridi area are protected from animals by a perimeter fence of barbed wire.

Amref trained 81 fish farmers in fish pond management, feed formulation and fertilization of the ponds as required. The fencing and piping of the fish pond at lbba was done as required by the local technicians. A number of agro-tools have been procured and distributed to the farmers in lbba and Maridi Counties. Tilapia fingerlings and feed were procured and initially distributed to the fish ponds. The provision of training, physical infrastructure in the form of fish ponds and fencing and coupled with the stocking of the fish ponds with fingerlings is an aspect of sustainability for the fish ponds operation. For with these support they are capacitated to continue producing and harvesting fish from the excavated fish ponds even when external funding has ended. Some of the harvest will be consumed to provide nutritious food for households and the rest will be sold to fetch income for the fish pond enterprises operators. Nonetheless, there is the need for the State Ministry of Agriculture and Forestry and State Ministry of Animal production and the relevant County Departments to monitor the APFS fish ponds and demonstration gardens and provide regular technical backstopping to ensure the sustainability of the SANI project investment. The state ministry could as well strive to link the farmers groups and fish pond enterprises with micro credit institution for access to loans they may require for their operations.

4.6.2.3 Community Nutrition Volunteers (CNVs)

The SANI project trained and deployed 65 community nutrition volunteers to undertake malnutrition diagnoses and treatment at the health facilities in Maridi and Ibba Counties. In Year 3, an average of total of 2140(M834/F1306) were reached out by the CNVs in the project areas. Other achievements, include training of 65 community volunteers to conduct community sensitization, MUAC screening in the community, strengthen campaign to promote de-worming and Vitamin-A supplements to children in the community. They have been able refer their clients/patients and follow them up from the community to the health facilities. These have increased the health care uptake in the community and caused the positive attitudes change amongst the community member to seek health care from PHCC/U and the hospitals around the project areas worked alongside health facilities with nutritional services in the county. Volunteers received a monthly incentive to follow screening visits and infant malnutrition cases in the community. With the SANI project, the 35 NVCs received five-day training, together with the 15 nutritional assistants supported in synergy with a UNICEF project in Ikwoto on CMAM and IYCF protocols to strengthen their skills in addressing cases of acute malnutrition of infants . From the beginning of the activity, daily screenings and periodic individual and group consultations by the CNVs have also been performed. The trainings and other capacity building initiatives for the CNVs is an aspect of sustainability of the SANI project which will facilitate the continuation of health and nutrition services at the health facilities and in the communities.

However, to ensure the sustainability of the outputs and activities of the SANI project, it is imperative for the concerned line ministries and county departments to continue providing material and financial to health/nutrition facilities, regular technical backstopping and cash incentives to CNS when undertaking screening visits and infant malnutrition cases in the communities to ensure continuation of health and nutrition services provision to PLW and under 5 children and other vulnerable groups in the communities.

4.6.2.4 Safe Water Champion (SWC)

The project was able to train Safe water champions (SWC) in year I, who have been able to scale up WASH activities in term increase of access to clean water sources, increased community sensitizations, sensitized the community to reduce on open defecation, and generally better hygiene sanitation practices in the project areas. In the second year, the project supported the monitoring of domestic hygiene conditions through the involvement of 280 SWC - Safe Water Champions located in Maridi, Ibba and Isoke. The SWCs supported by the local WASH Coordinators (CHD in Maridi) conducted a baseline on a target of 5,600 families (approximately 39,000 people indirectly reached) and subsequently supported them through a weekly path (12 weeks in total) of improving hygiene habits at home. At the same time, the project promoted the conduct of tests of water for human use in the areas covered by the SWC campaigns. Similarly, the SWCs carried out targeted distributions of chlorine (372,000 tablets distributed to 5600 families) and soap to support the areas that indicated the most significant incidents of drinking water pollution. It is assumed that, the SWC being directly linked to the communities will continue to conduct awareness raising sessions on WASH, hygiene and sanitation at community level especially during social gatherings like weddings and festivities in the communities to sustain the outputs and activities of the ended SANI project. However, there is the need for the relevant line ministries, AVSI, Amref and development partners to continue providing material support and technical backstopping to the County Nutrition Department, the County Health Department and the CNVs to ensure provision of WASH, health and nutrition services to PLW, Under 5 children and other vulnerable groups in the communities.

4.6.2.5 Extension Services provision

To ensure that the extension workers deliver quality trainings to the farmers, the four extension workers were provided extra skill training by a consultant from AIB based in Italy and again by the Agriculturalist hired by Amref. These were able to enrich the extension workers with extra skill and knowledge which they have impacted into the farmers for better farming techniques and productivity. As these extension officers have direct link with farmers in target and non-target sites, they will continue to

raise awareness and train them on best agronomic practices & IPM (Including Integrated Pest Management and Climate Smart Agriculture) even after project end. AVSI, Amref and development actors including the government should consider more capacity building support to extension workers including technical training and facilitating their mobility.

