

SOUTHERN NEW HAMPSHIRE UNIVERSITY

&

OPEN UNIVERSITY OF TANZANIA

**MASTER OF SCIENCE IN COMMUNITY ECONOMIC
DEVELOPMENT (2005-2007)**

**INDIGENOUS CHICKEN MICRO-ENTERPRISE FOR
UMOJA WA AKINAMAMA MKOMBOZI MLIMANI OLD
SHINYANGA, (UKIMMOS).**

Zengo Saul Mikomangwa

SOUTHERN NEW HAMPSHIRE UNIVERSITY

&

OPEN UNIVERSITY OF TANZANIA

**MASTER OF SCIENCE IN COMMUNITY ECONOMIC
DEVELOPMENT (2005 – 2007)**

**INDIGENOUS CHICKEN MICRO – ENTERPRISE FOR
UMOJA WA AKINAMAMA MKOMBOZI MLIMANI OLD
SHINYANGA, (UKIMMOS).**

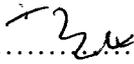
**Submitted in partial fulfillment of requirements for Msc in
Community Economic Development.**

Zengo Saul Mikomangwa

SUPERVISOR'S CERTIFICATION

I certify that I have read this project and i am satisfied that it can be submitted to the
OUT / SNHU Senate in partial fulfilment of the requirements for the award of the degree
of science in Community Economic Development (Msc. CED).

Name.....HERMIONGICA NIENGA.....

Signature..........

Date.....17th September 2007.....

COPYRIGHT

All rights reserved. No part of this project proposal may be produced, stored in any retrieval system or transmitted in any form or by any means, electronic, mechanical, photocopying, or otherwise without prior written permission of the author, Southern New Hampshire University/Open University of Tanzania in that behalf

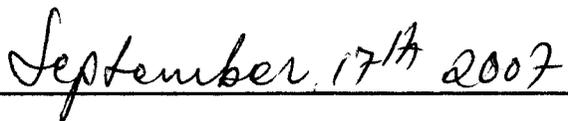
DECLARATION

I, Zengo Saul Mikomangwa, do hereby declare to the senate of the New Hampshire University that I am the bonafide owner of this project and that it is my own original work which has not been submitted for a degree in any other university.

Signature: _____



Date: _____



DEDICATION

This work is dedicated to all Community Development Practitioners, who work day and night to support marginalized and voiceless people to overcome poverty and to live an effective life with full of hope.

ACKNOWLEDGEMENT

This project is the result of work of many individuals and organizations. First, I would like to thank all villagers of Old-Shinyanga especially the UKIMMOS members and members of the survey team to which I owe so much, for their time and energy they invested in working for this project. It is my sincere hope that the process will help them to practise improved management of indigenous chicken.

I would like to express my sincere thanks to the leadership and members of the host CBO (UKIMMOS) for inviting me to provide technical assistance to their organization

I am grateful to Mr. H Mtenga, my supervisor, for invaluable inputs, comments and editorials to ensure a quality piece of work.

I would also like to thank the Local Government authorities and functionaries at all levels for their guidance and co-operation. The whole process would not have been possible without their valuable assistance. I would like to register my heartfelt appreciation to Right Reverend Aloysius Balina, the Shinyanga Catholic Diocese Bishop, for his overall support to the project.

My sincere gratitude to the management of the Catholic Diocese of Shinyanga who availed me the opportunity to pursue the CED programme including financing the study. Thanks to all Catholic of Shinyanga staff members for their material and moral support through out my study period.

Last, but not least, I would like to thank my family (my wife Immaculate and my three children Butamo, Ndege and Padri) for their indefatigable support which has made it possible for me to complete this work. This has been done at the expense of their precious family time. Thanks for your understanding and perseverance.

ABBREVIATIONS

1. CBO	Community Based Organization
2. FGD	Focus Group Discussion
3. FAO	Food and Agriculture Organization
4. LOGFRAME	Logical Framework Approach
5. MDG	Millennium Development Goals
6. MKUKUTA	Mpango wa Kukuza Uchumi na Kuondoa Umasikini Tanzania
7. MOA	Ministry of Agriculture
8. MIS	Management Information System
9. NGO	Non Governmental Organization
10. ND/ NCD	Newcastle Disease
11. SLC	Scavenging local chicken
12. UKIMMOS	Umoja Waakinamama Mkombozi Mlimani Old-Shinyanga
13. UNDP	United Nations Development Program
14. VEO	Village Executive Officer
15. WEO	Ward Executive Officer
16. WHO	World Health Organization

TABLE OF CONTENTS

<i>SUPERVISOR (S) CERTIFICATION</i>	I
COPYRIGHT	II
DECLARATION	III
DEDICATION	IV
ACKNOWLEDGEMENT	V
ABBREVIATIONS.....	VII
TABLE OF CONTENTS	VIII
LIST OF TABLES	XII
ABSTRACT	XIII
EXECUTIVE SUMMARY.....	XIV
CHAPTER ONE: COMMUNITY NEEDS ASSESSMENT.....	1
1.2 General profile of the area.....	1
1.3 Background Information of the CBO.....	3
1.4 Community needs assessment Approach.....	4
1.4.1 Methodology and Tools	4
1.4.1.1 Advantages of the Methods Applied.....	5
1.5 Village Survey on Indigenous Chicken Management.....	7
1.5.2 Characteristics of the survey	8
1.5.3 Questionnaire Survey	8
1.5.4. Unstructured Interviews	9
1.5.5. Participation Observation.....	9

1.5.6. Secondary data collection.....	10
1.5.7 Contents of the questionnaire.....	10
Psychometric characteristics of the survey	11
1.5.7 Reliability.....	11
1.5.8 Validity.....	12
1.5.9 Research design.....	12
1.5.9.1 Limits on Internal and external validity	13
1.5.9.2 Sampling Techniques	14
1.5.9.3 Potential biases.....	14
1.5.9.4 Avoidance of Biasness' in Questionnaire Design.....	15
1.5.10 Findings and Data Analysis	16
1.5.11 Results from Survey Tools.....	17
1.5.11.1. Focus Group Discussion:	17
1.5.11.2 Semi-structured questionnaire results	18
1.5.11.2.1 Social- economic profile of farming communities.....	18
1.5.11.2.2 Age characteristic of respondents	19
1.5.12 Livestock keeping	20
1.5.13 Mortality and Causes of Poultry losses	21
1.5.13.1 Other causes of mortality	22
1.5.13.2 Extension Services	22
1.5.14 Secondary data review	23
1.5.15 Field observation.....	25
1.6 Conclusion.....	26
1.7 Recommendation.....	27

CHAPTER TWO: PROBLEM IDENTIFICATION.....	28
2.2 Problem statement.....	29
2:3 Target communities.....	31
2.4 Stakeholders:	32
2:5 Project goal.....	35
2:6 Mission statement.....	36
2:7 General and specific objectives.....	36
2:7:1 General Objective	36
2:7:2 Specific objectives	37
2:8 Host organization.....	37
Participation in this project:	38
CHAPTER THREE: LITERATURE REVIEW	39
3.2 Empirical literature review.....	45
3.3 Policy review.....	49
3.3.1 Policy Statements	50
CHAPTER FOUR: IMPLEMENTATION	52
4.1 Implementing Strategy	53
4.1.1 Stakeholder's Responsibility.....	53
4.2 Project Outputs.....	55
4.3 Project Products.....	55
4.4 Project Plan and Implementation Schedule.....	56
4.5 Implementation Progress.....	66
4.5.1 Project planning.....	66
4.5.2 Project design	67

4.5.3	Community needs assessment.....	67
4.5.4	Community capacity building.....	67
4.5.5	Purchase of local pullets and improved cockerel.....	67
4.5.6	Management of the flock.....	68
4.5.7	Report writing and follow-up to gather CBO feelings towards the project	68
CHAPTER FIVE: MONITORING, EVALUATION AND SUSTAINABILITY		69
5.2	Monitoring Plan and Strategy	70
5.2.1	Planning and Review.....	70
5.2.1.2	Diseases Occurrence and Production Monitoring.....	71
5.3	Monitoring Progress.....	75
5.3.1.1	Management Information System	77
5.3.2	Evaluation Strategy Plan.....	80
5.3.3	Formative evaluation.....	80
5.4	Sustainability.....	83
CHAPTER SIX: CONCLUSION AND RECOMMENDATION		87
6.1	Conclusion.....	89
6.2	Recommendations	90
REFERENCES.....		92
APPENDICES:.....		95
a.	Letters Of Introduction / Acceptance	95
b	Needs Assessment	95
d	Project Implementation Gantt Chart	97
e	Staff Job Descriptions	97
g	Project Powerpoint Presentation	100

List of Tables

Table 1: Distribution by sex and education level	18
Table 2: Characteristics of the respondents by household type	19
Table 3: Age distribution of respondents of Old Shinyanga village, Shinyanga region Tanzania	20
Table 4: Average number of livestock per household in Old- Shinyanga Village Shinyanga region.....	20
Table 5: Livestock most diseases in the study village in Old Shinyanga	21
Table 6: Extension Services Status in the study village of Old Shinyanga.....	23
Table 7: Stakeholder’s analysis.....	32
Table 8: IMPLEMENTATION SCHEDULE:.....	57
Table 9: Actual Implemented Activities	61
Table 10: SUMMARY LOG FRAME	62
Table 11: Major Project Inputs.....	63
Table 12: Capacity building conducted to UKIMMOS group members	66
Table 13: Monitoring and Evaluation Matrix (source: Monitoring and Evaluation survey, 2006).....	72
Table 14: Summary Monitoring.....	77
Table 15: Questionnaire	95
Table 16: BUDGET	98
Table 17: BUDGET SUMMARY.....	99

Abstract

This report describes a participatory process for establishing local chicken enterprise aimed at improving the productivity of indigenous chickens. Keeping indigenous chickens is a low cost investment with potentials for contributing substantially to food security and income generation especially to the poor rural women. However, New castle (NCD), poor feeding, low genetic potential, management skills, limited access to credit and appropriate marketing strategies limit the productivity of this sector.

The project is being implemented by a group of 52 women members in which capacity building support will come from Agricultural Programme of the Catholic Diocese of Shinyanga.

The group will receive training focused on addressing the limiting factors named above and will use the locally available resources to achieve the set objectives. External funding will be limited. The overall objective of the project is to contribute towards poverty alleviation and hunger fighting thus improving the community livelihood.

