

ANNEXES



ANNEX 1: DETAILED TERMS OF REFERENCE AND SCOPE OF WORK

INTEGRATED COMMUNITY BASED NUTRITION REHABILITATION PROJECT (ICON) – (9 ACP MAI 020/01/04) (2007 - 2009)

TERMS OF REFERENCE FOR THE END OF PROJECT EVALUATION

I. PREAMBLE

CARE is an International Relief and Development Organization operating in over 70 countries globally. It aims at reaching and helping the poor and the marginalized. In Malawi, CARE started its operations in 1998, and has since grown its activities in size and programming.

In 2006, through its partner NGO – CARE Deutschland-Luxemburg, in response to the “Call for Proposal” by the European Union, CARE Deutschland-Luxemburg was awarded a three year contract to the tune of €1,527,612.44 to implement the Integrated Community Based Nutrition Rehabilitation Project (ICON) in two Districts of Ntchisi and Salima. 2 Traditional Authorities (T/As) in Ntchisi and 3 T/As in Salima District are targeted reaching a total of 154, 209 beneficiaries between them largely the under five children, pregnant and lactating mothers. The project is being implemented in Malawi through a partnership of CARE Malawi and the NGO “Work for Rural Health” (WRH) in collaboration with the host district Assemblies of Ntchisi and Salima.

The ICON project ends on 31st December 2009, CARE would like to use part of the funding to undertake an End of Project Evaluation of the ICON project by engaging an independent team of professional consultants in Rural Development, Food Security, Nutrition, Public Health and Participatory Extension methodologies. The team of consultants will carry out the evaluation within a period of six weeks including preparations, data collection, processing, report compilation and submission of the report.

2. BACKGROUND TO THE CONSULTANCY

Integrated Community Based Nutrition Rehabilitation Project is a three year €1,527,612.44 project funded by European Union which started on 1st January 2007. CARE implements the project in partnership with Work for Rural Health (WRH) and Ntchisi and Salima District Assemblies. CARE is responsible for the overall implementation of the action. The project aims at strengthening communities and local institutions to effect sustainable improvements in nutritional status through food security, health and caring practice interventions.

The project revolves around the premise that chronic malnutrition can be addressed better by improving food availability, access and utilization simultaneously. The primary beneficiaries of the project are children under five, pregnant and lactating women, parents/care givers and food insecure households. The project also targets and builds capacity of local institutions responsible for nutritional security.



The Project covers the following five Traditional Authorities with their target beneficiaries in brackets: In Ntchisi district, T/A Chilooko (60,227 beneficiaries) and T/A Malenga (30, 437 beneficiaries). In Salima district; T/A Kambwiri (20,752 beneficiaries); T/A Pemba (15,134 beneficiaries); and T/A Ndindi (27, 659 beneficiaries).

ICON focuses on i) Improving the capacity of mothers/caregivers to prevent malnutrition; ii) Improving hygiene and sanitation facilities and behavior at community level; iii) Strengthening understanding of key health care practices of children under the age of five years, pregnant and lactating women and those infected with HIV and AIDS; iv) Strengthening household food security through diversified foods and enhanced crop production; v) Increasing food and livelihood security of vulnerable households by establishing Village Savings and loans groups at community level; vi) Strengthening capacity of local institutions to implement nutrition related programs.

3. OVERALL OBJECTIVE:

- Empower community and local institutions to effect sustainable improvements in nutrition status of children under five

4. SPECIFIC OBJECTIVE:

- Improved and sustained nutrition status of children under five in Salima and Ntchisi districts

5. EXPECTED RESULTS (ER)

RESULT 1: Improved capacity of mothers/ carers to prevent malnutrition

RESULT 2: Improved hygiene and sanitation facilities and behavior at community level

RESULT 3: Strengthened understanding of key health care practices of children under five, pregnant and lactating women

RESULT 4: Strengthened household food security through diversified foods and enhanced crop production

RESULT 5: Increase food and livelihoods security of vulnerable households by establishing village savings and loans groups at community level

RESULT 6: Strengthened capacity of local governance institutions to design, implement, monitor and evaluate nutrition related programmes

The programme employs various proven approaches and concepts that include:

- Participatory Learning and Action (PLA) techniques to engage all key stakeholders in problem identification, planning and undertaking programme activities to enhance ownership.
- The Farmer Field School (FFS) approach is also utilized to enhance agricultural production and encompasses a number of appropriate extension methodologies and technologies.
- Positive Deviance Hearth (P/D Hearth) approach is applied to rehabilitate, maintain and enhance the nutritional status of vulnerable groups.
- Village Savings and Loans also serve to improve economic status of communities that would in turn contribute to strengthened livelihood security.
- Integrates Participatory Hygiene and Sanitation Transformation (PHAST) approach to enhance good health and nutrition within the communities.



- Promotes learning within the project between the two districts and other similar organizations as well as foster good programming practices through the establishment and support of technical working groups and participation in various forums.

6. OBJECTIVE OF THE CONSULTANCY

The main objective of this assignment is to assess the overall performance of ICON Project against set objectives and baseline bench marks. The evaluation will also assess the effectiveness of ICON's implementation strategies and approaches to achieve set goals within the project life span.

I. Some Specific Activities To Be Carried Out

In collaboration with ICON staff, the consultant will undertake the following:

- i. Perform a nutritional assessment of the under five children in order to determine current nutritional prevalence of the area to compare with the baseline.
- ii. Assess the food security status in the project area in order to measure the progress of the project interventions against baseline. This may involve establishing production trends, availability and accessibility of food in the area.
- iii. Assess the knowledge, attitude and practice (KAP) of the people in areas of nutrition, dietary diversification and hygiene and sanitation practices in the project area at the end of the project as compared to the baseline.
- iv. Assess the economic status of project beneficiaries as one way of ascertaining the impact of VS&L activities, i.e. when compared with baseline.
- v. Explore whether there is any linkage between changes in economic status as a result of VS&L with changes in nutrition and food security status (food affordability and accessibility) at the household level.
- vi. Assess the synergies of implementing hygiene and sanitation together with food security and nutrition interventions and link its integration into the whole project approach and people's health.
- vii. Identify program-level achievements, drawing out successes, challenges, lessons learned and better practices that might inform future project designs.
- viii. Assess the strengths of the implementation structures/institutions and their capability in contributing to development processes in the area and the decentralization process of the district.
- ix. Perform a SWOT analysis of the operational mechanisms of CARE, WRH and the District Assemblies partnership in the implementation process of ICON project and draw conclusions that would inform future designs of similar projects.
- x. Assess the capacity of different stakeholders at district as well as community level to sustain ICON project outcomes after the end of the project.



2. Roles of Each Party.

a. The Consultant will:

- i. Meet with ICON representatives and key stakeholders that may include, but not be limited to, ICON Project Manager, Food Security Sector Coordinator, M&E and Institutional Development Coordinators and partner NGO (WRH) to clarify ToRs of the consultancy and agree on the methodology.
- ii. Conduct a literature review of relevant documents (e.g., ICON proposal, ICON Baseline Report, ICON Mid Term Evaluation Report ICON M&E Framework, ICON Progress Reports, CARE Malawi LRSP, CO Programme M & E framework and any other literature that would be relevant for the mentioned literature review.
- iii. Develop an evaluation design document which will include the following:
 - a) Appropriate methodology and sampling for the study.
 - b) Theoretical framework to be used
 - c) Methodology for data collection e.g. secondary data review, primary data collection – both qualitative and quantitative, highlight the types of data collection techniques
 - d) Sampling methodology for both quantitative and qualitative surveys e.g. Key informant interviews, Focus group discussions etc.
 - e) Data management
 - f) List of all tools to be used and specify the purpose of each tool and the envisaged respondent(s)
 - g) Build in a database/format for data entry and analysis, using SPSS for the survey questionnaire.
 - h) Plan for quality control e.g. handling the field data properly, a Plan for pre-testing
 - i) Format and system for data entry, and a strategy for editing/cleaning the data, plus back-up
 - j) Analysis of data
 - k) Training materials for data collectors and data entrants
 - l) Time table for the work
 - m) Ethical considerations
 - n) Potential limitations
 - o) Final report format.
 - p) List of literature reviewed
- iv) Present the evaluation design document to CARE for review
- v) Oversee the final selection of interviewers and supervisors/team-leaders.
- vi) Design and manage training for supervisors and data collectors.
- vii) Recruit, train and manage data entry clerks.
- viii) Oversee data collection process to include: survey pre-test; and ensure effective management of data collection teams by supervisors.
- ix) De-brief the ICON management and staff in charge of the project (after initial field trip)
- x) Analyze data and produce draft report on findings.
- xi) Incorporate comments from ICON project staff on draft report and produce final report.
- xii) Present key findings to ICON project staff.
- xiii) Coordinate with the ICON and partners to provide feedback to study respondents and stakeholders.



b. CARE Malawi will:

- i. Provide relevant documents like project document, project reports and other important documents.
- ii. Provide access to work space and supplies.

7. EXPECTED DELIVARABLES

Deliverables/Outputs
1. Develop the concept note to express interest to undertake the End of Project Evaluation
2. Develop survey methodology, sampling framework for beneficiaries in all project sites across all project objectives.
3. Develop the data collection tools, both qualitative and quantitative and translate them into Chichewa.
4. Train all project Research Assistants and their Supervisors.
5. Supervise data collection, cleaning, analysis and interpret data using appropriate statistical analytical tools.
6. Facilitate a debriefing workshop for the stakeholders on the collected data and trends in the survey.
7. Write draft Evaluation Report , make corrections after feedback from the stakeholders
8. Final End of Project Evaluation report (3 hard and soft copies)

Work Calendar:

Step	Activity	Dates
1.	<ul style="list-style-type: none"> • Notification of short listed consultants • Submission of proposal 	13 th November, 2009.
2.	<ul style="list-style-type: none"> • Final review of proposals 	20 th November 2009
3.	<ul style="list-style-type: none"> • Interviewing best three pre-qualified candidates. (Discuss contract) • Final award of the contract to contract winner • Seek approval from the CD and CARE Deutschland on final contract award winner. 	26 th – 27 th November, 2009
4.	Offer of contract to winner	27 th November, 2009
5.	Meeting with Consultant to discuss next Steps <ul style="list-style-type: none"> • Initial Payment of contract sum (30% of total sum). – 29th September 2009 • Mobilization of Evaluation Team. (Enumerators and Research Assistants). • Procurements 	30 th November, 2009
6.	<ul style="list-style-type: none"> • Literature review • Development of Data Collection Tools, • Translation of Questionnaires into Chichewa • Finalize Training and Pre-testing Plan 	1 st – 4 th December, 2009
7.	Training of enumerators	7 th – 8 th December, 2009
8.	Pre-testing questionnaires and corrections done	9 th – 10 th December, 2009