4.6.2.6 Safe water supply provision

SANI project installed boreholes in Maridi/Ibba to increase access to clean water, repaired boreholes. The installation and rehabilitation of the boreholes and the basic training for the water management committees on management of the water in the community and sanitation and hygiene in the communities is an aspect of sustainability for the water supply to the communities. However, issues such as the reliable supply of spares parts for the water infrastructure, and inadequate capacity of the water pump technicians will hamper the sustainability of water supply to the communities who lack adequate access to potable water supplies. Hence, the need to train and refresh hand pump mechanics, provide them with basic tool kits and backstopping support to ensure sustainability of the water supply infrastructure. Amref/AVSI and the State Ministry of Rural Water supply to expedite the provision of spares parts for the water regular technical backstopping and supervision of the water infrastructures.

4.6.2.7 Production_of improved stoves

The SANI project procured ICS stoves and distributed to 150 household's members in Eastern Equatoria State. A survey conducted by Amref Health Africa in South Sudan in the framework of the SANI (AID 011449) project, in August 202 found that, 75% of the households reported using the stoves on a daily basis, only 25% reported rare use; due to their engagements in farming and other economic activities that limits their stay at home in most cases.

During the last year of the project and in the reported period, a workshop was set up by the project for the production of 200 improved low consumption ICS stoves, and training was conducted for 30 men on the production of low emission and consumption stoves (ICS) to be distributed to repatriated refugees through integrated programs. The group had previously (2018) benefited from training for blacksmiths and therefore possessed the skills basic for metalworking. It is believed that, the training for the metal works technicians coupled with the materials provided is an aspect of sustainability of the SANI project.

With the material support and capacity building for the technicians, the workshop is expected to produce low consumption ICS stoves and market them to clients and households. However there is the need for monitoring and technical backstopping by the respective technical departments in the relevant line ministries to monitor the production of the stove to ensure they are made according to the standard specification and quality. There is also the need for the concerned line ministry to lobby with finance service providers so as to guarantee loan access to the workshop producing the low cost stoves to ensure their sustainability.

4.6.2.8 Health facilities (PHCC/PHCU)

The 15 health centers supported in the lkwoto area were equipped with nutritional educational material and equipment necessary for the work of the CNVs for nutritional screening. These include: RUTF tests, OTP admission cards, CMAM consultancy cards, water and sugar protocols, in addition to supplies and equipment essential for the correct administration of RUTF and nutritional supplements. This improved the functioning of the structures and facilitated the implementation of the services. Amref trained 65 CNVs on the CMAM. The CNVs were equipped with MUAC tapes, with ministerial reporting tools. Amref also supported two campaigns to eliminate intestinal parasites from children, and to administer vitamin A. In addition, Amref trained 20 government health workers operating on a permanent basis in the dispensaries between Ibba and Maridi. The 5-day training focused on the CMAM protocol and the implications of nutrition in the pre- and post-natal period. The Dheart devices have been distributed to the selected hospitals in Maridi and the eligible operators are due to undergo training on the use of the devices. Therefore, equipping of the health facilities with essential supplies and equipment coupled with training provided to health staff is an aspect of sustainability and will enable the CNVs and health staff to continue providing health and nutrition services to PLW and Under 5 children.

5 LESSONS LEARNT AND RECOMMENDATIONS

5.1 Lessons learnt

In the following sections, we discussed the main lessons that can be drawn from the project experience

Continued refresher trainings for the fish and agro-pastoral farmers have always motivated the farmers and they have remained active and productive largely.

Working with motivated community leaders and role models in engaging youth was very effective in mobilizing the community to participate in community intervention and working with them to participate in community activities have been effective through mobilizing them to be active member of the community services or projects largely.

Adoption of the crops and vegetables farming and goats rearing is likely to continue in the communities after the project. Vegetable growing is a very lucrative enterprise as there is high demand for vegetables in the local markets.

Transitions from group farming to role model farmers in the communities; individual gardens are better than group garden with the management while group garden is not effective in term of management.

The conflicting approaches of the different partners with regards to the provision of incentives in cash for work and grants in their projects, negatively impacted on other partners with different approaches.

The use of the CNVs from the health facilities proved to be very effective as they already have basic knowledge in health and nutrition.

The provision of cash incentives to CNVs for outreach health and nutrition campaign in the Payams and Boma motivated them to effectively carry out their services to the rural communities.

The Safe Water Champions were identified and selected from the communities and since they are part of the communities, they have been very effective in monitoring water conditions at the household levels. In addition they were able to create awareness messages on WASH, health and nutrition to their communities. It became evident that the establishment and training of the water management committees on the maintenance of water infrastructures have contributed to the efficient provision of water supplies to the communities. The committees were instrumental in conflict management at water yards, monitoring the operation of water points, setting by laws, mobilizing for cleaning, inspecting the systems of the pumps and reporting any faults to the rural water departments and concerned NGOs.

5.2 Recommendation

The project should solicit for more funding to extend the project to further build the capacity of more farmers to adopt modern techniques in farming for better yield

There is need to have more APFS in the area, increase marketability, strengthen operation research, research on disease and application of agro-chemicals to improve household incomes

The government and development partners should seek for ways and means to improve road networks for farmers to access market easily. Approaches such as food and cash for work modalities for construction and rehabilitation of market access roads have proved to be successful in South Sudan.