Direct beneficiaries of the project are the members of Umoja Wa Akinamama Mkombozi Mlimani Old- Shinyanga (UKIMMOS). They will receive training in local chicken management ranging from disease control, feeding, housing, breeding and marketing. The group as well as for every participating household will construct chickens shed. Twenty local chicken pullets and five Rhode Island Red cockerels will be purchased for cross- breeding. The project also will contribute towards reduction of local chicken mortality by 70% through vaccination by the new castle disease vaccine.

Executive Summary

The process for project formation and implementation involves three partners. The partners are Umoja Wa Akinamama Mlimani Old- Shinyanga (UKIMMOS) group members, Agricultural Programme of Catholic Diocese of Shinyanga and SNHU student. The project focuses on strategies for improving productivity of local chickens in Old-Shinyanga Mlimani sub – village through UKIMMOS group members.

The Old-Shinyanga community has similar features that are prominent in many communities in rural areas of Tanzania. About 90% of the population in this area is employed in agriculture and livestock keeping, with an average annual income of about Tshs 300,000/=. It is expected that with introduction of the project there will be improvement in productivity of local chicken that indirectly can contribute to reduction in income poverty and food security. It is the vision of the group to have improved livelihood that will be observed through better houses, improvement nutritional status and income as well as access to recreational activities.

The project goal is hinged around income poverty reduction and household nutritional status improvement and hence livelihood improvement. The goal will be reached through the following strategies:

- Establishment of group indigenous chicken projects as well as in every participating household.

- Awareness creation to the Old-Shinyanga community on the potential of indigenous chicken and improved management especially vaccination, uses of feed supplements, and housing.
- Increase in household protein consumption through consumption of eggs and chicken.
- Reduction of chicken mortality from 90% to 30% in participating households.

It is expected that at the end of the project the group will have raised awareness to the whole Old-Shinyanga community on the potential of indigenous chicken and disease control.

The progress of the project as at December 2006 the following has been achieved:

- One group unit of indigenous chicken has been established.
- Among of the 52 members of the group 34 have established local chicken enterprises at their households that are different stages of implementation.
- The group has purchased five improved cockerels for cross breeding.
- Training on indigenous chicken husbandry with particular emphasis on control of NCD through vaccination and other management practices has been provided. Vaccination of chickens against NCD is ongoing and those vaccinated have been protected resulting into decline in rates mortality.
- The group members have embraced on raising awareness about potential of the indigenous chicken enterprises. The community Emphases is control of NCD through vaccination. This aims at ensuring community chicken flock protection to minimize pockets of infection source.

CHAPTER ONE: COMMUNITY NEEDS ASSESSMENT

The main objective for community needs arrangement (CAN) in project formulation is to gather information within the community that can be utilized at the various stages during the project cycle. The process entails gathering the information with the community through application of well chosen participatory methods and application of various tools. Specifically in relation to the project, data were obtained from both primary and secondary sources.

In primary data collection methods applied were interviews, focus group discussion and direct observation. The instruments used in interviews were semi structured questionnaire. Collection of secondary data was done through reviewing information from various books, journals and Internet visits. The Community needed assessment which were conducted in two stages. Stage one was conducted prior the project formulation with a purpose of getting information for the project design. This was done mainly using meetings and focus group discussions with the UKIMMOS group members. In the second stage the whole community was involved and detailed data and surveys were used. The results of both stages were similar, showing the same need. These results were the basis of writing of the problem statement.

1.2 General profile of the area

Old- Shinyanga village is situated 12 kilometers south west of Shinyanga municipal council head quarters. There are several ethnic groups among the people who are living in the village although Sukuma people are the majority. The total number of households

is 800 while the population is 4,748 people. Of these, 1147 are females and 1177 are males, female children 1,216 while male children are 1208. The average number of people per household is seven. The people are predominantly Christians of the Roman Catholic Church, Africa Inland Church, Lutheran and Pentecostal and Anglican denominational faith.

The soils are moderate fertile and climate has not been good enough for agriculture due to erratic and unreliable rainfall. Despite being a livestock keeping tribe by tradition, cattle are very few due to grazing land scarcity. Indigenous chickens are predominant and are found in almost every household. The indigenous chicken survives on scavenging, and generally are poor managed.

Although the village has tap water very few households have access to safe drinking water. Houses are poorly constructed, made of mud bricks, thatched by grass mixed muds that are known as Matembe in Sukuma language. Few houses are roofed with corrugated iron sheets. Being close to the trunk road, electricity poles are close and in some cases wires pass above their houses. However, very few houses in the village are electrified.

About 90% of the populations are employed in agriculture and livestock keeping. The average annual income per person is estimated at Tsh. 300,000/= (2002 census). Livestock kept are of indigenous breed and improved cattle, sheep, indigenous and improved goats, and ducks. However, the poorest who sometimes are called poorest of

the poor households mostly keep indigenous chickens as they can't afford purchasing and raising other livestock.

1.3 Background Information of the CBO.

Umoja wa Akinamama Mkombozi Mlimani (UKIMMOS) started Oct.2001. Most of the group members reside at Mlimani sub village area in Old Shinyanga village. The group is situated 12 kilometers south west of Shinyanga Municipal council. The group started operating as a social group for assisting each group member when they get problem or when had any social function. Later on, in year 2004 the group decided to engage in economic and development activities. In the same year the group members increased from 30 to 52. Most members are very committed and the office bearers are well organized. The group has a Bank account at the National Micro finance Bank Manonga Branch at Shinyanga Municipal.

From the discussion with group members, various problems were mentioned that hinder the group members to attain their development objective. Currently the group is not registered which leads the group to have difficult situation to get assistance from government, local government and other stakeholders. Generally the group has a determination of alleviating poverty by improving the existing income generating activities and exploring the potentials for new income generating activities

1.4 Community Needs Assessment.

A number of approaches were used in conducting a needs assessment. Initial discussion with the Old-Shinyanga village executive secretary directed me to the group. First I met the Chairperson who requested me to write an official letter for the purpose of being allowed to be engaged in the activities of the group. The research promoter wrote a request letter asking if the group could allow me to work with them. The group agreed and I started meeting the group. We used to be meeting every Monday as well as on the 06th of each month for executive committee meetings and the whole group respectively where we discussed some key issues as regard to the welfare of the project. Already they had started an agricultural project. Through discussions and interviews with the group the research promoter asked them why they decided to come together. Income poverty (poor livelihood) was said to be a driving force. The poor livelihood was said to be due to lack of stable income generating activities. A number of projects were proposed in the livestock sector like dairy cattle, dairy goats, and chicken project.

1.4.1 Methodology and Tools

Conducting a community needs assessment is vital to the success of any new service or program. A needs assessment includes the process of “identifying and discovering the needs of a target audience” and it a critical start to planning (Burroughs, 2000). Conducting a needs assessment sets the stage for overall service goals and can be accomplished in various ways. Different participatory methods ranging from Focal Group Discussion and interview to group members and other stakeholders were undertaken. Some of the interviews were done purposefully to the important stakeholders such as chicken vendors and village elders. These interviews were further

substantiated by secondary data from Shinyanga Municipal Council Veterinary office; Literature reviews in books and research papers presented at different scientific conferences and in the Internet. On-site observation when while visiting the village/community and other stakeholders like Shinyanga Municipal chicken market, bars restaurants and open markets of old Shinyanga. A visit and discussion with the Village Extension Officer (VEO) further gave me more information about the situation in the area. During the structured discussion in a meeting, responses from the group members were used in building up the problem statement. Random questions were used to solicit more information and consensus was reached on key issues like what they real think to be the situation.

1.4.1.1 Advantages of the Methods Applied

As discussed FGD and interviews were the main methods that were used in data collection. The methods were specifically used due to their relevance to the CAN.

Advantages of FGD:

- Quick, cheap and relatively easy to assemble
- Good for getting rich data in participants' own words and developing deeper insights
- People are able to build on one another's responses and come up with ideas they might not have thought of in interview
- Good for obtaining data from children and/ or people with low levels of literacy
- Provides an opportunity to involve people in data analysis (e.g. "out of the issues we have talked about, which ones are most important to you?")

Participants can act as checks and balances on one another – identifying factual errors or extreme views.

Structured interviews are systematic goal-oriented process. They facilitate organized communication between the information provider and the collector. The affect of the structure is to reduce the potential for interpretation problems inherent in unstructured interviews and allows knowledge engineers to prevent the distortion caused by the subjectivity of the domain expert. The specific advantages were:

- Maintains a focus on given issue.
- Provides detailed information on the issue.
- Provides insight into declarative knowledge used.
- Study of one concept can lead to the definition of other unknown related concepts.
- Provides structural relationships of concepts.

Further interview revealed that they could not manage start other project due to lack of resource /capable (cattle, goats) technology skills. They therefore decided to start indigenous chicken project, which they thought they have the resources (local chickens). However, detailed discussion, revealed that still they experienced losses due to a disease they call “IKULA / KABUDI” in the local language. They said it wipes almost the whole flock when outbreak occurs thus compounding the low productivity of the project. Review of project baseline survey data done through discussing with the Shinyanga Municipal veterinary officer, Ward extension officer also revealed problem/ need to be

addressed. Similar literature review from disks journals and Internet supported what farmers were saying.

1.5 Village Survey on Indigenous Chicken Management

Unlike the CAN that focused mainly to UKIMMOS the village survey was done to asses existing management of indigenous chicken in Old Shinyanga Village. The purpose was to understand the current local poultry keeping practices and thus be able to propose the best management practices that can be applied and thus improve productivity in the village. The study was conducted between 10th June and 16th June, 2006 household questionnaires were administered to respondents mainly to the randomly selected households from the village. Existing indigenous chicken and exotic chicken management were assessed using both qualitatively and quantitatively research methods. Specifically the study aimed at assessing the socio-economic profile of the participating farmers in the study area; characterizing the indigenous chicken and exotic management systems at farmer level, household use of the stock and propose the best management practices of indigenous chicken on the basis of the research findings. The study was therefore undertaken to get information on the most important factors hindering productivity of indigenous chicken in the study area. Besides the study identified strengths, weaknesses and opportunities that can be used for better improvement of the project implementation.

The study was guided by the following research questions:

- Which is the most effective and direct ways of improving productivity of the local/indigenous chicken for the study area.
- What are the Socio-economics characteristics of the beneficiaries in the study area?