Step	Activity	Dates
9.	Field Data collection	11 th - 19 th November, 2009.
10.	Survey de-briefing <ul style="list-style-type: none"> • CARE Malawi • WRH • District Stakeholders (Salima and Ntchisi Assemblies) 	20 th December, 2009
11.	Data entry and processing	15 th - 31 st December, 2009
12.	Presentation of Preliminary findings of the evaluation <ul style="list-style-type: none"> • CARE Malawi • WRH • District Stakeholders (Salima and Ntchisi Assemblies) 	4 th January, 2010
13.	Data Cleaning and report writing	5 th – 8 th January 2010
14.	Submission of first draft report	11 th January, 2010
15.	Review of first draft report by CARE Malawi, Care Deutschland and WRH	11 – 15 th January, 2010
16.	Meeting with Consultant to give feedback. <ul style="list-style-type: none"> • Agree on second payment (30% of total contract) 	20 th January, 2010
17.	Final Submission of Report <ul style="list-style-type: none"> • CARE Malawi. • CARE Deutschland • WRH 	27 th January, 2010
Total number of days		30 Days

8. REQUIREMENTS OF THE CONSULTANTS

- a) Familiarity with the EU contract requirements (policies and procedures of project implementation)
- b) Familiarity with CARE International operating policies
- c) Experience in conducting similar types of projects of similar set up, size and scope.
- d) Be conversant with contemporary food security concepts, country agricultural and nutritional policies, Millennium Development Goals (MDGs) and the Malawi Growth and Development Strategy (MGDS) indicators.
 - a) Familiarity with the cultural construction and community set up of the project areas.
 - b) Be conversant with participatory learning and development tools such as the Farmer Field Schools.
 - c) High data collection and analytical skills in nutrition, food security, health, hygiene and sanitation.
 - d) Familiarity with other development social security approaches such as Village Savings and Loans.
 - e) Familiarity with other evaluation tools such as the use of scorecards etc.



ANNEX 2: LIST OF PEOPLE AND GROUPS CONSULTED

KEY INFORMANTS

1. Elaine Kelsey Assistant Country Director, Care Malawi
2. Chrispin Magombo Food Security Sector Coordinator, Care Malawi
3. Peter Ngalawa ICON Project Manager
4. Ndazona Malata Finance and Administration Manager, Care Malawi
5. Luciano Msunga ICON M&E Coordinator
6. Rabson Chimutu Institutional Development Coordinator, Ntchisi
7. Mary Mphande Field Advisor, Food Security, Salima
8. Sinya Msiska Field Advisor, Food Security, Salima
9. Cynthia Kapalamula Field Advisor, Hygiene and Sanitation, Ntchisi
10. Chimwemwe Limani Institutional Development Coordinator, Salima
11. Derrings Phiri Project Coordinator, WRH
12. Emmanuel kamanula Executive Director, WRH
13. Daniel Magoya Financial Advisor, WRH
14. Dr E Kanjunjunju DHO, Ntchisi
15. James Mtonga Environmental Health Officer (EHO), Nutrition, Ntchisi
16. Felix Mwalija EHO, EPI, Ntchisi
17. Gideon Chamatwa Assistant EHO-PD Hearth Trainer
18. H A Kapachika Primary Education Advisor, Kansonga Zone, Ntchisi
19. Dennis Zingeni Assistant District Agriculture Development Officer, Ntchisi
20. Peter Jimusale Director of Planning and Development, Ntchisi
21. Rhoda F Lita (Mrs) Agriculture Extension Support Services Officer, Ntchisi
22. Habil Kalumo Agribusiness Officer, Ntchisi
23. B Nkhambule SHSA, Kansonga Health Centre
24. J. K. Mhone AEDO, Chaseta South Section
25. M Y Moyo SHSA, Chagunda Health Centre
26. R. Kazima Head Teacher, Chagunda Primary School
27. Agrippa Kazuma SHSA, Chipoka Health Centre
28. Chitenje Swaleyi Community Facilitator Magumbwe 1& 2
29. Peter Dokali Director of Administration, Salima
30. Charles Valeta Human Resources Officer, Salima
31. Paul W Chunga District Environmental Health Officer, Salima
32. Frickson Zumani Chairperson, Mzikamanda VUC
33. Boston Kadzakupita Secretary Mzikamanda VUC
34. Fletcher Mdeni District Coordinator, World Relief, Ntchisi
35. E. L Jelium SHSA, Chinguluwe Health Centre
36. H Kamanga SHSA, Mchoka Health Centre
37. Benedeta Mumba Lead Farmer, Malenga Village, GVH Chidelu, TA Malenga
38. Chilapondwa Lead Farmer, Kasakula 1 Vge, TA Malenga



FOCUS GROUPS

1. **PD Hearth Volunteers**, Chagunda Village, TA Kambwiri 08.02.2010 (1 man & 5 women)
2. **Food Security**, Mtika Village, TA Kambwiri 09.02.2010 (6 men & 4 women)
3. **Village Umbrella Committee**, GVH Mzikamanda, TA Kambwiri (4 men & 2 women)
4. **PD Hearth**, Justin Village, TA Ndindi 12.02.2010 (6 men & 3 women)
5. **Limbikani VSL**, Chembe Vge, TA Pemba 13.02.2010 (5 women)
6. **Mchinga VSL**, Mchinga Village, TA Pemba 14.02.2010 (6 women)
7. **Village Health Committee**, Azolo Village, T A Chiloko 16.02.2010 (4 men & 5 women)
8. **Kachere VSL**, Chimaimba Vge, TA Chiloko, 16.02.2010 (2 men & 5 women)
9. **Village Umbrella Committee**, Chimaimba Vge, GVH Kalupsa, TA Chiloko, (3 men & 4 women)
10. **Seed Group**: Kadzonga 1 Village, Malenga. 19.02.2010 (4 men & 5 women)
11. **VSL Group**, Chitsa Vge, TA Malenga 20.02.2010 (2 men & 4 women)
12. **P D Hearth** Mkumbula Village, TA Malenga 21.02.2010 (3 men & 7 women)
13. **Chisomo Kitchen/PD Hearth**, Bwanamali Vge, Malenga 21.02.2010



**LIST OF PARTICIPANTS FOR FEEDBACK SESSION TO THE DRAFT ICON EOP REPORT
12TH MARCH 2010, CARE MALAWI COUNTRY OFFICE IN LILONGWE**

1. James Chima – IDM Consulting & Associates
2. Cecily Bryant - CARE Malawi
3. Chrispin Magombo - CARE Malawi
4. Francis Lwanda – CARE Malawi
5. Dellings Phiri – Work for Rural Health
6. Billy Molosoni - CARE Malawi
7. Richard Kadongola - CARE Malawi
8. Luciano Msunga - CARE Malawi
9. Rabson Chimutu - CARE Malawi
10. Lemekeza Mokiwa - CARE Malawi
11. Chimwemwe Limani - CARE Malawi
12. Salome Mhango - CARE Malawi
13. Peter Ngalawa - CARE Malawi



LIST OF PARTICIPANTS AT ICON DISSEMINATION WORKSHOP - KALIKUTI HOTEL ON 26TH MARCH 2010

NO	NAME	ORG/DEPT	CELL/TEL	E-mail Address
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14.	Gift Valeta	District Assembly- Salima	0999 384 064	-
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23.	Kelly B. Mhone	Community Development- Salima	0999 360 605	
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38.	Tsoka Gausi	TVM		
39.	Louis Mwale	TVM		
40.	Chimwemwe Limani	ICON - CARE Malawi	0999 293 635	Limani2007@yahoo.com



ANNEX 3: REFERENCES

1. ICON Project Proposal
2. ICON Grant Contract
3. Baseline Report, 2007
4. Annual and Semi Annual Reports
5. Various Partner Reports from District Agriculture Development Offices, District Health Offices, and District Education Offices
6. Midterm Evaluation Report 2009
7. Government of Malawi (2006). Ministry of Economic planning and Development. Malawi Growth and Development Strategy, Lilongwe
8. Government of Malawi. (2005). Ministry of Agriculture and Food Security, Food and Nutrition Security Policy
9. National Statistical Office (2005). Malawi Second Integrated Household Survey 2004 - 2005. NSO, Zomba, Malawi.
10. National Statistical Office and UNICEF (2008). Malawi Multiple Indicator Cluster Survey 2006. Lilongwe
11. National Statistical Office and ORC Macro (2005). Malawi Demographic and Health Survey 2004: NSO, Zomba, Malawi and Calverton, Maryland USA.



ANNEX 4: PROGRESS AGAINST LOGICAL FRAMEWORK

ANNEX 1 - PROGRESS AGAINST LOGICAL FRAMEWORK (Intervention - Physical Progress JAN 2007 - FEBRUARY 2010)

LOGIC OF INTERVENTION A	OVI DESCRIPTION, VALUE AND 3 YEARS TARGET B	OVI Value 3 Years Target C	PROGRESS TO DATE OVER 3 YEARS TARGET D	% OF PROGRESS OVER 3 YEARS TARGET VALUE E=(D/C)*100	VARIANCE (-ve/ +ve) -ve (more than target) +ve (less than target) F=C - D	TARGET COMMENTS G
Overall Objectives	Sustained reduction of prevalence of underweight and stunting in intervention areas after the programme has ended		The project has trained government machinery to implement the project in almost all the components, besides training and involving the communities themselves in planning, monitoring and evaluation of project activities.			There is need to keep up a good relationship with key government partners through continued sharing of progress reports so as to zero in the element of ownership and assured sustainability of the activities.
Specific Objectives Empower community and local institutions to effect sustainable improvements in nutritional status of children under five. Improved and sustained nutrition status of children under five in Salima and Ntchisi districts	10% reduction over baseline of prevalence of underweight in intervention areas	10 %	2.1 % (Baseline = 19% MTE = 18.6 %) EOP=	21.1 %	7.9 %	Achievement based on 3 year target (MTE Vs Baseline)
	5% stunting reduction over baseline in intervention areas	5 %	0.2 %	4.3%	4.8%	Achievement based on 3 year target (MTE Vs Baseline)
	20 % reduction over baseline in levels of diarrhoea in intervention areas	20 %	-168 % (Baseline = 10.8% MTE = 28.9) EOP=	- 838 %	+ 188 %	MTE conducted in February while Baseline was done in July
	20 % reduction over baseline in levels of malaria in intervention areas	20 %	-14 % Baseline = 30.2 % MTE = 34.3% EOP=	70 %	+34%	MTE conducted in February while Baseline was done in July
	20 % reduction over baseline in levels of intestinal parasites in intervention areas	20 %	27	133 %	-7	