Amref Italy and the partners should lobby with the relevant line ministries and county department for rehabilitation and construction of community access roads (bridges/culverts) that hinder farmer's access to markets during the rainy seasons. The access roads could provide unhindered access to services for farmers in the communities and will improved food security and income levels of households.

Improvement in the delivery of farming inputs (tools & seeds) to the farming groups and individual farmers in the county. It should be done timely and in right quantities and desired qualities. Most of the seeds were not viable; they were reported to have low viability and germination rates. Hence the need for seed testing to ensure good quality seeds are provided in the right quantities to farmers

The State Ministry of Agriculture and Forestry to ensure partners always consult the County Agriculture Department (CAD) to ensure quality supply and distribution of inputs (seeds and tools) to farmers' groups in the county. The county should recommend the best seeds and tools well suited for the environment. Without consultations, partners will always procure and distribute poor quality seeds which are at most cases not viable and have very low germination rates.

Conduct more training for extension workers, farming groups and individual farmers in the community to increase productivity and improvement in food security. Refresher training of extension workers for enhanced agricultural, livestock and fisheries production and productivity.

Amref Italy and the partners should train and coach farmers to observe adherence to the seasonal planting or cropping calendar (March – July and August – December) in the county to boost crop productivity and incomes and change the livelihoods of the farmers.

Amref Italy and the partners should first consult farmers on types of crops they want to grow so as to supply appropriate seeds demanded by them.

Lobbying with relevant local authorities and market actors for improved market outlets for farmers produce.

Amref Italy and the partners to consider the establishment and support to farmers cooperatives and unions for input procurement and provision to members and to strengthen marketing bargaining positions vis-à-vis with market actors such as middlemen.

Conduct more training to build the capacities of farmers on agronomic practices and vegetable growing, the farmers have to be trained on how to grow vegetables like tomatoes, onions, cabbage etc. The project try approaches such as model farming.

Continued support to fish pond farmers through the provision of fish feeds and fertilizers and fishing nets. This will be in addition to further training in feeds formulation, production and processing.

Creation of a water way for easy draining and refilling of the fish ponds. There should be some provisions to allow water to flow in and out of the fish pond.

Establish Safe Water Champions (SWC) in all Payams in the county, train/refresh them on water quality testing and the provision of a water quality test machines and reagents.

Provision of transport services to the Safe Water Champions, bicycle would be appropriate to facilitate the work of the Safe Water Champions, and the provision of visibility materials.

Assist the communities to construction of households pit latrines; provide pit excavation tools and concrete slabs and technical advice.

Training of water user committees (WUC) in the community on WASH and health and the operation, management and maintenance of the water facilities

Many farmers cut trees without replacing them and this directly affects agriculture production, therefore, there is need to integrate tree planting in the project.

5.3 Conclusion

SANI project made significant achievements in the implementation of the project activities and registered great successes over the period. Basically, the project has been able to train Safe water champions (SWC) in year I, who have been able to scale up WASH activities in term increase of access to clean water sources in the region, increased community sensitizations, sensitized the community to reduce on open defecation, and generally better hygiene sanitation practices in the project areas. In the same period, AMREF has constructed four VIP latrines, three in year I of the project and one at Maridi hospital in year III of the project. SANI project have drilled 2 boreholes in Maridi/Ibba to increase access to clean water, repaired ten in year II and have repaired more 6 in year III. Over period over 260 water samples from households and ten from selected water points have been conducted to ensure the community access clean water or in some cases distributed chlorine tabs to treat their water before consumption as it were the case in the past.

The project set up Agro-field schools in 5 sites out of the target of 3 as was originally pre-set, this was as a result of community interest to participate in farming as major economic activities and reduce on food insecurity in their own locality. They were able to reach out to 167% households above the target with quality seeds and other assorted agricultural inputs for both the arable and fish farmers in the areas. Amref was able to train more 62% above the target of 50 of the fish farmers to scale up fish farming in the areas and have sustainable farming in the areas. In year III, Amref refresh trained 81 fish farmers in fish pond management, feed formulation and fertilization of the ponds as required. More so, in order to ensure the extension workers, deliver quality trainings to the farmers, the four extension workers were provided extra skill training by a consultant from AIB based in Italy and again by the Agriculturalist hired by Amref These were able to enrich the extension workers with extra skill and knowledge which they have impacted into the farmers for better farming techniques and productivity.

Other achievements, include training of community volunteers to conduct community sensitization, MUAC screening in the community, strengthen campaign to promote de-worming and Vitamin-A supplements to children in the community. They have been able refer their clients/patients and follow them up from the community to the health facilities. These have increased the health care uptake in the community and caused the positive attitudes change amongst the community member to seek health care from PHCC/U and the hospitals around the project area.

6.0 ANNEXES

Annex I: Analysed quantitative data

Annex 2: Data collection tools

Annex 3: Raw Kobo data