- What is the household structure? (Gender and education level).
- The community understanding on the major factor limiting crop and livestock production especially indigenous chicken (name and clinical signs)
- Interaction and efficiency of such interactions

1.5.2 Characteristics of the survey

Participatory Rural Appraisal has been defined as a growing family of approaches and methods to enable local people to share enhance and analyze their knowledge of life and conditions to plan and act (Chambers, 1992). Various PRA techniques used were grouped as visualization and discussion methods. Visualization methods aimed at focus analysis around specific indigenous chicken management system. The discussion methods helped to ensure that those involved remained curious and critical and shared their insights and questions openly.

1.5.3 Questionnaire Survey

The questionnaire was used to solicit socio-economic information that might govern the farmer's performance in rearing indigenous chicken. This information included among other things; age gender education level tenure farm implements; Livestock heard size and constraints associated with these practices. Firstly, three-sub-village of Old Shinyanga village namely as Mlimani, Kati and Butulwa were purposively selected from the village to represent the areas of high and low indigenous chicken concentration. In the second level sampling, household to be interviewed in each sub-village were randomly selected and were interviewed.

In person interviews has been chosen basically due to the following reasons:-

- Most of the respondents are not used to self-administered questionnaires and their education level is very low to administer well the self-administered questionnaire.
- In person interviews improve the response rate, as there is room to plan in advance to replace the non – respondent as well as using homogenous sample.

1.5.4. Unstructured Interviews

This is a guided interview in which only some of the questions and topics are predetermined and more questions arise during the interview. In order to remain focused and carefully controlled, a structured guide or checklist was used. Unstructured interviews were used to solicit information from key actors and focus group.

1.5.5. Participants Observation

This is a qualitative data gathering method that requires direct observation of an activity behavior, relationship, Phenomena network or process in field. Kajembe and Luoga (1996) noted that curiosity and willingness to learn are tools in the new surrounding environment. In this study the processes of participant observation has been of great assistance in the field and through interpretation and linkage of data obtained from other methods.

Under this technique field visit were made to asses activities like housing, feeding and water supply to the indigenous chicken in many cases, this method was combined with discussion with key informants on the merits and demerit of various activities. This

enabled people to see and make their own value decision about improved management system of indigenous chicken, and relevance to their situation.

1.5.6. Secondary data collection

Data was collected from secondary data sources as well. The main sources for the secondary data was from research records, annual report of Shinyanga Municipal Agriculture and Livestock Officer, Village and Ward Agriculture and Livestock Officer, case studies, and journals, books, leaflets and relevant dissertations.

1.5.7 Contents of the questionnaire

The questionnaire comprised of twenty-six questions divided into five sections with each section aimed at certain specific objectives. Section one made of general information that aimed at getting general information of the survey area like date, district, division, ward, village and name of the enumerator.

Section two with a title household identification and composition had questions that were geared towards obtaining information on household type, gender, age experiences in the community, education level decision making, equipment which the household posses and others. Third section concentrated on land issues its questions geared at getting information on the land size, utilization, crops cultivated and acreage, right use of the land, production of crops cultivated food sufficiency and problems encountered in crop production.

Forth section has questions focusing on livestock production especially aimed at getting information on types of livestock kept, major uses, problems faced in animal production and major or most important problems for each specie.

Lastly, the fifth section had questions geared at getting information on non- farm income generating activities, extension service and vaccination of farm animals.

Psychometric characteristics of the survey

A number of problems with global ratings have documented scores can be highly subjective when raters are not well trained; sometimes all competencies are rated the same regardless of performance; and scores may be biased when raters inappropriately make severe or lenient judgments or avoid using the extreme ends of a rating scale.

Research reports are mixed about: discriminating between competence levels of different individuals; easily. However, ratings do require time to directly observe performance or interact with the respondent being interviewed. Training of raters was conducted prior to rating which ultimately improved the reproducibility of the findings.

1.5.7 Reliability

When we say that information is reliable, we mean that we can expect to obtain the same information time after time. In other words when measurements (scores) are repeated the new results are consistent with the first scores; regardless of the assessment tool to the same individuals. The concept of reliability can be applied to sampling. If we repeatedly draw random sample of equal size from a population, we can expect to get the same sample value each time (plus or minus a certain amount due to sampling error). Reliability is measured in terms correlation with 1.0 being perfect reliability and below

0.50 as unreliable. Evaluation measurement reliabilities above 0.65 and preferably near or above 0.85 are recommended. During the survey in order to measure the stability of data respondents were interviewed twice into different ways at different time using the same questionnaire.

1.5.8 Validity

Information is said to be valid, when it is presented or used in the way for which it was intended. For example an IQ test is said to be valid only if it is used to measure intelligence but it is considered not valid if it used assign individuals to groups. Note however that, a psychological test that is a valid measure of anxiety is not a valid measure of stress. Validity therefore refers to the specific measurement made with assessment tools in a specific situation with a specific group of individuals. Note that it is the scores not the type of assessment. That is to say, it is possible to determine if the written exams scores for a group of residents are valid in measuring the residents' knowledge, but it is incorrect to say that "all written exams" are valid in measuring knowledge. In case of my survey validity of questionnaire was established by pre-testing the questionnaire by the people who were involved in administering. The pre-testing followed after training. After pre-testing of the questionnaire feed-back meeting were conducted before actual administration of the questionnaire.

1.5.9 Research design

The Survey was designed to establish problems and challenges facing the productivity of the indigenous chicken in the village as well as members of Umoja wa Akina Mama Mkombozi Old Shinyanga (UKIMMOS) who were raising indigenous chicken. A

Cross-sectional research design was used during survey. It involved asking questions to a representative sample of the population at a single point in time where instruments like questionnaire Interviews and direct observation were used. This design is most appropriate for descriptive research and determination of relationship between variables. The Primary, Secondary, quantitative and qualitative methods were used in analyzing the data. This type of research design and methodology has helped to come up with a deep understanding of productivity of indigenous chicken that were important to UKIMMOS members and the Old Shinyanga Community at large; and to identify obstacle to production.

The Survey was carried out in Old Shinyanga village which forms part of peri-urban villages of Shinyanga Municipality. The decision to choose the project area (Old Shinyanga) were first; it is within the CBO' area of operational and second, the proximity where the CED student can easily reach the area after working hours and during the public holidays.

1.5.9.1 Limits on Internal and external validity

When we say that information is reliable, we mean that we can expect to obtain the same information time after. In other words when measurements (scores) are repeated the new results are consistent with the first scores regardless of the assessment tool used on the same or similar individuals.

Hence, in order to ensure precision and accuracy of information to be collected by questionnaires or interviews, i used questionnaires that have been validated. To achieve

this, all questionnaire or interview items that have been used in the survey tested before they are handed out to the survey population sample. Through this approach, the validity of the survey has been enhanced and as such be reliable.

1.5.9.2 Sampling Techniques

Survey involved administration of 60 questionnaires among those 30 questionnaires to households of UKIMMOS members, 30 questionnaires from Old Shinyanga Community members who were randomly selected to obtain the required sample, the survey used both non-probability or deliberate sampling and probability or random sampling. Deliberate /purposive sampling was used to solicit information from village, ward Agricultural and livestock officer as well as Municipal Agriculture and livestock officer. This enabled me to have enough information about challenges and or problems affecting the productivity of indigenous chicken in the study area chances during the survey. The village has a total population of 4,998 people (2002 census); among these people 1,177 are men, 1147 are women and children are; boys 1,208 while girls are 1, 216. The secondary data was obtained from Municipal Agriculture and Livestock Office, Divisional Agriculture and Livestock Office, and Village & Ward Agricultural and Livestock Office. The main source of this data was records, reports and books. 3 Focus group Discussions were conducted with different segments of CBO and Community members.

1.5.9.3 Potential biases

Collection of reliable and valid information in any survey depends very much on the type of questions asked. To frame questions that are valid and reliable measures what

you want to know and to avoid things that diminish these qualities so as to get responses from the respondents could turn out to be a challenging job. However, clear, coherent questions were set with interesting and appropriate response choices to prompt accurate and consistent responses were obtained throughout the survey.

1.5.9.4 Avoidance of Bias' in Questionnaire Design.

A bias is said to exist whenever some feature of the survey instrument or interview process leads to a response that is not a genuine measure of the respondent's true opinion, attitude, belief, or attribute. The bias can occur in the instructions, question wording, question order, response choices, or the format of the instrument (Fowkes F, Fulton p.1991)

questions, and selecting different types of questions, eliminates straight-line response bias.

In order to avoid the above bias in questionnaires, the survey questions were set in the following format:

- The first question was clearly connected to the purpose of the survey as defined in the introduction
- Objective questions were asked before subjective ones
- The most familiar questions were asked first followed by the least ones
- The natural sequence of time was observed
- All questions were independent
- Relatively easy-to-answer questions were asked at the end
- Items that look alike were avoided

- Sensitive questions were placed well after the start of the survey, but also well before the conclusion.
- Questions were arranged in a logical order.

1.5.10 Findings and Data Analysis

Descriptive analysis was used in the survey that involved describing the common underlying characteristics of data (Arlene et al 1985). In quantitative research, descriptive analysis involves arranging the data into a frequency distribution in groups each value into categories from low to high. If it is a normal distribution, then most of the values will fall towards the center of the distribution and decrease in frequency further out from the center. The two most important descriptive statistics of a normal distribution are the mean and the standard deviation. The mean is a measure of central tendency (in addition to the median and mode) and the standard deviation is a measure of dispersion (in addition to the range variance).

Due to the nature of my survey descriptive method was mostly used as this has enabled me to have data for monitoring and evaluation of the project where analysis of data from this survey has been easily compiled through the computer program, *Statistical Package for the Social Sciences (SPSS)*. The method has been able to answer such questions as: How many? How much? How efficient? How effective? And how adequate?

1.5.11 Results from Survey Tools

1.5.11.1. Focus Group Discussion:

Focus group discussion was conducted at one of the meetings of the group. The objective was to establish elements that triggered the formation of the group and know other details about the group, the status of the project and success or difficulties the group is facing in relation to local chicken husbandry. Findings from focus group discussion were as follows:-

- Poverty (poor livelihood) due to income was the driving force for the group to come together. This then called for strategic initiatives to establish alternative and relevant income generating activities. A number of enterprises were proposed in the livestock sector. These included dairy cattle, dairy and poultry.
- Further interview with the group revealed that the group could not manage to start other enterprises due to lack of resource, capital and to some extent technological skills. As the result the group decided to start indigenous chicken enterprise.
- However, detailed discussion revealed that the group was afraid of losses due to a local disease they called “KABUDI”. Detailed description of the disease characteristics with the group came to be evident that it was New Castle Disease (NCD). Group members said the disease sweeps almost the whole flock when outbreak occurs. It was also evident that livestock extension services were lacking.