LOGIC OF INTERVENTION	OVI DESCRIPTION, VALUE AND 3 YEARS TARGET	OVI Value 3 Years Target	PROGRESS TO DATE OVER 3 YEARS TARGET	% OF PROGRESS OVER 3 YEARS TARGET VALUE	VARIANCE (-ve/ +ve)	TARGET COMMENTS
A	B	C	D	E=(D/C)*100	-ve (more than target) +ve (less than target) F=C - D	G
	80% households have increased food production and crop diversity	11,636	11,948	103%	- 312	
	80% of project supported VSL groups are functioning well and demonstrate diversified livelihoods strategies in intervention areas	168	229			
	At least 3 Local government institutions (HBC, CBO, HSA) practicing appropriate nutrition interventions	3	4 (HSAs = 157; VHCs = 174 VHCs; CBOs; 150 VDCs)	%		The project to continue working with even more local government institutions to have greater and lasting impact.
Expected Results						
ER 1: Improved capacity of mothers/ carers to prevent malnutrition	1. Impact/ Outcome Indicators					
	- Above 50% of U5 attending clinics are well nourished	50 %	85 %	170%	- 35 %	Weight for age used
	20% reduction in referrals to NRU	20 %	19 %	98 %	+ 1 %	From M&E reports (Trend analysis of admissions from 2006 – 2008)
	80% of HHs participating in P/D Hearth sessions practicing basic standards of nutrition practices	80 %	89 %	112 %	- 9 %	
	2. Output Indicators					
	# of children enrolled and rehabilitated in P/D Hearth	7865	9,202	117 %	- 1,337	Achieved more than the target due to more trained volunteers
	9600 pregnant and lactating women	9600	13909	145%	- 4309	Achieved more than the target
	# of PLWAs benefiting from P/D Hearth/ nutrition	1500	1882	125 %	- 382	
ER 2 Improved hygiene and sanitation facilities and behaviour at	1. Outcome/ Impact indicators					

LOGIC OF INTERVENTION	OVI DESCRIPTION, VALUE AND 3 YEARS TARGET	OVI Value 3 Years Target	PROGRESS TO DATE OVER 3 YEARS TARGET	% OF PROGRESS OVER 3 YEARS TARGET VALUE	VARIANCE (-ve/ +ve)	TARGET COMMENTS	
A	B	C	D	E=(D/C)*100	-ve (more than target) +ve (less than target) F=C - D	G	
community level.	4,800 HH in 120 villages with more than 80% coverage of latrines	3840	3814	99%	+26		
	4,800 HH in 120 villages with more than 80% coverage of washing facilities	3840	2770	72%	+ 1070		
	45 % reduction in cases of diarrhoea seen at targeted T/As health centres	45 %	-169 % (Baseline = 10.8 % MTE = 28.9) EOP=	-375%	+214 %	The results are due to the fact that MTE was conducted in February while Baseline was conducted in July	
	45 % reduction in cases of malaria seen at targeted T/As health centres	45 %	-7 % Baseline = 30.2 % MTE = 34.3 % EOP=	-16%	+ 52 %	conducted in February while Baseline was conducted in July	
	45 % reduction in cases of intestinal parasites seen at targeted T/As health centres	45 %	53%	118%	-18%		
	Proportion of participating schools that report reduction in diarrhoea						
	2. Output Indicators						
	4800 Households targeted with PHAST/ Hygiene and Sanitation	4800	5297	110%	- 497	N/A	
	# of students reached with PHAST activities	4000	5832	146 %	- 1832		
ER 3 Strengthened understanding of key health care practices	1. Outcome/ Impact Indicators						
	10 % increase in improved breastfeeding and health care practices	10 %	12%	118 %	- 2 %	MTE = 87.3 exclusive breastfeeding and M&E reports = 84 % caring practices	
	Proportion of participating HHs that demonstrate good care practices for children under five, pregnant and lactating women	Na	93 %	Na	Na	M&E reports. 90 households sampled in two districts and 76 households were practicing more than 50 % of the recommended practices	
	2. Output Indicators						

LOGIC OF INTERVENTION	OVI DESCRIPTION, VALUE AND 3 YEARS TARGET	OVI Value 3 Years Target	PROGRESS TO DATE OVER 3 YEARS TARGET	% OF PROGRESS OVER 3 YEARS TARGET VALUE	VARIANCE (-ve/ +ve)	TARGET COMMENTS
A	B	C	D	E=(D/C)*100	-ve (more than target) +ve (less than target) F=C - D	G
	# of VHCs/ VDCs trained in health/nutrition education	180	174	97 %	+ 6	
	# of drama groups/ TBAs trained in health education	14	25	179 %	- 11	
	# of Community health workers including volunteers trained in health education	835	1377	165 %	- 542	
	# of outpatients reached through health and nutrition education	12000	21241	177 %	- 9241	Benefited from health/ nutrition education
	Number of health and nutrition education sessions/ trainings conducted.	N/A	1287	N/A	N/A	
ER 4	1. Outcome/ Impact Indicators					
Strengthened HH food security through diversified foods and enhanced crop production	80% of participating HHs with more than 3 food crops	11,636	12572	108 %	- 936	
	80 % of Participating households with food sufficiency	11,636	12572	108 %	- 936	
	40% of Participating farmers share seeds/planting materials with non participating farmers	5818	2932	50%	+ 2886	More repayments in third year due to good harvest.
	% increase of farmers that have access to high quality improved seeds varieties and / or planting materials	N/A	17% Increase	N/A	N/A	By using lack of extension, lack of farm credit and high cost of inputs as a proxy, 82 % had access at baseline Vs 96 % at MTE, representing 17 % increase
	2. Output Indicators					
	# of households with diversified food and enhanced crop production	14545	17002	117 %	+ 2457	These are total farmers in seed groups. Include those who received seed and extension and those just received extension
	Number of households with chronically ill people reporting access to farm inputs from	N/A	1279	N/A	N/A	

LOGIC OF INTERVENTION	OVI DESCRIPTION, VALUE AND 3 YEARS TARGET	OVI Value 3 Years Target	PROGRESS TO DATE OVER 3 YEARS TARGET	% OF PROGRESS OVER 3 YEARS TARGET VALUE	VARIANCE (-ve/ +ve)	TARGET COMMENTS
A	B	C	D	E=(D/C)*100	-ve (more than target) +ve (less than target) F=C - D	G
	programme					
ER 5	Outcome/ Impact Indicators					
	Number of households investing in new businesses/ livelihoods	N/A	1908	N/A	N/A	
	Number of male farmers who secured loans from VSL groups for livelihood improvement	N/A	630	N/A	N/A	
	Number of female farmers who secured loans from VSL groups for livelihood improvement	N/A	2,160	N/A	N/A	
	Output Indicators					
	Number and gender of members of VSL groups formed	3150	3,326	105 %	- 176	
	Amount of money saved by male members	N/A	3,324,498	N/A	N/A	
	Amount of money saved by female members	N/A	4,870,485	N/A	N/A	
	Amount of money loaned by male members	N/A	1,099,660.44	N/A	N/A	
	Amount of money loaned by female members	N/A	1,595,391.56	N/A	N/A	
	Number of VSL groups formed by CFs and FOs after receiving training	210	239	114 %	- 29 groups	
	Community facilitators trained	30	36	120 %	- 6	Salima trained 21, six (6) more than the target
ER 6	Outcome and Impact Indicators					
	Increased use of nutrition and food security information from the field in local government and district meetings		The Two district agriculture offices (DADO) and health offices (DHO) have been able to use nutrition information	N/A	N/A	To strengthen the early warning system by training non state actor networks to oversee the operations of the system and supervise trained extension workers who have done very little or none due

LOGIC OF INTERVENTION	OVI DESCRIPTION, VALUE AND 3 YEARS TARGET	OVI Value 3 Years Target	PROGRESS TO DATE OVER 3 YEARS TARGET	% OF PROGRESS OVER 3 YEARS TARGET VALUE	VARIANCE (-ve/ +ve)	TARGET COMMENTS
A	B	C	D	E=(D/C)*100	-ve (more than target) +ve (less than target) F=C - D	G
			from the nutrition assessments where identification and referral of cases of malnutrition has improved over time; Baseline information also used by both districts; Information on diarrhoea cases as a result of project monitoring activities has also seen to be used by the two districts			to other commitments
	Increase in use of extension services by communities		14 % increase in yield	N/A	N/A	This could be attributable to the extension services the project is providing (76 % 2007/2008 Vs 87 % 2008/2009 season)
	Incorporation of ICNP in district implementation plans		68 VUCs formed and trained in PPME and 21 VDCs trained in PPME. The VUCs report to VDCs and VDCs plans are incorporated into the district assembly plans			The trained VUCS and VDCs have so far developed implementation plans which reflect project activities and monitoring plans. These structures interface with extension staff who constitute information hub for development of district implementation plans
	Output Indicators					
	Number of training sessions/workshops held with nutrition related government structures	N/A	25 sessions have been conducted to date.	N/A	N/A	
	# of CVs and CFs trained in ICNP	200	806	403 %	-606	

LOGIC OF INTERVENTION	OVI DESCRIPTION, VALUE AND 3 YEARS TARGET	OVI Value 3 Years Target	PROGRESS TO DATE OVER 3 YEARS TARGET	% OF PROGRESS OVER 3 YEARS TARGET VALUE	VARIANCE (-ve/ +ve)	TARGET COMMENTS
A	B	C	D	E=(D/C)*100	-ve (more than target) +ve (less than target) F=C - D	G
	project related activities					
	# of DEC's collaborating with ICNP project	2	2	100 %	0	0
	# of DAs (district assemblies) collaborating with ICNP project	2	2	100 %	0	0
	# of government extension staffs trained in ICNP project related activities	30	268	893%	- 238	268 = (187 Health staff, 40 Agriculture staff, and 41 Education staff). This is due to the needs that were seen to successfully implement the project across expected result areas.
	# of VDCs collaborating with ICNP project related activities	35	150	428 %	- 115 VDCs	Two VDCs have been removed after verification that they are just villages not VDCs. The larger number has been reached due to the fact that there are more and smaller VDCs on the ground and the number may reduce when the VDCs have been restructured/clustered through Ministry of Local Government and Rural Development verification process
	# of AECs trained in ICNP project related activities	5	5	100 %	0	
	# of ADCs collaborating with ICNP project related activities	5	5	100 %	0	