1.5.11.2 Semi-structured questionnaire results

A questionnaire comprising of twenty-six questions was administered to sixty households. Two livestock extensionists and the researcher administered it. The data was analyzed by SPSS software. The following were the results

- The poor livelihood was due to lack of stable income generating activities, lack of capital, bad weather, lack of knowledge in agriculture.
- The Survey results indicated that heavy losses in chicken are due to diseases, which mainly caused by New Castle Disease, Fowl Pox in that order (Table 5). NCD was ranked number one in causing the highest chicken mortality. Fowl Pox was said to affect mostly chicks. All respondents involved in the study said to have neither used modern medicine nor vaccine for treating and preventing NCD. The main treatment used was traditional herbs like neem, sisal, hot pepper, aloe vera and *datura stramonium*. It almost seems that traditionally farmers would use anything that tastes bitter to treat the deadly disease. Results further showed that, the efficacy of these treatments was very poor. In the order of importance causes of low productivity in chickens included diseases, poor feeds, predators, poor management and less attention to chickens

1.5.11.2.1 Social- economic profile of farming communities

Table 1: Distribution by sex and education (%).

Sex	STD VII	Form IV	STD IV	STD VIII
Male	53.8	15.4		7.7
Female	50	2.9	8.8	2.9

Source: Survey data June 2006

The majority (57.2 %) of the respondents had attained primary level education with an average of seven years spent in school (Table 1). This implies that indigenous chicken management technologies may simply be diffused into the communities through using both informal and formal education. However, increased level of formal education has a positive impact in awareness creation, against Newcastle Disease vaccination.

Table 2: Characteristics of the respondents by household type

Household type	Count	%
Male headed	48	80
Female headed	12	20

Household: Is defined as a social unit consisting of the numbers of a family who live together along with non relatives.

The results indicate that most of households (80 %) were male as opposed to 20 percent which were female households. Women were also more responsible with regards to the management of all farm activities compared to male counterparts. According to analysis this implies that major decision on the farm produce are vested to female than on men although in reality it is vice-versa.

1.5.11.2.2 Age characteristic of respondents

Respondents were assessed of their time characteristic in terms of age, years of residence and year spent in school (Table: 3).

Table 3: Age distribution of respondents of Old Shinyanga village, Shinyanga region Tanzania

Age Group	Count	%
19-35	26	43.3
36-65	29	48.3
66-85	5	8.3

(Source: Survey data June 2006).

The results indicate that 56.3% of the respondents was ranging at the age group of 36-65(48%) and 66-85,(8.3%), years old with an average residence of about 17 years. This implies that most respondents were mature enough thus they know well their environment due to longtime of stay in the area. Since household, age and residence can influence decision making on the new adoption of vaccination of the indigenous chicken at this juncture the may affect these factors.

1.5.12 Livestock keeping

Table 4: Average number of livestock per household in Old- Shinyanga Village Shinyanga region.

Livestock	Respondents	%
DUCK	10	17
CATTLE	24	40
Indigenous CHICKEN	46	77
GOAT	22	37
SHEEP	5	8

Source survey data June 2006.

Various types of livestock were present however, indigenous chicken being most predominant; accounting for 77 % of all types of livestock kept by the households in the study area. These results clearly indicate that indigenous chickens were the most important livestock in the study area. This was not surprising in view of the fact that, compared to other livestock, indigenous chicken require very little expert care or any

form of management. Also, they are utilized for a variety of social and cultural purposes that are important in lives of rural people (Scones 1992; Kusina and Kusina 1999).

1.5.13 Mortality and Causes of Poultry losses

Basically, losses were due to diseases, and predators. The extent and severity of losses were reported to be seasonal with greatest magnitude occurring during the hot, dry season.

Table 5: Poultry Diseases in Old Shinyanga Village

Disease	Species	Count	%
<i>Bursitis</i>	Chicken	4	6.0
<i>CCPP</i>	goats	15	2.2
<i>Chickenpox</i>	chicken	6	9.0
<i>Coccidiosis</i>	chicken	1	1.5
<i>Coryza</i>	chicken	1	1.5
<i>ECF</i>	cattle	1	1.5
<i>Heart water</i>	cattle	1	1.5
<i>Lumpy skin</i>	cattle	1	1.5
<i>Newcastle Disease</i>	chicken	41.5	62
<i>Other Tick borne disease</i>	cattle	8	11.9
<i>Worms</i>	cattle	1	1.5

Newcastle disease was presented as the major cause of poultry loss by most of respondents 62%(table no 5). This situation prevails in many other African countries (Chabeuf 1990; Kitalyi 1998). Data from Yongolo (1996) on village poultry studies conducted in Tanzania support the argument that Newcastle Disease (ND) is the most devastating disease of the village chickens. Also farmers were aware of ND in their flock and consequences of the disease such that 87 percent of the respondents confirmed that their indigenous chicken had been affected by ND in the recent years.

To confirm whether the respondent were familiar with the ND, they were asked to describe the clinical signs of the disease. It was noted that the majority of the respondents (90%) were familiar with the signs of the disease. Some of the signs described by respondents were greenish diarrhea, swelling of the neck and sudden death with no clinical signs and nervous signs, for example tremors, convulsions and paralysis of the legs and wings. It was also noted that farmers were aware of how the diseases are transmitted to their flocks, for example introduction of new birds into their flocks from other places. This evidence is supported by Martin (1992) who reported that the main form of transmission of ND was through bird to bird contact

1.5.13.1 Other causes of mortality

Other causes of mortality that were so obvious to the farmers were poor management practices, nutrition and housing of the indigenous chickens. Although farmers know the importance of chicken in their livelihoods, they do not attach high monetary value to chickens. Because of this village chicken are left to feed for themselves in every possible way. This lack of attention contributes to very high losses especially during the chick stages.

1.5.13.2 Extension Services

Table 6 summarizes the frequency of agricultural extension visits to the farmers. The results are that the agricultural extension officer has never visited 44.6%, while 17.9% have been visited twice a year and 37.5% occasionally. These results indicate that

extension services also contribute low productivity of indigenous chicken because farmers are not advised how to practice improved management system.

Table 6: Extension Services Status in the study village of Old Shinyanga.

Visits	Count	%
<i>Never</i>	25	44.6
<i>Twice a year</i>	10	17.9
<i>Occasionally</i>	21	37.5

1.5.14 Secondary data review

Literature review involved reviewing of livestock data for the Old-Shinyanga community; Internet sources, journals, books and personal communications. The following were the findings:-

- Review of Shinyanga Livestock report and discussion with the Shinyanga Municipal Veterinary Officer and Ward Extension Officer confirmed the epidemic of the disease in respect to indigenous chicken in Old-Shinyanga
- Despite the fear for NCD , the potential of local chickens is high. If improved and well managed, local chickens are able to contribute greatly to economic development of the rural poor, especially women in terms of income and immediate source of nutrition (Kazi , (n.d.) . Poultry as a tool to poverty eradication and promotion of gender equality seems to be supported by other researchers (Proceedings of a workshop), retrieved Nov. 17, 2005 from <http://www.husdyr.kvl.dk/htm/php/tune99/2-Fattah.htm>.)

- It is important to note the importance and potential of local chickens in increasing household food security and income as well as increasing gender equity, amongst the rural poor. Moreover, such improvement in particular women, children, vulnerable and land-constrained individuals has been realized. This has therefore called for several poultry scientists to suggest specific scientific thrust for rural communities to engage in poultry production for economic and social development. Poultry scientists aimed at improving the understanding of the biological and social – economic factors affecting the input and output relationships and the economic efficiency of the production systems in poultry production. (Aichi, 2003).
- Poultry production systems in Africa are mainly based on scavenging indigenous chickens found in virtually most villages and household in rural Africa. (Aichi, 2003; Kazi, 1998). These systems are characterized by low output per bird. However, over 70 percent of the poultry products and 20 percent of animal protein intake in most African countries come from this sector (Aichi, 2003).
- In most African countries, the chicken have no regular health control programme, chickens may or may not have shelter and mostly scavenge for their nutritional needs (Van veluw, 1987; Yongolo, 1996). In Tanzania the free range local chickens account for most of the 27.8 million poultry kept (MOA, 1995). Local chickens are present wherever there are human settlements (Katabange and Katule, 1989; Melewas, 1989). They are known to be able to survive under

various types of shelter, including make shift chicken houses, kitchens and even roosting in trees (Adrews, 1990; Horst, 1990; Mustafa 1990; Yongolo 1996).

- Despite the potential to bring income and and improve environmental the rural chicken production systems suffer from general production constraints like diseases and parasites, low genetic potential and inadequate feed supply. Moreover, high prices of inputs, inappropriate marketing strategies, poor management skills and limited access to credit contribute to low productivity of the local chicken (Tibamanya, 1994, Minga et al, 1989; 1996, Mwalusanya, 1998). Out of these constraints, New Castle Disease is the most common challenge and an out break in unvaccinated flock can result in mortality of up to 80 – 100% of the village flock (Robyn et al, 2003; Soinaya 1990; Mitchell, 1984; Minga et al 1989; Awan et al, 1994 Yongolo, 1996; Mohanty, 1987)

1.5.15 Field observation

Field observation was done from time to time of the study. The objective of the methodology was to observe visible signs of livelihood house structures, shelter, animals kept, income generating activities, public services facilities schools, health centers, power supply and others.

- The community happens to be in the village where the first Shinyanga town was found.
- Households are generally poor. The villages have access to safe drinking water but very few households have the ability to connect the tape water. Houses are poor, made of mud bricks and grass-mud thatched known as “MATEMBE”. In

this community few houses are roofed with iron sheets and the community being close to the road, electricity facilities are close and in some cases electrical wiring is easy for people to access. However, very few houses in the village have electricity.

1.6 Conclusion

The major findings of the study were that the households had small flock size and diseases and predators reduced the productivity of these flocks. Newcastle Disease (ND) was identified and accepted as the greatest danger to the expansion of the indigenous chicken production. There is a need for intervention to this disease and predator control. The control of the disease can be achieved through improvement of veterinary and advisory services. To this veterinary drugs should be made available and affordable to the vicinity of the participating group of farmers to allow immediate reaction to disease outbreak. Protection of the chick in early days after hatching is critical, because this is the time when they are most vulnerable to predators. The problem of predator requires that 'predator proof', housing such as wire gauze fencing and roofing can help to reduce some of the losses, especially during the night.

The village chickens in this study were mostly maintained under scavenging regime with little or no inputs for feeding or health care. Supplementation was "ad hoc", with no preference for chicks. Because of this production system, productivity of these birds is low. The low level of inputs could have been due to lack of capital.

Based on the survey findings it is obvious that its difficult for livestock keepers to improve the productivity of indigenous chicken without improving the management system There are many factors affecting productivity in the study area. This can be justified by the following information 62% of what suffers from Newcastle disease, and all maintained under scavenging with little or no input for feeding or health care. The high mortality observed represent a huge reproductive wastage.

1.7 Recommendation

During the survey group members, as well as community members were asked to suggest and recommend ways that can be used to address the problem of low productivity of indigenous chicken. Group members came up with the following recommendations.

- Routine vaccination of their flock against Newcastle disease should be done concurrently with the communally flock and should be maintained.
- Proper housing of their flock as well as supplementation of the indigenous chicken should be practiced.
- In order to understand well productivity improvement the group members requested management-training techniques.

CHAPTER TWO: PROBLEM IDENTIFICATION

Poultry rearing is one type of livestock enterprise, which can be run by all, farming families, even the poorest (Bell 1992). Village chickens comprise the majority of the poultry industry in many developing countries (Spradbrow 1997). Village flocks are small, of mixed age and mostly none housed or poorly housed. Most village chicken production systems are based mainly on native, domestic species that require very low level of inputs (Sayila 1999) leading to low output, hence the term 'low input/low output system'

Village stocks comprise the local unimproved poultry breeds commonly found in developing countries (Crawford 1992). The term indigenous, native or traditional chickens are often used as synonyms for village chickens, even where there is a high proportion of non-indigenous blood in the flocks. They are also termed scavenging chickens where they are allowed to run free in the village surrounding and backyard chickens where they are kept in a house yard (confined or free).

Backyard poultry production has been a traditional component of small farms throughout the developing world (Branckaert 1995). In Africa it is estimated that 80% of the poultry population is found in these systems that contribute up to 90% of poultry products in some countries (Branckaert 1995; Sonaiya 1995). The population of village chicken in Tanzania is estimated to be approximately 27.8 million (MOA 1995).

2.2 Problem statement

In rural areas of Tanzania, 90% of households raise chicken. The chickens act as a source of income, ritual purpose and also help to improve the household nutritional status. Research into the livelihood of smallholder farmers in Mwanza Region shows that poultry play a particularly important role in the economies of poorest farmers, many of whom do not own small ruminant or cattle (Mwalukasa et al, 2000). At household level, it contributes significantly as a source of income and also helps to improve the nutrition status of rural families (Ngendello and Hiza 2003).

Despite its contribution, the sub-sector suffers from several production constraints namely; Diseases and parasites, low genetic potential, feed supply, high prices of inputs, appropriate marketing strategies, management skills (poor management system) and limited access to credit. All these contribute to the low productivity of the local chicken. Out of these, New Castle Disease is the most common constraint and typical outbreaks in unvaccinated chickens can result in the death of up to 90-100% of the village flock (Shinyanga Municipal Veterinary Office (2005); Robyn et al, in AusAID Southern Africa New Castle Disease Control Project paper, 2003). At individual household level, they have tried to combat the disease by using a variety of local herbs and at times human drugs. Anything that tastes bitter is believed by the community to cure the disease. However, it became evident that all these interventions failed as the disease continued to claim more chickens every year. Recent survey in the project village shows an average population of two chickens per household and the decrease in the population was due to the previous outbreak of New Castle Disease. The outbreak is reported to

occur every year in specific months and that it affects all households rearing chickens in the village (Village Extension Officer report, 2005)

With regard to the challenges affecting the productivity of the indigenous chickens in the village as well members of UKIMMOS who were raising indigenous chicken are of the similar nature as aforementioned. UKIMMOS group decided to start raising indigenous chickens economically using improved management skills and disease control strategies. However, needs assessment revealed that they lacked management skills and disease control strategies. For instance, they were not aware on basic issues like the availability of the thermo stable Newcastle Disease (ND) vaccine developed for control of ND of chickens in rural areas. They lacked educational materials for reference as regards to management of chickens and have not received any defined formal training regarding the project. Extension services are also lacking.

Through the group they will access training and onsite learning on chicken management skills, disease control, feeding, marketing, constitution preparation, plan and action plan preparation, and mobilizing resources internal and external through sell and purchase of shares and proposals respectively.

The challenges and problems named above needs to be addressed to make the sector productive. Failure of which, the UKIMMOS group and the community at large will continue to live in abject poverty. It may also lead to increased malnutrition; unemployment, accelerated poverty in the community and loss of diversity (indigenous chicken genes) in future. The outcomes of income poverty in the community are

unpredictable but very likely child mortality will be further imminent due to malnutrition and inability to access basic health services which are paid for, youth migration to urban centers for jobs and perceived better life, limited access to human basic needs like clean water, food, and reasonable shelter.

2:3 Target communities

The intended project describes a participatory local project aimed at improving the productivity of indigenous chickens at Old Shinyanga, Mlimani Sub-village, and Shinyanga Municipality, Tanzania. Indigenous chickens have the potential to contribute substantially to food security and income generation especially to the poor rural women. New castle (NCD), feeding, low genetic potential, management skills, limited access to credit and appropriate marketing strategies limit the productivity of this sector.

The project will be implemented by a group of 52 women members by capacity building support from Agricultural Programme of the Catholic Diocese of Shinyanga.

The group will receive training in addressing the limiting factors named above and will use the locally available resources to achieve their objectives. External funding will be limited.

The overall objective of the project is to contribute towards poverty alleviation and hunger fighting thus improving the community livelihood or living standard.

Fifty-two members of Umoja Wa Akinamama Mkombozi Mlimani Old-Shinyanga (UKIMMOS), will receive training in local chicken management (disease control, feeding, housing and breeding) and marketing. The group as well as for every participating household will construct chickens shed. Twenty local chicken pullets and

five Rhode Island Red cockerels will be purchased for crossbreeding. The project also will contribute to reduction of local chicken mortality by 70% through vaccination by the new castle disease vaccine.

Participatory methods have been employed to enhance participation of UKIMMOS group members in the project. The group members were the central part of all steps of the project development whereas the external experts were facilitators of the process from CNA to implementation to project evaluation. This has enabled the group to develop their own desired project model, monitoring tools, and selection of their management structures (Project Organization Structure). Furthermore group members participated in, construction of chicken houses feeding and other management aspect.

2.4 Stakeholders

The stakeholders that were jointly identified by the group are:-

- CBO Members
- Old-Shinyanga TPDF Camps
- Agricultural Programme of the Catholic Diocese of Shinyanga.
- Agriculture and livestock extension officers.
- Poultry/chicken vendors
- Consumers
- Feeds supplier/veterinary drugs shop
- Shinyanga Municipal Council.

Table 7: Stake holder's analysis

Stakeholder	Participation	Evaluation	Impact	Rate	Plan
CBO Members	-Key implementers of the project (local chicken development Project)	High	Will be involved with keeping of chickens jointly as well as in their homesteads	+	Involve them in the whole project cycle in a participatory way
Agriculture and Livestock extension officers.	Provide advisory services to the project. At times monitoring backstopping	High	Will improve the production performance of the chicken through advisory on overall management of the chickens	+	Discuss with them if at all will need incentive /motivation in providing this. Plan to talk to District Council to assign a person to deal with the project as part of his/her duties.
Government Institution(veterinary Investigation Centre)	-This is an institution that deals with production of vaccines for chickens and sells it to livestock keepers -Also provided technical expertise/disease surveillance in case of outbreaks.	Medium	This impact is a reduction in chicken mortality leading to increase in herd strength or number of chickens.	+	-Make negotiation with them for reduction in cost of vaccines. -Involve them at some stages of the project that they may know what we will need from them.
Chicken Vendors.	These are local business people who collect and sell	Medium	These will enhance the marketing of chickens to consumers	+	Since they are already doing this business, they will be contacted

	chickens in town				in the process about the existence of the poultry keepers group
Agriculture and Livestock Inputs suppliers.	Sources of inputs like drugs, feeds and other vaccines	Medium	They have literally no effects/impact on the outcome of the project as it is a free market and are many. However, if they don't supply genuine drugs, vaccines and feeds they will affect the production capacity of the project. - At times may cause production costs go high if raise prices of inputs unnecessarily leading to high uncompetitive consumer or market prices	+	Plan to identify a reliable source and negotiate on the supply prices. Buying inputs in bulk may reduce the price.
Consumers	Local and outside. These are the ones that are the ultimate consumers of the chickens	Low	Have high impact if their attitude changes. However, this is not expected as the current situation shows high demand and high value of local chickens and products	+	Big consumers like hotels, Restaurants, Bars and Pubs will be contacted and agreements made if at all the vendors prove failure.
Local Government Authority	Provide loans to farmer groups through the village	Medium	Will increase the capacity of farmers to rear more/many chickens thus	+	Will be contacted after the community or group has put up a

(RFA)	development funds like <i>MKUKUTA/MKURA BITA</i>		contribute towards increased production		good proposal on what it intends to do.
Old Shinyanga Military camp	Purchasing of the chicken from the group	Medium	There is assured market of chicken	+	When there is reliable supply of chicken Camp leaders will be approached to purchase the chicken.
Agriculture program Diocese of Shinyanga.	Will find the source of cockerels for crossbreeding purposes. Will also provide some training and advisory services..	Medium	Improved production of chickens Capacity building	+	Have been contacted for provision of training. Advisory and to find the sources for improved cockerels. .

Stakeholder contributions are very vital in the process of the indigenous chicken micro-enterprise development for the group. Two types of stakeholder were involved in this project; the direct project beneficiaries and indirect project beneficiaries. The direct project beneficiaries are the group members of UKIMMOS.

The direct beneficiaries will benefit from better health and living standard through income from the improved management of the indigenous chicken. Other indirect beneficiaries are municipal council supporting agency, that would be proud of the project outcomes that are inline with government poverty reduction strategies and the millennium development goal number one and two.

The indirect stakeholder involved in this project is Agricultural Programme of the Catholic Diocese of Shinyanga. The organization contributed funds, consultancy support and capacity building in terms of technical training to the CBO. Other stakeholders are input suppliers who supplied vaccines and other preventive and curatives drugs and Municipal Council responsible for providing extension services to the entire area.

2:5 Project goal

The goal of the project is to contribute towards income poverty reduction and improvement of nutritional status and hence livelihood improvement at household level.