ANNEX 5: HYGIENE AND SANITARY FACILITIES (2007 – SEPTEMBER 2009)

District	Ntchisi					Salima					Total				
Total No. of Villages	55					57					112				
Short - term project indicators	Baseline Data	Actual Results	Expected Results	Performance (%)	Target Objective (%)	Baseline Data	Actual Results	Expected Results	Performance (%)	Target Objective (%)	Baseline Data	Actual Results	Expected Results	Performance (%)	Target Objective (%)
Total No. of HHs	2,398	2,414	2,391			2,876	2,883	2,883			5,274	5,297	5,274		
San plats casted	0	1,022	2,400	43%	100%	226	950	2,925	32%	100%	226	1,972	5,325	37%	100%
San plats installed	0	992	2,177	46%	90%	5	713	2,595	27%	90%	5	1,705	4,772	36%	90%
Recommendable pit latrines	683	2,044	2,177	94%	90%	686	2,028	2,538	80%	90%	1,369	4,072	4,715	86%	90%
Hand washing facilities	267	1,825	1,524	120%	70%	130	2,559	1,980	129%	70%	397	4,384	3,504	125%	70%
Refuse pits	364	1,662	1,906	87%	80%	281	1,334	2,156	62%	80%	645	2,996	4,062	74%	80%
Bathing shelters	919	1,937	1,935	100%	80%	1,075	1,802	2,305	78%	80%	1,994	3,739	4,240	88%	80%
Soak way pits at HWF	251	1,326	1,294	102%	90%	204	1,348	1,448	93%	90%	455	2,674	2,742	98%	90%
HH using square hole cover	122	949	1,429	66%	80%	109	1,094	1,543	71%	80%	231	2,043	2,972	69%	80%
HWF in use	29	1,151	1,391	83%	70%	54	673	1,352	50%	70%	83	1,823	2,743	66%	70%
Soak way pits at bathing shelters	24	1,199	985	122%	60%	164	1,060	1,063	100%	60%	188	2,259	2,049	110%	60%
Good dwelling house improved	1,263	2,288	1,666	137%	90%	788	1,918	1,513	127%	90%	2,051	4,206	3,178	132%	90%

Good kitchen	919	1,936	1,306	148%	70%	727	1,504	1,341	112%	70%	1,646	3,440	2,647	130%	70%
Dish racks or basket	379	1,701	1,269	134%	70%	537	1,368	1,385	99%	70%	916	3,069	2,654	116%	70%
HH with at least 1 bed net	772	1,616	1,255	129%	70%	904	1,900	1,320	144%	70%	1,676	3,516	2,575	137%	70%
Total Average	445	1,516	1,492	102%	79%	426	1,455	1,439	101%	79%	872	2,971	2,931	93%	79%

Note: Data recorded on this form is cumulative achievement done ever since(January 07 - September 30 2009)

ANNEX 6: SUCCESS STORY OF VILLAGE SAVINGS AND LOAN



VILLAGE SAVINGS AND LOANS EMPOWERS WOMEN TO DIVERSIFY LIVELIHOODS

As a result of VS&L, her businesses have expanded and have so far acquired a television set which she is using.

By participating in village savings and loans activities, she has also learnt some skills in weaving mats for business such that she is making more money. Her record keeping skills have also improved. She is now planning to build a modern house for herself and showing movies for more income.



Pay back period: Nzeru Dick showing off her TV Set



Hunger is over: Nzeru holding one of her bags of maize

Since 2007 CARE Malawi in partnership with Work for Rural Health with funding from the European Union started implementing ICON project which integrated Village Savings and Loans (VS&L) in community based nutrition activities. Most rural communities have for long failed to access loans to expand their businesses from commercial banks due to the stringent conditions the banks have compounded by lack of capital assets for collateral. By introducing VS&L, ICON communities have been economically empowered through village savings and loans to improve their livelihoods as well as food and nutrition security. Most members from VS&L groups have benefited a lot from their respective groups. Although VS&L is open for both men and women, in most mixed groups (comprising men and women) women have more shares than men.

The concept uses groups and group members are self selecting. One of the groups is Apatsa which was established in January 2008. The group, located in Group Village Headman Mchinga in Traditional Authority Pemba in Salima District, has 20 members in total; 15 women and 5 men. The members share their savings every 8-10 months and in December 2008 they shared their Savings

One of the members who received more dividends than others during 2008 share out exercise for Apatsa VSL Group is Mrs. Nzeru Dick. At 43 she has 8 children, 6 of them are still school going and two of them got married already. The husband left for South Africa in March 2006. Since he left he never sent anything to his family hence Mrs. Nzeru took the sole responsibility of looking after the children. Before she joined VSL group, she was earning her living by doing some piece work (ganyu) and selling mandasi (doughnuts) which for her was not enough to support her family.

Nzeru joined Apatsa VSL group in June 2008 and soon after joining the group she started saving the money to the group and later she started borrowing from the group which made her to expand her business into others like selling tomato and chicken (buy and sell). The members shared their money in December 2008. By then the group had accumulated K120,500 and from this amount Mrs. Nzeru received dividends amounting to K25 000 from her savings and records revealed she had the highest in terms of savings.

From the amount she received she used K 11,250.00 to buy 2 bags of subsidized fertilizers (K1,600) and one bag for non subsidy fertilizers (K9,500) which she said she couldn't buy this before joining this group. With these bags of fertilizers she was able to harvest 4 (tonnes) oxcarts this year which is more than what she harvested last year which was only 1.5 oxcarts (tonnes) of maize. She used K 3,750.00 to pay school fees for children and buy school uniform for two children. She used K10,000.00 for buying food, pots plates and she even bought 4 *zitenje* (Wrapping clothes) for herself.

"I am very happy with this programme because on my own couldn't save such an amount and get these returns. My family is able to have well balanced meals every day which was not the case in the past as a result of good harvest. Food production capacity has also greatly improved as compared to the previous years". Nzeru Dick had this to say.

ANNEX 7: CASE STUDY OF LEAD FARMER KASAKULA I VILLAGE, TA MALENGA (18/02/2010)

Mr Chilapondwa from kasakula I Village, TA Malenga in Ntchisi District is a lead farmer. He is responsible for training other communities around his area. He was and has been training in food processing and preparation and news farming technologies through farmer field schools.

Mr Chilapondwa who did not disclose his age said he has 1500m by 150m of land where he grows maize, soya, tobacco, potatoes and groundnuts. Last growing season he harvested 3.5 oxcarts of maize, 120kg of soya, 250kg of groundnuts and 95kg tobacco. He sold soya at MK3000 and tobacco at MK8000. He used the money realized from tobacco sales to buy an oxcart.

He also grows maize seed, recycled soya seed and chalimbana type of groundnuts seed. He has 7 cattle, 1 goat and 5 chickens. He also practices beekeeping but was once the bee hives were once destroyed by hunters.

In 2008/2009 growing season he did not access any loan. He used his own money to purchase farm inputs. In fact he relies on crops and livestock sales as his source of income.

Mr Chilpondwa said there is a seed bank in the village which is accessed by ICON members only. It serves as storage for seed. It has eased the access to seeds and reduced seed purchase cost.

The lead farmer has been undergoing training with ICON staff since 2008. He has been trained in crop diversification, diet diversification by growing drought tolerant crops for food security and source of income. He gave an example of cassava which can serve as Nsima, relish, snack and seed material. Further training was conducted in manure making, cooking methods and food processing. In food processing he learnt juice making, soya milk processing and fireless rice cookers.

These programmes have helped in realizing higher yields and the people now know how to take care of their food without wasting. To ease the wok of training the communities he has also trained other people to help him conduct training sessions in their communities.

As ICON is phasing out, he said he has already set his programmes o train the people. Others do approach him to train them. He said the knowledge imparted on him will help him and other people. Another advantage is that he performs his duties without consulting the ICON office. They also use the locally found resources in conducting all the training sessions. People are also used to him as their trainer.

ANNEX 8: PD HARTH CASE STUDY

SHYNA CHIMSEU - KHWAMBA VILLAGE: TA MALENGA, NTCHISI 19/02/2010

Shyna Chimseu was born to a family of Mr. and Mrs. Chimseu who hails from Chipolwa Village , TA Malenga in Ntchisi District.

According to the caretaker, Shyna was born on 3rd October, 2008. The mother to Shyna died on 15th October, 2008 barely 12 days after the birth of Shyna. Unfortunately the father also left and got married to another woman where he currently stays. Shyna's mother was swelling the whole body but doctors said she had ulcers.

Now Shyna is being taken care of by Stellia Chikafa, a 48 years old lady. She is married and has two children. Shyna received all the vaccinations including vitamin A which she received three months ago but not de-wormed. Stellia used to buy infant milk for the child, gave her bananas, sweet potatoes and porridge which was sometimes enriched with soya or groundnuts.

In November 2009, Shyna got sick and was admitted at Bowe NRU, where she received milk and chiponde. Thereafter she was put on Out-patient Therapeutic Programme (OTP) to be coming and collect chiponde every two weeks.

Since Stellia had just got married to another husband, she failed to continue with the programme because the husband asked her to choose between him and the child.

Stellia takes the child for growth monitoring every month and one day the PD Hearth volunteer saw the condition of the baby and advised her to come for kitchen sessions. On the day she came she was put on the programme. Whenever she was busy she could send a girl with the child to eat because she was from Chipolwa village, a kilometre from the Kwamba where the PD Hearth sessions were taking place. She attended three sessions. Each session run for 12 days.

After sometime she noticed a big change. "She used to suffer from Malaria, diarrhea and fever frequently. Now she no longer has frequent sicknesses and whenever attacked by Malaria, she recovers very quickly. She now has appetite, plays with her friends and her weight has gone up," said Stelia who is Shyna's Aunt. Shyna eats three times a day and sleeps under a mosquito net.

The problem that Stellia is facing is lack of food. She has 4 acres of land but doe not cultivate the whole of it because of lack resources, She knows how to read and write and enumerate. Knowledge acquired from formal school and now attends adult literacy school. Farming is the only source of her income.

Shyna Chimseu is not the only orphan kept by Stellia. She also looks after other two orphans. She attributes Shyna's good life to PH Hearth session through the ICON project. By this day (19/02/2010) Shyna had the following measurements:

Date of birth: 013/10/2008

Weight: 10.5kg

Height: 70.1 cm

Oedema: 2 (No)

MUAC: 15.0 cm

ANNEX 9: ANTHROPOMETRY ANALYSIS

DATA PROCESSING AND ANALYSIS

Data processing, cleaning and analysis was carried out using Epi Info version 6.04b. The calculation of the anthropometric indicators was done using the EpiNut programme of the Epi Info. Significance testing of proportional data like prevalence rates was done using Chi Square or Fishers Exact test. The proportions were calculated with 95% confidence interval. All statistical tests were two sided and a p value of less than 0.05 was considered statistically significant. Given below is the description of some of the indicators that were being calculated and their cutoff points.