Before the commencement of the project UKIMMOS community were not practicing improved method of rearing indigenous chicken. They were rearing their chicken as other scavenging indigenous chicken, which is characterized by leaving the chicken to search for their feed without any sort of supplementation of feed, water supply, disease

control and other chicken management practice. Currently the UKIMMOS members are vaccinating their stock, they have chicken houses, they are supplementing their chicken as well as practicing improved method of rearing indigenous chicken which among others they also improve their flock through using improved cockerels. In the past there were experiencing losses due to New Castle disease which now they don't, thus community have realized the importance of improved method of rearing indigenous chicken especially the vaccination against Newcastle Disease and improvement of management of indigenous chicken that will increase income of households.

2:6 Mission statement

Umoja Wa Akinamama Mkombozi Old-Shinyanga (UKIMMOS) aims at improving the living standards of their group members by engaging themselves in various income generating projects by using the available local resources wisely and sustainable through training and sharing knowledge without gender discrimination.

2:7 General and specific objectives

The goal of the project is towards income poverty reduction and improvement of nutritional status and hence livelihood improvement at household level.

2:7:1 General Objective

To increase productivity of indigenous chicken so as to ultimately improve the household income and nutrition and hence improve their living standard by the year 2008

2:7:2 Specific objectives

- Establish one community managed indigenous chicken unit by CBO members to (enable them to learn proper management of indigenous chicken keeping)
- Support community members to purchase five improved cockerels for the group-managed unit.
- Conduct community capacity building in improved management of indigenous chicken, resource mobilization; marketing strategies, bookkeeping and income generating through use of the supported chicken enterprises.

2:8 Host organization

The Catholic Diocese of Shinyanga was established in 1956 and registered on 13th March 1958. The Diocese has a total number of about 300,000 followers.

As a religious organization the Diocese has two main visions these are: -

- a) To have holistic evangelical community fully dedicated in practicing Christian values and believes. Its mission is to fulfill the mission of Christ through evangelization of the whole person.
- b) To have an enhanced sustainable livelihood of resource for poor communities and alleviated human sufferings and promoted social justice.

To accomplish these visions the Diocese has seven sectors; these are Evangelism (Pastoral) Education, Agriculture, Health, Building and construction, Women and Gender and finance. The Agricultural sector includes Livestock, Environmental protection as well as Water and Sanitation.

The Agricultural Program of the Catholic Diocese of Shinyanga started in 1992. The reason to start the program was to contribute towards providing proper extension services. Due to that reason, the program has been designed to work with the government agricultural extension systems.

The Management structure of Agricultural Program is under a Director who is supported by highly qualified and competent staff involved with administration, finances, Agriculture and livestock project officers.

The office operation is computerized and adequate office transport and support services.

The total member of staff is 13 of whom 6 are professional and technical cadre

Currently the program is involved in rendering services as stipulated here below:

- a) Agriculture and Livestock extension services
- b) Facilitation of implementation of various agriculture and livestock projects and Agro enterprises projects in Maswa, Bariadi, and Shinyanga rural districts in partnership with local government and other donors.
- c) Milk processing and marketing
- d) Consultancy in the field of Agriculture, Livestock and micro enterprise.

Participation in this project:

In this project the host organization has contributed a lot, which include:

- i) Funds for training, purchasing cockerels, and monitoring.
- ii) Technical staff that were involved in training and advisory services.

Agricultural Programme of the Catholic Diocese of Shinyanga was the principle host of this project with a technical support from Shinyanga Municipal Council

During the support the host organization spent 2,325,000 Tshs on purchase of the cockerels, capacity building, monitoring and evaluation.

CHAPTER THREE: LITERATURE REVIEW

Literature review in this study has been divided into theoretical review, empirical and policy review. In theoretical reviews, the emphasis is to describe the theory behind local chickens' husbandry. In empirical review, the objective is to narrate on work done by others on similar project elsewhere, detailing on the approach used, outcomes, experiences and lessons learnt and their similarity and relevance to UKIMMOS indigenous chicken enterprise. Lastly, the last chapter ends by analyzing policy issues as they impact the project. Books, professional journals, reports from livestock departments and institutions, Internet sites and personal experience were used in gathering information.

3.1 Theoretical Literature Review

Indigenous chickens keeping is popular in rural areas in the most resource-poor countries. Most of the flock is used as a means of providing supplementary food, extra income, (Andrews 1990; Jalaludin 1992). Indigenous chickens survive under unfavorable weather conditions, sheltered or not sheltered, in cages or in tree branches (Nalugwa 19996; Nel 1996). However, if not confined chickens can cause quarrels between neighbors by destroying gardens (Aini 1990; Oh 19987). They are self – reliant, disease-resistant and parasite-tolerant. The management is largely the responsibility of women and children (Losada et al. 1997; Martns1995). As a valued enterprise of every household, village chickens play an important role in the developing world, and the absence of a backyard chicken in a rural household is a sure sign of poverty (Nalugwa

1996; Nel 1996). In Zambia, Zulu (1999) reported that indigenous chickens provide the mainstay of the rural economy and contribute to food security and agricultural development, as well as in poverty reduction.

Attempts are being made to raise the productivity of indigenous chickens in many countries, by improving housing, nutrition and health programs. In their study of indigenous chickens in Indonesia, Sinurat et al. (1992) reported improvement in performance resulting from improved management (nutrition, housing and disease control) and marketing strategies. Future prospects for rearing village chickens are believed to be good, because of traditionally high demand for their meat, which is tasty compared to that of commercial chickens (Crawford 1992).

According to Horst (1988), the genetic resource base of the indigenous chicken in the tropics is rich and should form the basis for genetic improvement and diversification to produce a breed adapted to the tropics. Horst (1988) described nine major genes of the indigenous chicken that can be used in genetic improvement programme. There is little information on the genetic make-up of the indigenous chicken of Africa. However, information collated in the FAO Domestic Animal Diversity Information System (DAD-IS) shows that these genes are prevalent in the local populations across the African countries.

Currently there is a major global thrust on genetic preservation and biodiversity which is reflected in efforts on development of genome and data banks (National Research Council, 1993; Crawford and Gavora, 1993) These initiatives have come at an opportune

time, because continued cross-breeding programme in rural poultry, which do not consider genetic preservation aspects, would lead to erosion of the indigenous germplasm (Bessei, 1989).

Roberts and Gunaratne (1992) asserted that productivity of village chickens is determined by the relationship between the biomass of the chicken population and the scavenging feed resource base.

Other health problems in village chickens are external and internal parasites. A study on ecto-parasites of domestic fowls in Nigeria showed that lice, *Menacanthus stramineus*, were the major problem in rural poultry (Zaria et al., 1993). In this Nigerian study, the external parasite problem was Alexander (1991) noted that global regulation and control of ND is influenced by the growing multinational poultry trading industry involving poultry products and genetic stock. Furthermore, an uncertainty associated with different countries making an open declaration of ND to international agencies such as the International Office of Epizootics (OIE) has limited worldwide control of the disease.

The major factors associated with the transmission of ND in village chickens are exposure to the natural environment, including wild fauna; flocks of various ages and susceptible new hatches (Chabeuf, 1990; Olabode et al., 1992); and contact through either exchange of live chickens and products or movement between households and villages. In an experiment to study transmission of ND in village chicken, Huchzermeyer (1993) ruled out airborne spread of ND in village chickens in the tropic, and asserted that transmission is mainly through contact. Similarly, Martin and Spradbrow (1992) noted that transmission by air is unlikely, because a large number of chickens is

necessary to generate sufficiently dense aerosol for such transmission. Therefore, bird-to-bird contact would seem to be the most important mode of transmission in tropical and production systems.

The recent development and use of thermos table vaccine (NDV4) has created fresh interest for the control of ND in village chickens (Copland, 1987; Spradbrow, 1990; Spradbrow and Samuel, 1991). In Africa, a number of countries have introduced the vaccine on a trial basis. A major concern has been the identification of appropriate food carriers to introduce the vaccine. Virucidal activities of some grains that reduce the effectiveness of the vaccine have been reported by Rehmani, Spradbrow and West (1995). Jayawardane, de Alwis and Bandara (1990) reported using cooked rice as a carrier for the V4 vaccine. Laboratory virus recovery trials in Zimbabwe demonstrated good virus recovery in pearly millet, sunflower, finger millet and sorghum. In the same trial, barleys gave poor results, while crushed and cooked maize exhibited intermediate virus recovery (Department of Veterinary Services, Zimbabwe, unpublished report).

The development of poultry health programmes requires reliable information on the epidemiology of diseases, which is lacking in village chicken production systems (Pandey, 1993). Disease surveillance is further limited by poor infrastructure and communication, as well as inadequate diagnostic facilities. These limitations have resulted in underreporting of disease outbreaks, as observed for ND in the United Republic of Tanzania (Yongolo, 1996). James (1997) cautioned that the animal health status of countries given by the FAO/OIE/WHO Animal Health Yearbook is based on a passive reporting system and the lack of reporting does not necessarily mean the disease

is absent. In the same context, the latest OIE report on ND presence showed that only two countries in Africa, South Africa and Swaziland, reported the presence of the disease.

New castle disease is probably the only disease identified by farmers in rural areas on the basis clinical signs. Therefore, NCD has acquired specific local names such as Fengele or Enkuref in Ethiopia, Pappa in Mauritania (Bell, Kane and Le Jan, 1990). *Kideri, Mdonde, mdondo, Sotoka ya kuku, Kifwa or Ikula* in the Republic of Tanzania (Yongolo, 1996) and Chibwububu in Zimbabwe (farmers in Zimbabwe, personal communication).

It is evident that development of appropriate surveillance standard to support farmer identification would enhance an active disease reporting system in village chicken production system. Use of rapid tests in identifying poultry diseases at farm level has been suggested by various workers as one of the strategies to enhance disease control in rural poultry (Bell, 1991; Verma, 1996). Techniques in food and Agriculture, supporting the use of enzyme-linked immunosorbent assay (ELISA) in serological ND screening, will probably enhance disease control (ANRPD, 1997). Research on the economic efficiency of housing poultry in Africa is scanty. However, published reports suggest that where housing is provided to village chickens the houses chickens. Atunbi and Sonaiya (1994) reported that cane cages were cheaper than wooden cages.