Analysis output indicators and definitions

Weight for Height (wt/ht) and Height for Age (ht/age)

Acute malnutrition was estimated from the weight for height index (wt/ht) combined with the presence of oedema. Chronic malnutrition is estimated from the height for age index (ht/age). These indices are then compared to the National Centre for Health Statistics (NCHS), references (NCHS, 1977; NCHS growth curves for children birth 0-18 years. United States Vital Health Statistics. 165, 11-74).

The indices are expressed in Z-Scores which have true statistical value and allows for inter-study and international comparison. Malnutrition in Z-Scores:

- Global Acute Malnutrition (GAM); weight/height <-2 Z-Scores and/or oedema
- Severe Acute Malnutrition (SAM); weight/height <-3 Z-Scores and/or oedema
- Global Chronic Malnutrition (GCM); height/:age <-2 Z-Scores
- Severe Chronic Malnutrition (SCM); height/age <-3 Z-Scores
- Moderate Underweight:; Weight/age <-2 Z-Score

RESULTS AND DISCUSSION

Table 1a: Number of children by District and age group

Parameter	Salima	Ntchisi	Overall
Sex of the children			
Male	51.3	53.4	52.5
Female	48.7	46.6	47.5

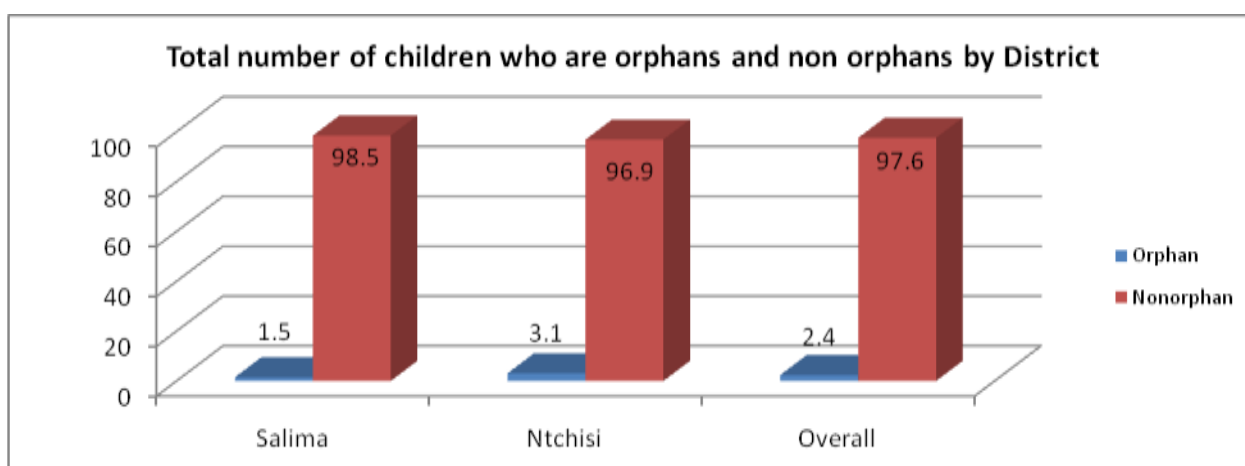
The total number of children sample comprised 263 from Salima and 324 from Ntchisi. From the results, the majority of the children are males compared to females thus 51.3% males from Salima and 53.4% males from Ntchisi while 48.7% and 46.6% are females respectively

Table 1b: Total number of children by sex by TA

TA	Male		Female		Overall	
	n	%	N	%	n	%
Kambwiri	64	52.0	59	48.0	123	21.0
Ndindi	64	50.4	63	49.6	127	21.6
Pemba	7	53.8	6	46.2	13	2.2
Chilowoko	94	50.5	92	49.5	186	31.7
Malenga	79	57.2	59	48.2	138	23.5
Total	308	52.5	279	47.5	587	100

Status of the children

Figure:1 Number of children who are orphans and non orphans by district



Presented in the figure 1 above the results revealed that overall 2.4% of the children are orphans while 97.6% are non orphans. Ntchisi registered 3.1% of orphans while Salima 1.5% of the children measured are orphans.

Table 2a: Number of children who are orphans and non orphans by TA

TA	Orphan		Non orphan	
	n	%	N	%
Kambwiri	1	0.8	122	99.2
Ndindi	2	1.6	125	98.4
Pemba	1	0.2	12	92.3
Chilowoko	2	1.1	184	98.9
Malenga	8	1.4	130	94.2
Total	14	2.4	573	97.6

From the table 2a, above TA Ndindi registered 1.6%, Malenga 1.4% Chilowoko 1.1% while Kambwiri and Pemba registered orphans <1% of the children measured. Presented in Table 2b and table 2c is the

age distribution of the sampled underfive children by sex. The proportion of male children to female children was equal (ratio of 0.95 for male to female children), which is practically the same as the sex ratio of 0.96 reported in the MDHS 2000 (NSO, ORC Macro, 2001). This indicates that both sexes were at least adequately represented in the sample.

Table 2b: Age Distribution of children aged 6 – 59 months by District

Age group (months)	Boys		Girls		Total		Ration M:F
	n	%	N	%	N	%	
Salima							
6-17	29	21.5	46	35.9	75	28.5	0.63
18-29	30	22.2	28	21.9	58	22.1	1.07
30-41	35	25.9	30	23.4	65	24.7	1.16
42-53	27	20.0	10	14.8	46	17.5	2.7
54-59	14	10.4	5	3.9	19	7.2	2.9
Total	135	43.8	128	45.9	263	100	0.95
Ntchisi							
6-17	46	24.9	33	21.9	76	23.5	1.3
18-29	41	23.7	42	27.8	83	25.5	0.97
30-41	37	21.4	32	21.2	69	21.3	1.15
42-53	36	20.8	31	20.5	67	20.7	1.16
54-59	16	9.2	13	8.6	29	9.0	1.2
Total	173	56.2	151	54.1	324	100	1.1

Table 2c: Age Distribution of children aged 6 – 59 months by TA

Age group (months)	Boys		Girls		Total		Ration M:F
	n	%	N	%	N	%	
Kambwiri							
6-17	23	29.7	17	35.6	40	32.5	1.3
18-29	12	18.8	13	22.0	25	20.3	0.9
30-41	18	28.1	13	22.0	31	25.2	1.3
42-53	10	15.6	8	13.6	18	14.6	1.3
54-59	5	7.8	4	6.8	9	7.3	1.2
Total	94	20.8	64	24.3	123	100	1.5
Ndindi							
6-17	9	14.1	23	36.5	32	25.2	0.3
18-29	16	25.0	14	22.2	30	23.6	1.1
30-41	17	26.6	15	23.8	32	25.2	1.1
42-53	13	20.3	10	15.9	23	18.1	1.3
54-59	9	14.1	1	1.6	10	7.9	0.1
Total	64	20.8	63	22.6	127	100	1.2
Pemba							
6-17	1	14.3	2	33.3	3	23.1	0.5
18-29	2	28.6	1	16.7	3	23.1	2.0
30-41	0	0.0	2	33.3	2	15.4	0.1
42-53	4	57.1	1	16.7	5	38.5	0.4
54-59	0	0.0	0	0.0	0	0.0	0.0
Total	7	15.3		33.5	13	100	0.5
Chilowoko							
6-17	23	24.5	12	13.0	35	18.8	1.9

18-29	19	20.2	25	27.2	44	23.7	0.8
30-41	22	23.4	25	27.2	47	25.3	0.9
42-53	18	19.1	22	23.9	40	21.5	0.8
54-59	12	12.8	9	8.9	20	10.8	1.3
Total	94	30.5	92	33.0	186	100	1.0
Malenga							
6-17	20	25.3	21	35.6	41	29.7	0.95
18-29	22	27.8	17	28.8	39	28.3	1.3
30-41	15	19.0	7	11.9	22	15.9	2.1
42-53	18	22.8	9	15.3	27	19.6	2.0
54-59	4	5.1	5	8.5	9	6.5	0.8
Total	79	25.6	59	21.1	138	100	1.5

Prevalence of malnutrition

Presented in Figure 2 is prevalence of wasting, stunting, underweight, and global acute malnutrition. These are further explained in the sections that follow.

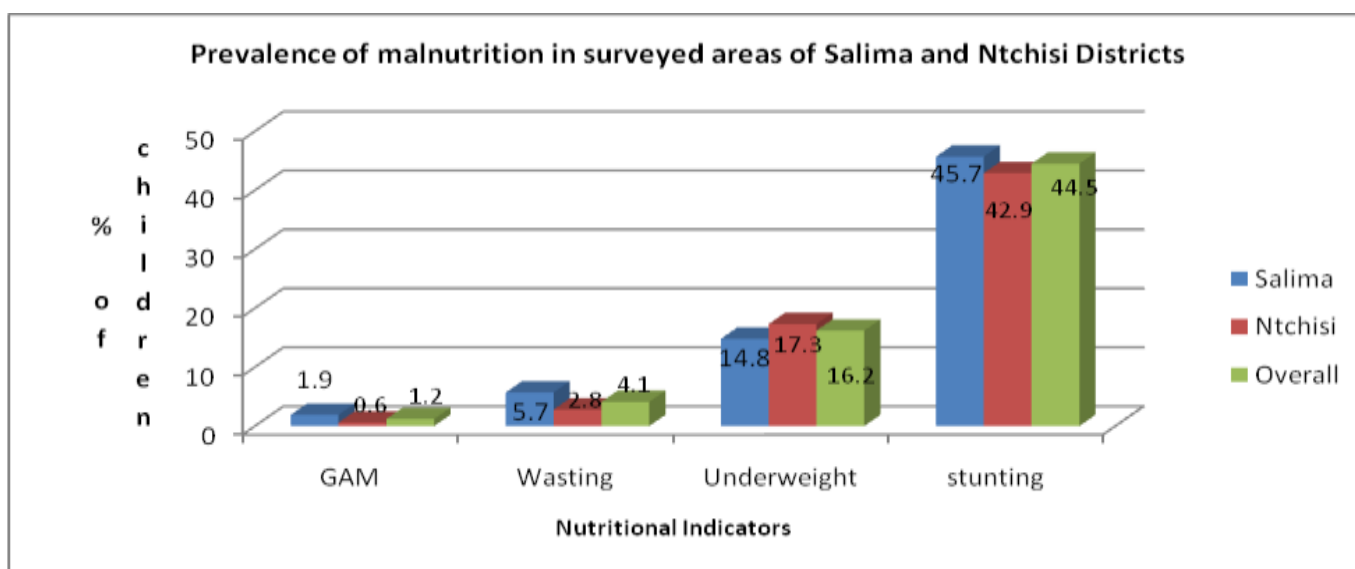


Figure 1: Prevalence of wasting, stunting, underweight, and global acute malnutrition

Global acute malnutrition (GAM) and severe acute malnutrition (SAM)

Prevalence of malnutrition is presented by type of manifestation that is; GAM and SAM, based on weight for height Z-scores. The results are presented in Table 3. The rates are relatively high considering that the survey was conducted during the month of February where by this month many families run shortage of food. The situation is high in Salima than Ntchisi with 2 children (0.6%) of the children have oedema and 10 children (3.8%) of the children have oedema. Overall results show that the situation is not bad with only 2.0% for the project have oedema.

Table 3: Global (GAM) by District, February 2010

Parameter	Salima	Ntchisi	Overall
GAM (WHZ < -2 SD) + oedema	10 (3.8%)	2 (0.6%)	12 (2.0%)

CI (confidence interval) was computed at 95% i.e. 95%CI

It is of concern that there were 7 cases of oedema in Salima (7 within the 6-17 month age group and the other 1 from Salima 2 from Ntchisi in the age of 18-29 months while 2 cases from Salima are within the 30-41. The situation is likely to decrease as now people will be harvesting their crops.

Table 4: Number of children with Oedema by TA

TA	Oedema		No Oedema	
	N	%	N	%
Kambwiri	4	3.3	119	96.7
Ndindi	5	0.9	122	96.1
Pemba	1	0.7	12	92.3
Chilowoko	1	0.5	185	99.5
Malenga	1	0.7	137	99.3
Total	12	2.0	575	98.0

From the table 4 above it can be seen that 2.0% of the children reported having oedema.

MUAC is another alternative anthropometric indicator currently used to measure acute malnutrition among children aged 12–59 months. It is particularly useful for screening. Valid data was collected from 243 children in Salima and 304 in Ntchisi. Using MUAC, global malnutrition is defined as MUAC <12.5cm and severe malnutrition is defined as MUAC < 11.0 cm and the results are presented in Table 5. From the results there were only 1 from Salima with MUAC of <11 cm.

Table 5a: Distribution of MUAC in children 6 – 59 months by District

MUAC Category (cm)	Salima		Ntchisi		Overall	Interpretation
	N	%	n	%		
<11.0	1	0.4	0	0.0	1 (0.4%)	High risk of mortality, high risk of malnutrition
11 – 12.0	4	1.5	0	0.0	4 (1.4%)	Moderate risk of mortality, high risk of malnutrition
12 -12.5	3	1.1	2	0.6	5 (0.9%)	Low risk of mortality, high risk of malnutrition
12.6– 13.5	30	11.4	16	4.9	46 (7.8%)	Low risk of mortality, moderate risk malnutrition
> 13.5	243	86.0%	304	95.5	547 (93.8%)	Satisfactory nutritional status

Table 5b: Distribution of MUAC in children 6 – 59 months by TA

MUAC Category (cm)	Kambwiri		Ndindi		Pemba		Chilowoko		Malenga		Overall	
	N	%	N	%	N	%	N	%	N	%	N	%

<11.0	0	0.0	1	0.8	0	0.0	0	0.0	0	0.0	1	0.2
11 – 12.0	1	0.8	2	1.6	0	0.0	0	0.0	0	0.0	3	0.5
12 -12.5	3	2.4	0	0.0	0	0.0	2	1.1	0	0.0	5	0.9
12.6– 13.5	21	17.1	8	6.3	1	7.7	12	6.5	4	2.9	46	7.8
> 13.5	90	73.2	105	82.7	11	84.6	159	85.5	127	92.0	492	83.8
Not Applicable	8	6.5	11	8.7	1	7.7	13	7.0	7	5.1	40	6.8
Total	123	21.0	127	21.6	13	2.2	186	31.7	138	23.5	587	100.0

Acute Malnutrition

The acute malnutrition rates were around 2% (Table 6) in both districts during the month of February. Wasting was (0.7%) among 6-17 months, 18 – 29 month old children suggesting inappropriate child feeding practices and possibly illnesses as well. There is a possibility that these children may be soon since we are approaching the harvest season and if special care should be taken by their families. Overall 98.3% of children from Salima and 99.4% of the children from Ntchisi have normal weight for Height which means they are nutritionally okay.

Table 6a: Distribution of weight for height by age group and District

Age group (months)	< -3 Z-Score		≥-3 to <-2 Z-Score		Total wasted		≥ -2 Z-Score	
	n	%	n	%	N	%	N	%
Salima:								
6 to 17	0	0.0	2	0.7	2	0.7	73	99.3
18 to 29	0	0.0	2	0.7	2	0.7	56	99.3
30 to 41	0	0.0	1	0.3	1	0.3	64	99.7
42 to 53	0	0.0	0	0.0	0	0.0	46	100.0
54 to 59	0	0.0	0	0.0	0	0.0	19	100.0
Total	0	0.0	5	1.7	5	1.7	253	98.3
Ntchisi:								
6 to 17	0	0.0	0	0.0	0	0.0	76	100.0
18 to 29	0	0.0	2	0.6	2	0.6	81	99.4
30 to 41	0	0.0	0	0.0	0	0.0	69	100.0
42 to 53	0	0.0	0	0.0	0	0.0	67	100.0
54 to 59	0	0.0	0	0.0	0	0.0	29	100.0
Total	0	0.0	2	0.6	2	0.6	320	99.4

Table 6b: Distribution of weight for height by age group by TA

Age group (months)	< -3 Z-Score		≥-3 to <-2 Z-Score		Total wasted (Moderate)		≥ -2 Z-Score	
	n	%	n	%	N	%	N	%
Kambwiri								
6-17	0	0.0	0	0.0	0	0.0	40	32.5
18-29	0	0.0	0	0.0	0	0.0	25	20.3
30-41	0	0.0	0	0.0	0	0.0	31	25.2
42-53	0	0.0	0	0.0	0	0.0	18	14.6
54-59	0	0.0	0	0.0	0	0.0	9	7.4
Total	0	0.0	0	0.0	0	0.0	123	100
Ndindi								
6-17	0	0.0	2	6.3	2	6.3	30	98.8

18-29	0	0.0	2	6.7	2	6.7	28	93.3
30-41	0	0.0	1	3.1	1	3.1	31	96.9
42-53	0	0.0	0	0	0	0	23	100
54-59	0	0.0	0	0	0	0	10	100
Total	0	0.0	5	3.9	5	3.9	122	96.1
Pemba								
6-17	0	0.0	0	0.0	0	0.0	3	23.1
18-29	0	0.0	0	0.0	0	0.0	3	23.1
30-41	0	0.0	0	0.0	0	0.0	2	15.3
42-53	0	0.0	0	0.0	0	0.0	5	38.5
54-59	0	0.0	0	0.0	0	0.0	0	0.0
Total	0	0.0	0	0.0	0	0.0	13	100
Chilowoko								
6-17	0	0.0	0	0.0	0	0.0	35	100
18-29	0	0.0	2	4.5	2	4.5	42	95.5
30-41	0	0.0	0	0.0	0	0.0	47	100
42-53	0	0.0	0	0.0	0	0.0	40	100
54-59	0	0.0	0	0.0	0	0.0	20	100
Total	0	0.0	2	1.1	2	1.1	182	98.9
Malenga								
6-17	0	0.0	0	0.0	0	0.0	41	29.7
18-29	0	0.0	0	0.0	0	0.0	39	28.3
30-41	0	0.0	0	0.0	0	0.0	22	15.9
42-53	0	0.0	0	0.0	0	0.0	27	19.6
54-59	0	0.0	0	0.0	0	0.0	9	6.5
Total	0	0.0	0	0.0	0	0.0	138	100

From the table 6b above it can be seen that children from TA Malenga 138 (100%), TA kambwiri 123, TA Pemba 13 of the children have normal weight for height (nutritionally satisfactory) while TA Ndindi and Chilowoko registered some children who are moderately wasted which is not bad situation. No any children for all age groups reported severe malnourished.

Chronic malnutrition

Prevalence of chronic malnutrition (stunting) among the children aged 6-59 months by age group and district is presented in Table 7 and Figure 3 .

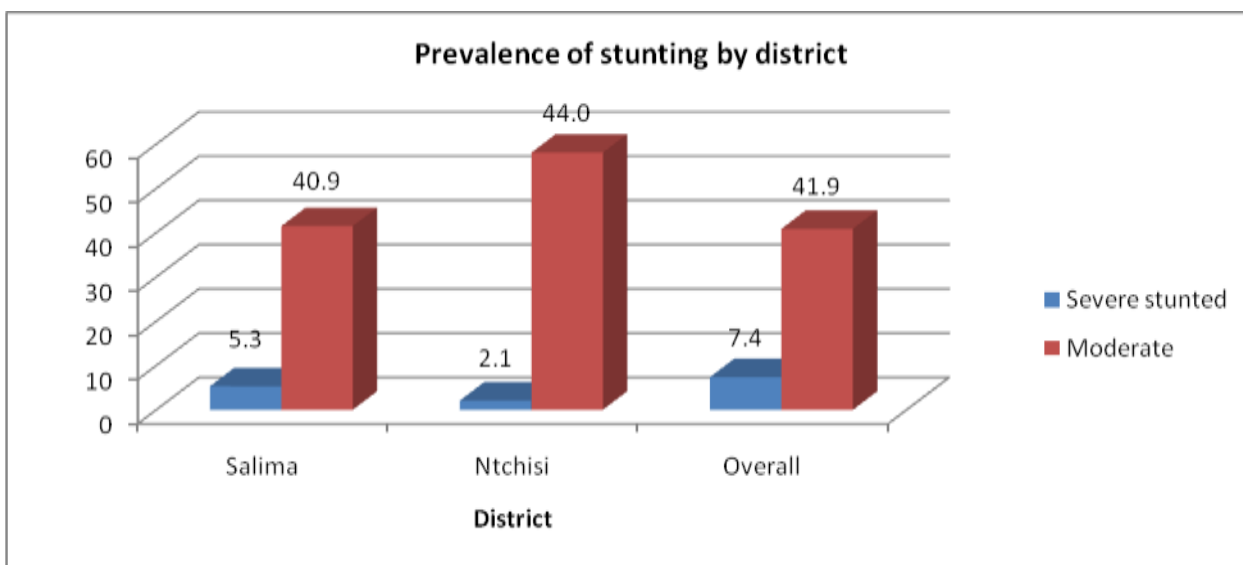
Table 7a: Distribution of height for age by age group and District