Low plane of nutrition, and (d) poor husbandry system, which is a low, or near Zero input extensive type (Minga et al 1989); Kitalyi 1998). The low output husbandry

system is characterized by poor nutrition, poor or no housing facilities nonselective breeding, no veterinary interventions and lack of provision for rearing chicks. In an earlier study by Minga et al (1989) it was reported that the main cause of chicken loss among the SLC occurs during chick- hood and averages 50%. The other losses of growers and adult chickens are due to chicken diseases, predators and theft. Chicken loss due to disease outbreak can be substantial. Whereas commercial chickens are regularly vaccinated against ND, the SLC are rarely vaccinated.

In Tanzania, ND has been singled out as the most devastating disease, where whole village may decimate populations. The greatest loss due to ND occurs during the hot and dry season starting from July up to the start of the short rains in October to November. However, sporadic outbreaks do occur in between. (Yongolo1996). The other infectious disease, which affect SLC in Tanzania, include collie calliopsis, fowl pox, infectious coryza, fowl typhoid and Gumboro disease (IBD) (Ming and Nkini 1986). Parasitic diseases of importance are helminthoses and the ecto-parasites, especially fleas and mites (Permin et al. 1997). Fowl typhoid assumes greatest importance among commercial chickens, and frequent outbreaks have been experienced in hatcheries as well as among the commercial layers. Fowl typhoid is economically the most important disease affecting the commercial chicken industry and has a high incidence in Tanzania (Minga 1986;Mdegela 1998). The availability of feeds for the SLC is irregular and varying in quality. During the rainy season, there is an abundance of green vegetation, wild grass seeds and insects. Towards the end of the rainy season and beginning of the dry season when grains are harvested, there is abundant supply of grains and kitchen leftovers.

During the dry season, however, grain supplies dwindle and insect population decline. There is very little feed supplementation. Rarely are the SLC fed on whole grains but rather spoilt and the bran's, which are left over after milling the grains. Such erratic feed supply cannot be expected to sustain high chicken productivity levels. It has been estimated that the SLC feed consumption provides to the chicken only 11 kcal metabolisable energy and 11 grams of protein per day, and that amount of feed is inadequate for optimal productivity and below what is needed for maintenance (Kitalyi 1998).

Mwalusanya (1998) reported that the main components of crop contents of SLC were cereal grains. Bran green forages, insects and worms. The chemical composition of the crop contents were: 43% dry matter, 10% crude protein, 5.8 crude fibre, 12.5% ash 0.66% Calcium and 0.4% Phosphorous.

In order to realize this big potential in Tanzania, we would require improvement in husbandry, nutrition and increased gene out-put and disease control strategies, but with minimal financial input. Such improvement must be made cost-effective and sustainable. Chick loss must be minimized through better husbandry practices and chickens should be protected from scourge of NCD. Husbandry practices would minimize the rearing time for chicks and would also greatly facilitate the quick build up of the chicken population.

3.2 Empirical literature review

The poultry production system of Africa is mainly based in the scavenging indigenous chickens found in virtually all villages and household in Rural Africa (Aichi. J , 2003).

These systems are characteristics by low output per bird. Nevertheless over 70 percent of the poultry products and 20 percents of animal protein intake in most African countries came from this sector (Aichi, J.2003). In most African countries, the chicken have no regular health control programme, may or may not have shelter and scavenge for most of their nutritional needs (Von Veluw, 1987; Yongolo, 1996). However, these systems are characteristics;

- On indigenous and integral part of the forming system, with short life cycles and quick turn over.
- Low input production systems without inputs accessible at both inter household and intra household levels.
- A means of converting low – quality feed into high – quality protein.

Increasingly land is becoming a limiting resource in most Africa Countries. Degradation and depleting soil fertility further makes agriculture and livestock keeping impossible. This is not a limiting factor in village chicken production system. Disadvantaged groups in the community can be direct beneficiaries of village chicken improvement programmes. Chicken production in Bangladesh has improved the status of land-less women through access to more food, income and labours as well as increased social status in the rural community (Saleque and Mustafa 1996). Further access to village chickens for women encourages involvement of women in rural development, particularly where technology transfer includes the participation of end users (Ngongi, 1996; Alders, 1997).

In Tanzania the free ranging local chickens account for most of the 27.8 million poultry kept (MOA, 1995) and they are present wherever there are human settlements

(Kabatange and Katule, 1989; Melewas, 1989). They are known to be able to survive under various types of shelter, including make shift chicken houses, kitchens and even resting in trees (Andrews, 1990; Horst 1990; Mushoraf 1990; Yongolo 1996).

Commercial exotic breed poultry production systems have been said to be unstable, especially when there is hunger and thus deficit in grain sources (Sonaiya, 1990). In such circumstances, rural local chickens were to be the chief source of animal protein (Suleiman 1989).

However, the rural chicken production systems suffer from general production constraints which includes diseases and parasites, low genetic potential, feed supply, high prices of inputs, inappropriate marketing strategies, management skills and limited access to credits. All these contribute to low productivity of the local chicken (Tibamanya, 1994, Minga et al, 1989; 1996, Mwalusanya, 1998). From all those constraints, New Castle Disease is the most common constraint and typical out breaks in unvaccinated chicken can result in mortality of up to 80 – 100% of the village flock (Robyn et al, 2003; Soinaya 1990; Mitchell, 1984; Minga et al 1989; Awan et al, 1994 Yongolo, 1996 Mohanty, 1987).

The importance and potential of local chickens in increasing household food security and income as well increasing gender equity, especially to the rural poor, in particular women, children, vulnerable and land constrained individuals is great. This has there fore called for several poultry scientists to suggest specific scientific thrust for rural poultry, aimed at improving the understanding of the biological and social –

economic factors affecting the input - output relationships and the economic efficiency of the production systems. (Aichi, 2003).

A long – term programme on village chicken improvement, supported by the Australian center for International Agricultural Research (ACIAR) resulted in substantial improvements in the contribution of the chickens to household food production and well fore in South East Asia (Supramenian, 1998; Oh, 1990; Johnson, 1990). This big programme was based on the control of NCD using a heat – stable oral vaccine.

A pilot scheme to introduce the heat – stable orally administered NCD vaccine, supported by FAO, was started in 1994 in Ethiopia and Gambia through the Technical Cooperation Programme Project RAF/TCP/2376 “Assistance to rural women is protecting their village chickens against New castle Disease (Rushton, 1996a). Another extension research from 1994 – 1995 under Andre Mayer Research Fellowship (was conducted aiming at providing assistance to Africa rural women in village poultry production (FAO paper 142).

In 1994, a special Programme for Food Security (SPFS) in response to the urgent need to address the problem of household food in security in low – income food deficit countries (LIFDG) was formed. The programme that was endorsed by the World Food Summit held in Rome in 1996 included local poultry management improvement.

In Tanzania, a number of researches have been conducted in efforts trying to address the problem of low productivity of local chicken. Since 1986, ENRECA – DANIDA, IAEA and FAO has been funding Sokoine University of Agriculture to conduct studies in local chickens under the Project of Improving Health and Productivity of the Rural chicken in Africa (Minga et al, 2004).

In 1989, on the Africa Network for rural poultry Development (AIVRD) was proposed and endorsed. The Network receives technical and financial backing from FAO. (Aichi, 2004.

The extensive research and publications available show that there is a paucity of data on rural poultry stored already in accessible systems. In accessibility of information on rural poultry production looks to be a major constraint to development (Bessie, 1988)

3.3 Policy review

The intended project is in line with the United Republic of Tanzania Agriculture and Livestock policy lastly revised in 1997. The traditional poultry sector is the largest, contributing about 70% of the flock, supplying 100% of poultry meat and eggs consumed in rural and 20% in urban areas. The poultry kept in the traditional sector offers the potential for a relatively quick increase in productivity. However, the sector faces the following constraints: -

(i) Low productivity. This is due to low genetic potential, disease and poor management.

- (ii) Poultry diseases in particular Newcastle disease, Fowl Typhoid, Infectious Coryza etc. cause heavy mortality and reduced production.
- (iii) Poor quality, poultry feeds greatly limit their productivity and adversely affect the quality and quantity of day old chicks.
- (iv) Poor Extension Services
- (v) Inadequate research services. There is no major research programme being undertaken to develop the sector.
- (vi) Lack of organized marketing and processing. There is no organized marketing and slaughtering of poultry.

Commercial poultry production is still in its infancy stage and is mostly practiced in urban and peri-urban, areas where they are totally confined. – The private sector, is taking over parastatal organizations such, as National Poultry Company (NAPOCO) and establishment of integrated large-scale poultry production, such as Interchick; Kibo, Polo Italia is growing.

The main objective of the poultry industry is to encourage small, medium and large scale private producers in order to increase; production – of poultry, meat and eggs to satisfy domestic demand, reduce import requirement and promote sustainable poultry production.

3.3.1 Policy Statements

The Agriculture and Livestock policy of Tanzania has one general goal that “improvement of the well being of the people whose principal occupation and way of

life is based on Agriculture. Most of these are smallholder and livestock keepers, who don't produce surplus. A number of objectives follow this goal. One includes improving the standards of living in the rural areas through increased income generation from agricultural and livestock production, processing and marketing. The following are some of the important policy statements regarding local chicken production and management:

- (i) Government priority will be given – to the development of the traditional flocks, to exploit their potential for alleviating poverty, enhancing the incomes of women and improving family nutrition.
- (ii) To improve the productivity of poultry in the traditional sector Rhode Island Red breeding stock will be encouraged in the rural areas to upgrade indigenous poultry.
- (iii) Government will encourage the establishment of poultry processing plants by private entrepreneurs.
- (iv) Government will encourage the establishment of Poultry Farmers Association;
- (v) Besides enforcing hatchery regulations Government will provide animal health extension services and monitoring of disease outbreaks.

CHAPTER FOUR: IMPLEMENTATION

This chapter explains the planned project implementation and what has actually been implemented by focusing on the products and output from the project, activities undertaken to achieve the objectives, responsible persons, resources required and time frame for accomplishment. The chapter also highlights on the tentative budget.

The indigenous chicken micro-enterprise for UKIMMOS was on going when the CED student started interventions. The group had already received training in proper management of indigenous chicken. Indigenous chicken project had just started and was at individual level. It was then advised that group chicken enterprises should be given emphasis so as to be used as a demonstration and training centre. It was anticipated that by the end of November 2006, the project would have accomplished her activities except monitoring and evaluation of the ongoing activities. Outputs from the project include skills development in chicken husbandry, household chicken projects establishment, constitution development and group registration and establishment of NCD vaccination program using thermal stable vaccine.