Age group (months)	< -3 Z-Score		≥-3 to <-2 Z-Score		Total stunted		≥ -2 Z-Score	
	n	%	n	%	N	%	N	%
Salima:								
6 to 17	14	9.5	14	24.8	28	34.3	47	65.7
18 to 29	13	11.9	15	32.1	28	44.0	30	56.0
30 to 41	14	16.1	13	22.6	27	39.4	38	61.3
42 to 53	6	19.0	18	34.9	24	54.0	22	46.0
54 to 59	5	7.1	8	21.4	13	28.9	6	71.4
Total	52	13.4	68	27.6	120	40.9	143	59.1
Ntchisi:								

6 to 17	15	15.8	19	19.8	34	38.5	42	61.5
18 to 29	8	8.4	28	29.2	36	43.0	47	57.0
30 to 41	8	8.4	21	21.9	29	34.0	40	66.0
42 to 53	10	10.5	19	19.8	29	51.1	38	48.9
54 to 59	2	2.1	9	9.4	11	63.6	18	36.4
Total	43	16.7	96	27.2	139	44.0	185	56.0

Comparison of the results between districts reveals just slight differences in stunting levels (40.9%) in Salima 44% in Ntchisi but these are lower than the national average of 48%. Nevertheless these are still very high and are more than 20 times the level expected in a healthy well nourished population (ORC Macro, 2006). Stunting levels were high in all age groups including the youngest age group suggesting possibility of intrauterine nutritional deprivation.

Figure 3: Prevalence of stunting by District and overall



Underweight

Weight for age assesses prevalence of underweight, which is an indicator of both chronic and acute malnutrition. Prevalence of underweight was high in Salima by 0.2% than Ntchisi district Table 8a, 8b table 8c and Figure 4 but the differences were not significant.

Table 8a: Weight for age Z-Score by District

Parameter	n	%
Salima:		
≥ -2 Z-Score (Normal)	209	79.5
≥ -3 to -2 Z-Score (Moderately underweight)	39	14.8
< -3 Z-Score (severely underweight)	15	5.7
Overall underweight	263	20.5
Ntchisi:		

≥ -2 Z-Score (Normal)	259	79.7
≥ -3 to -2 Z-Score (Moderately underweight)	56	16.2
< -3 Z-Score (severely underweight)	9	4.1
Overall underweight	324	20.3

Table 8b: Weight for age Z-Score by TA without age groups

Parameter	Kambwiri	Ndindi	Pemba	Chilowoko	Malenga	Overall
	N=123	N=127	N=13	N=186	138	N=587
≥ -2 Z-Score (Normal)	80.5	78.0	84.6	79.6	80.4	79.8
≥ -3/-2 Z-Score (Moderately underweight)	17.1	12.6	15.4	18.8	15.2	16.1
< -3 Z-Score (severely underweight)	2.4	9.4	0.0	1.6	4.4	4.1

The underweight levels of around 20% is too high as this is almost 10 times the level expected in a healthy well nourished population. However it is similar to the levels reported for Malawi (NSO and ORC Macro, 2005 and MICS 2007).

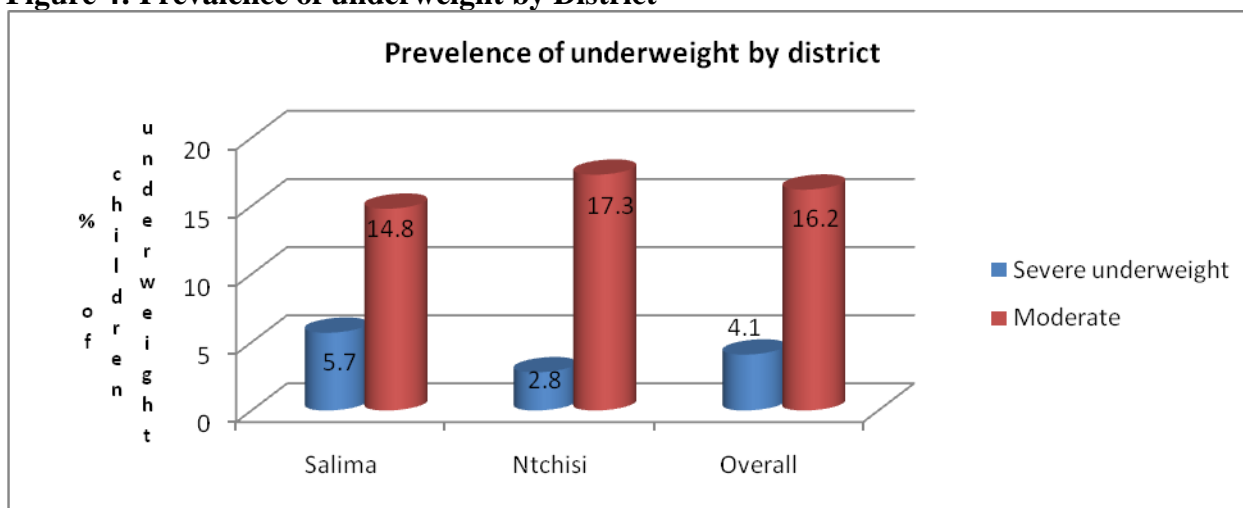
Table 8c: Distribution of weight for age by age group by TA

Age group (months)	< -3 Z-Score		≥-3 to <-2 Z-Score		Total underweight		≥ -2 Z-Score	
	n	%	n	%	N	%	N	%
Kambwiri								
6-17	0	0.0	8	20.0	8	20.0	32	80.0
18-29	0	0.0	5	20.0	5	20.0	20	80.0
30-41	3	9.7	5	16.1	8	25.8	23	74.2
42-53	0	0.0	2	11.1	2	11.1	16	88.9
54-59	0	0.0	1	11.1	1	11.1	8	88.9
Total	3	9.7	21	9.2	24	18.9	99	80.5
Ndindi								
6-17	5	15.6	5	15.6	10	31.2	22	68.8
18-29	2	6.7	4	13.3	6	20.0	24	80.0
30-41	2	6.3	1	3.1	3	9.4	29	90.6
42-53	1	4.3	4	17.4	5	21.7	18	78.3
54-59	2	6.3	2	20.0	4	26.3	6	60.0
Total	12	12.4	16	12.6	28	25.0	99	78.0
Pemba								
6-17	0	0.0	1	33.3	1	33.3	2	66.7
18-29	0	0.0	1	33.3	1	33.3	2	66.7
30-41	0	0.0	0	0.0	0	0.0	2	100
42-53	0	0.0	0	0.0	0	0.0	5	100
54-59	0	0.0	0	0.0	0	0.0	0	0.0
Total	0	0.0	2	15.4	2	15.4	11	84.6
Chilowoko								
6-17	0	0.0	5	14.3	5	14.3	30	85.7
18-29	1	2.3	12	27.3	13	29.6	31	70.5
30-41	1	2.1	8	17.0	9	19.1	38	80.9
42-53	1	2.5	7	17.5	8	20.0	32	80.0
54-59	0	0.0	3	15.0	3	15.0	17	85.0
Total	3	1.6	35	18.8	38	20.4	148	79.6
Malenga								
6-17	1	2.4	9	22.0	10	24.4	31	75.6
18-29	2	5.1	5	12.1	7	17.2	32	82.1
30-41	1	4.5	4	18.2	5	22.7	17	77.3

42-53	1	3.7	3	11.1	4	14.8	23	85.2
54-59	1	11.1	0	0.0	1	11.1	8	88.9
Total	6	4.3	21	15.2	27	19.7	111	80.4

From the table 8c above the results revealed that TA Ndindi registered 25%, Chilowoko 20% and Malenga 19.7% of the children who are underweight. While kambwiri and Pemba TA registered <20% of the children who are underweight.

Figure 4: Prevalence of underweight by District



The prevalence of underweight was highest among 6 – 29 month old children in both districts. However all age groups was equally affected in both districts (Table 8d).

Table 8d: Distribution of weight for age Z-Score by District

Age group (months)	< -3 Z-Score		≥-3 to <-2 Z-Score		Overall underweight		≥ -2 Z-Score	
	n	%	n	%	N	%	N	%
Salima:								
6 to 17	5	6.7	14	18.7	19	24.4	56	74.7
18 to 29	2	3.4	10	17.2	12	20.6	46	79.3
30 to 41	5	7.7	6	9.2	11	16.9	54	83.1
42 to 53	1	2.2	6	13.0	7	15.2	39	84.8
54 to 59	2	3.4	3	15.8	5	19.2	14	73.7
Total	15	5.7	39	14.8	54	20.5	209	79.5
Ntchisi:								
6 to 17	1	1.3	14	18.4	15	19.7	61	80.3
18 to 29	3	3.6	17	20.5	20	24.1	63	75.9
30 to 41	2	2.9	12	17.4	14	20.3	55	79.7
42 to 53	2	3.0	10	14.9	12	17.9	55	82.1
54 to 59	1	3.4	3	10.3	4	13.7	25	86.2
Total	9	2.8	56	17.3	55	37.1	259	79.3

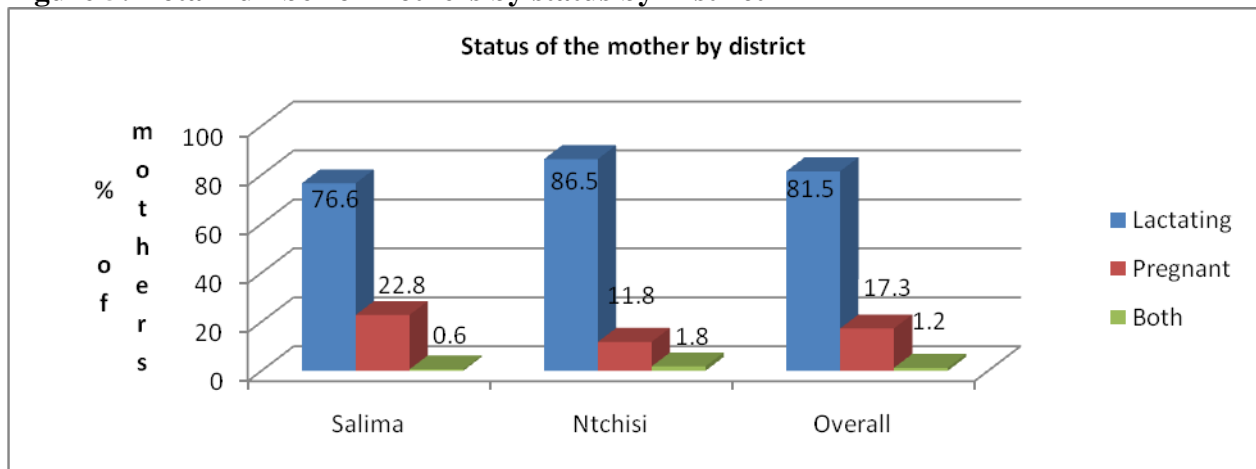
Possible contributory factors to malnutrition

A number of factors can contribute to nutritional status of a child and these include marital status of the mother, occupation of household, educational level of household head or the mother.

Health and nutritional status of women

In the current study, selected information of mothers and anthropometry was collected. The age categories of the women were measured as presented in Table below. From the Table the majority of mothers were in the age group of 20-29 years seconded by the age group of 30-39 years (<40 years) in both districts.

Figure 5: Total number of mothers by status by District



From the figure 5 above, the results show that 0.6%, 1.8% of the mothers are both lactating and pregnant in Salima and Ntchisi respectively as well while 22.8%, 11.8% and 17.3% respectively are pregnant and about 80% of the mothers are lactating.

Table 9: Age of the lactating mothers only by District

Age category	Salima		Ntchisi		Overall
	n	%	n	%	
Don't know age	2	1.5	4	2.6	6 (2.1%)
15-19 yrs	4	3.1	6	4.1	10 (3.6%)
20-29 yrs	68	51.9	65	44.2	133 (47.8%)
30-39 yrs	47	35.9	58	39.4	105 (37.7%)
40-49 yrs	10	7.6	15	9.7	25 (8.8%)
Total	130	100	148	100	278 (100%)

From the table 9 above the majority of the mothers who are lactating are within the age group of 20-29 years of age seconded by 30-39 years from both districts.

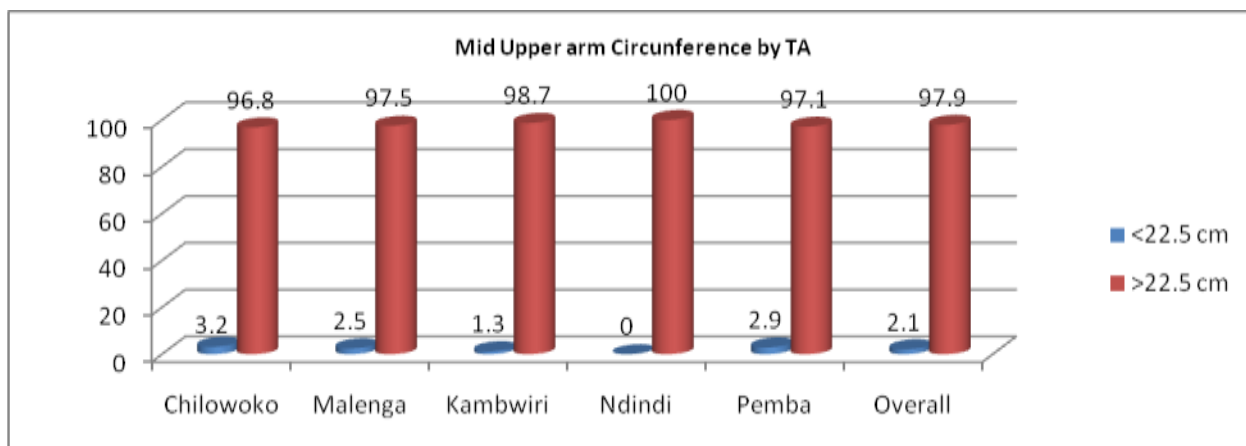
Table 10: Status of the mother by age group and by district

Status	Salima		Ntchisi		Overall	
	n	%	N	%	n	%

Lactating						
Don't know age	2	1.3	4	2.7	6	2.2
15-19 yrs	4	3.1	6	4.1	10	3.6
20-29 yrs	68	51.9	65	44.2	133	57.8
30-39 yrs	47	35.9	58	39.5	105	37.8
40-49 yrs	10	7.6	14	9.5	24	8.6
Pregnant						
15-19 yrs	1	2.6	1	5.0	2	3.4
20-29 yrs	19	48.7	12	60.0	31	52.5
30-39 yrs	13	33.3	5	25.0	18	30.5
40-49 yrs	6	15.4	1	5.0	7	11.9
>50 yrs	0	0.0	1	5.0	1	1.7
Both						
20-29 yrs	1	25.0	3	75.0	4	100

From the table 10 above the results show that 3 women of 20-29 yrs from Ntchisi are both lactating and pregnant while 1 woman from Salima is also lactating and pregnant.

Figure 6: Mid upper arm circumference by TA



From the figure 6 above the majority of the mothers have mid upper arm circumference of more than 22.5 cm. This shows that these mothers are nutritionally okay based on muac and even the oedema no any mother was reported having oedema from both districts and the TAs.

Table 11: Mid Upper arm circumference of the mothers District

MUAC	Salima		Ntchisi		Overall
	n	%	n	%	
<22.5 cm	3	1.8	4	2.4	7 (2.1%)
>22.5 cm	168	98.2	166	97.6	334 (97.9%)
Total	171	100	170	100	341 (100%)

Based on Mid Upper arm circumference for the mothers the table shows that 1.8% of the mothers from Salima and 2.4% of the mothers from Ntchisi reported having MUAC less than 22.5 cm. This shows that these mothers are thin while majority of the mothers 97.9% have their MUAC >22.5 cm normal.

Table 12: Mean height, weight, MUAC and BMI of Lactating mothers by age category

Age category	Weight	Height	MUAC	BMI
Salima				
Mothers:				
15-19 years	44	147.4	24.4	20.2
20-29 yrs	53.7	155.6	27.2	22.2
30-39 yrs	52.6	154.9	27.2	21.9
40-49 yrs	53.8	160.4	26.4	20.9
Ntchisi				
Mothers:				
15-19 years	50.2	153.8	24.6	21.2
20-29 yrs	52.9	155.1	26.3	22.1
30-39 yrs	56.1	155.6	27.5	23.2
40-49 yrs	53.2	156.0	26.9	21.9

From the table 12 above the results show that the mothers of 15-19 years of age have the weight of 44 kg and mean height of 147 cm sometimes such mothers can be at high risk of obstetric complications since they have not completed growing themselves and have additional requirements for motherhood.

The nutritional status of mothers based on BMI is presented in Table below. The findings revealed higher proportion of women were within normal range of BMI 18.5-24.9 as reported by 80.9% of women from Salima and 78.2% from Ntchisi. While 9.2% of women from Salima and 14.3% of women from Ntchisi were overweight. 3.8% of women from Salima and 4.4% from Ntchisi are obesity. No any mother from both districts reported severely thin or moderately thin.

Overall 79.5% of the mothers were satisfactory normal based on the BMI 18.5-24.9 cut off points while 11.9% were overweight and 3.6% were obese.

Table 13: Body Mass Index for mothers and fathers by district

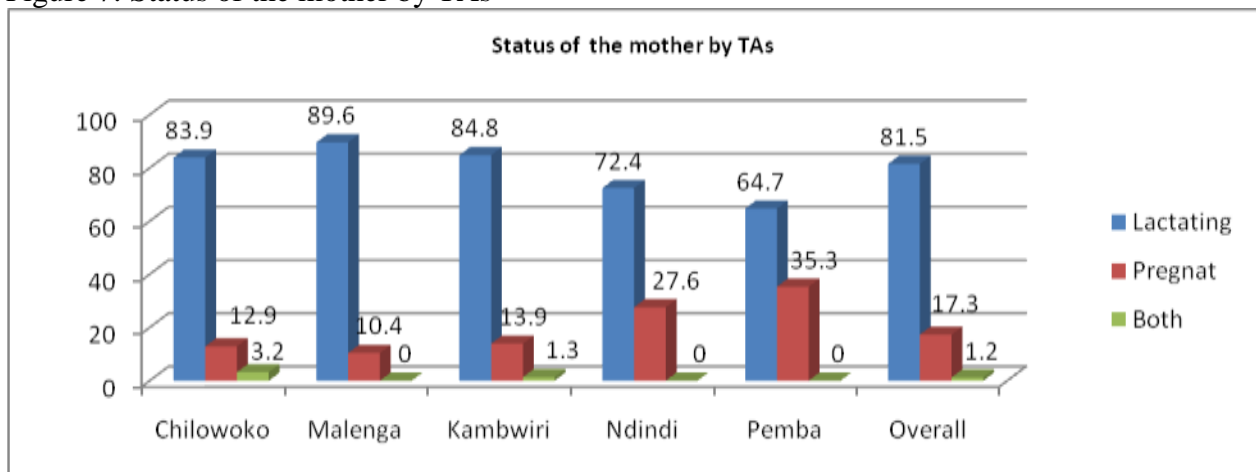
Body Mass Index	District				Overall	
	Salima		Ntchisi		n	%
	n	%	n	%		
<16 (Severely thin)	0	0.0	0	0.0	0	0.0
16-16.9 (Moderately thin)	0	0.0	0	0.0	0	0.0
17-18.4 (Mildly thin)	8	6.1	6	4.1	14	5.0
18.5-24.9 (Normal)	106	80.9	115	78.2	221	79.5
25-29.9 (Overweight)	12	9.2	21	14.3	33	11.9
>=30)Obese)	5	3.8	5	4.4	10	3.6

From the table 14 the results show that 5.0% of the women had chronic energy deficiency. This is lower than 9.2% which reported in 2004 MDHS (NSO and ORC Macro, 2005). However the majority (79.5%) of the women are classified as normal compared with the national prevalence of 77.1% in 2004 MDHS.

Oedema:

The survey also looked into the presence of the oedema for all the mothers interviewed and the results revealed that 341 women (100%) nobody reported having oedema.

Figure 7: Status of the mother by TAs



From the figure 7: TA Pemba registered 35.3% pregnant mothers, Ndindi 27.6%, Kambwiri 13.9%, Chilowoko 12.9% while Malenga had 10.4% of the mothers who are by the time of survey they were pregnant.

CONCLUSION

The results of the survey has shown that there is a great impact in terms of nutritional assessment for both children and their mothers, all the children that was assessed nobody have been found severe malnourished based of weight for height and the mothers no body found with oedema. This shows that the project has done its intervention to address the issues of malnutrition in the project areas.