The anticipated project product was livelihood improvement of UKIMMOS members through income improvement realized from indigenous chicken micro- enterprise. However, this is yet to be realized, as the project is half way. It will come more evident after project evaluation by the end of 2008. It is expected that members and the community in the village will have improved shelter, clothing, furniture, food, savings to carter for other expenses like health, education and recreational activities.

4.1 Implementing Strategy

The beneficiaries of the project are the UKIMMOS group members who have decided to raise indigenous chicken as a micro enterprise. The project to a large extent involved training on practical chicken husbandry with particular reference to control of New Castle Disease through vaccination. This has contributed towards addressing the immediate income and food needs of the CBO members. On a much wider scale, it is expected that the project will benefit the whole community as the management skills for rearing indigenous chicken will reach the rest of the community through sensitization and learning from the UKIMMOS members.

4.1.1 Stake holder's Responsibility.

A clear responsibility sharing among the project stakeholders has ensured smooth implementation of the project. The stakeholders are UKIMMOS group, Municipal Council through its department of agriculture and livestock, Roman Catholic Diocese of Shinyanga and CED students (referred as the researcher).

4.1.1.1 Responsibilities of UKIMMOS Members

Members of the CBO, UKIMMOS group constructed chicken house and undertook the management of the chicken. The site where chicken are housed serves as a learning centre and meeting point for the group members. Through such arrangement the members participate in the whole process of managing the enterprise. The group members purchased twenty (20) indigenous chickens through their own financial

sources. Furthermore, are responsible in purchasing feeds, vaccine and other necessary requirements for chickens.

4.1.1.2 Individual Members

Each member has a responsibility of establishing individual enterprise and already 34 have established similar enterprises at household's level. Visiting each other has been practiced for experience sharing and advice and learning. The group members have been encouraged to collaborate in the construction of chicken enclosures as at times it proved difficult for some of the individuals to construct the enclosures..

4.1.1.3 The CED Student

The CED student facilitated in giving guidance through training in general chicken husbandry organizes study tours and facilitated the purchase of five Rhode Island cockerels with financial assistance from agriculture programme of the Catholic Diocese of Shinyanga. The Diocese is the host organization for the Project.

4.1.1.4 Monitoring and Evaluation Responsibilities

The CBO members, Agricultural program of Diocese of Shinyanga, Extension officers, Municipal Agriculture and Livestock officers do participate in monitoring implementation of the project.

4.2 Project Outputs

The project was expected to accomplish the following by the end of November 2006:

- 52 UKIMMOS group members trained in indigenous chicken husbandry and entrepreneurship.
- UKIMMOS group constitution prepared and if possible registration of the group.
- 26 members with established improved indigenous chicken's enterprises at their individual households.
- A NCD vaccination program in place and all chickens of the group members vaccinated using thermo-stable vaccine through eye drop method.
- Awareness raised in the community about NCD vaccination using a thermo-stable vaccine.
- Purchase of five Rhode Island Red cockerels.
- Establishment of one group unit indigenous chicken and managed accordingly.

4.3 Project Products

The major project product is livelihood improvement of the UKIMMOS group members and Old-Shinyanga community at large. This is expected to be reached after realization of income from indigenous chicken enterprises and other income generating activities. It is expected that UKIMMOS members and others who will have spill over effects of the project will have improved shelter, good clothing, good household furniture, increased purchasing power, good meals and savings to carter for other expenses like health, school fees, recreation etc. However, these are yet to be realized as the project is half way implemented.

4.4 Project Plan and Implementation Schedule

In the implementation process, the project planned to involve mainly four key stakeholders namely as UKIMMOS group members, Community Economic Development (CED) student, Shinyanga Municipal Council (Agriculture and livestock section) and Agricultural Programme of Catholic Diocese of Shinyanga as a host organization. The roles of each stakeholder are described (Table 8). Resources to be used were contributed by both Agricultural Programme and UKIMMOS members. UKIMMOS members contributed funds for purchase of chickens, enclosures, NCD vaccines, feeds and construction materials of chicken enclosures. The CED student was responsible for training and advice in indigenous chicken husbandry, entrepreneur skills and control of chicken diseases and constitution preparation. He participated in planning, implementation, monitoring and evaluation these elements. Agriculture programme solicited funds for purchase of cockerels, provided training and advisory services in collaboration with Agriculture and Livestock extension officers, was responsible for capacity building in entrepreneurship, monitoring and evaluation in collaboration with CBO members and other stakeholders.

Shinyanga Agriculture and Livestock Extension Officers provided advisory services to the project in collaboration with the CED student and Agricultural programme and also backstopping. It was planned to get loan from Local Government Authority through village development funds after the group was registered and up a good proposal on what they intend to do.

The project desired to implement a number of activities. These activities were geared towards accomplishing a number of objectives. Core activities included meeting with CBO members for projects action plan familiarization with host organization and the target group, community needs assessment, project design, training of members, purchase of improved cockerels, vaccination of chickens, constitution preparation and registration, consultation to the municipal council, sensitization meetings, management of chickens, monitoring and evaluation. The details on timeframe, inputs (resources) and responsible people are described (Table 9).

Activities for each objective, time frames, actual implementation and future plan are described (table 10).

Table 9: Actual Implemented Activities

Project major activity	Resource	Time frame	Responsible person/institution
Community sensitization <ul style="list-style-type: none"> ▪ Community needs assessments ▪ Meeting with CBO members 	Stationeries CBO members Extension officer Funds	December 2005	SNHU student (Mikomangwa Zengo)
Community capacity building <ul style="list-style-type: none"> ▪ Training of CBO members on management of indigenous chicken. ▪ Training community project management skills including marketing and participatory evaluation 	Stationeries Funds Facilitators Venues CBO members	February to November 2006	SNHU student (Mikomangwa Zengo) Ward and Divisional Agriculture and Livestock officer
Community fund raising <ul style="list-style-type: none"> ▪ Promote community contribution ▪ Purchase local pullets and improved cockerels ▪ Mobilize fund from other stakeholders 	CBO members Transport	April to June 2006	SNU student (Mikomangwa Zengo) Agriculture Programme
<ul style="list-style-type: none"> ▪ Routine management ▪ Vaccination, feeding, and other local chicken management ▪ Periodic monitoring and evaluation of the project ▪ Follow and technical support 	CBO members Funds Experts Extension officer Transport	February 2006 to may 2007	SNHU student (Mikomangwa Zengo) CBO members Extension staff

Table 10: SUMMARY LOG FRAME

PROJECT SUMMARY			
Project Outcome:	Performance indicator	Means/source of verification	Risk & important assumption
Improved protein intake and living condition through increased income from improved management of indigenous chicken.	<ul style="list-style-type: none"> • Number of household assets and other basic needs (good clothes, furniture, improved houses, number and type of meals and others) • Amount of money earned from the indigenous chicken micro enterprises 	<ul style="list-style-type: none"> - Base line data and end of year 2008 data - Participating household data - Projects report 	Socio-economic stability. Absence of natural calamities e.g. Floods, droughts, epidemics (Avian flu).
Major project outputs:			
<ul style="list-style-type: none"> - Training of group members in technical, entrepreneurship, monitoring and evaluation 	<ul style="list-style-type: none"> - Number of training conducted - Number of participant attended - Type of training conducted. 	<ul style="list-style-type: none"> - Project Progressive report 	
<ul style="list-style-type: none"> - Purchase of chicken / cockerels. 	<ul style="list-style-type: none"> - Number by category of chicken purchased 	<ul style="list-style-type: none"> - Progressive report - Field visit 	<ul style="list-style-type: none"> - Availability of improved cockerels and local pullets - Availability of funds
<ul style="list-style-type: none"> - Chicken houses or enclosures constructed 	<ul style="list-style-type: none"> - Number of chicken houses/ enclosures constructed 	<ul style="list-style-type: none"> - Progressive report - Field visit 	<ul style="list-style-type: none"> - Construction materials available
<ul style="list-style-type: none"> - Disease control programme 	<ul style="list-style-type: none"> - Number of vaccinations conducted - Number of chickens vaccinated - Mortality rate of chickens from diseases 	<ul style="list-style-type: none"> - Monitoring and evaluation report 	<ul style="list-style-type: none"> - Availability of vaccines - Willingness of CBO farmers to participate in vaccination program./ schedule

Table 11: Major Project Inputs.

Initiation of the project	Indicators	Means of verification	Risk assumption
1.1: Introduction to the CBO 1.2: Conducting needs assessment and problem identification. 1.3: Verify collected baseline data	Number of CBO contacted. Number of needs assessment done and means used. CBO plans verified. Baseline data	Field/visit report CBO assembly meeting minutes Reports	Human and Material resources available as well as funds. CBO members participation attitudes CBO member's cooperation in the Needs assessments and problems identification.
2.1: Meet UKIMMOS leaders to plan for the implementation of the project. 2.2: Facilitate preparation of action plan for the project and other CBO activities.	Established Action/work plan of the CBO	CBO – records and meeting minutes	CBO member's willingness to implement as agreed.
Site selection for implementing group project. Preparation of technical designs and cost estimates.	Number of favorable sites identified	Site visits. Drawings and cost calculations.	Preparedness of CBO members to participate in sitting. Availability of funds.

Training			
<ul style="list-style-type: none"> ○ Organize training for CBO members in technical and management skills including marketing skills. 	<ul style="list-style-type: none"> • Number and types (skills) of training activities conducted. • Number of CBO members trained (52). • 52 CBO members effectively functioning and are able to follow up the management of their indigenous chicken. 	<p>Training reports. Monitoring reports.</p>	<ul style="list-style-type: none"> • Community extension workers motivated. • Good cooperation between UKIMMOS and Agriculture and Livestock extension workers • Trained people at the community level will remain and work in their respective CBO.
Construction of enclosures			
<p>4.1 Construct house for rearing group indigenous chicken as agreed</p>	<p>One completed building in use with all equipment in place.</p>	<p>Number of chicken in the chicken house with necessary feeds and equipments</p>	<p>CBO members level willness and ability to contribute in cash and in kinds. Donor funds available.</p>
Purchases			
<p>4.2 Purchase parent stock feeds, vaccines, drugs and others.</p>	<p>20 pullets purchased and placed in the chicken house. Five Improved cockerels purchased and placed in the chicken house.</p>		

Monitoring and Evaluation			
Carry out periodic monitoring and Evaluation of project activities/impact	Established monitoring system. Number of monitoring visits. Number of Evaluation missions (project impact) carried out during the project life.	Monitoring and evaluation Reports including donor auditable accounts.	Stakeholders' readiness to participate in Midterms and end of project reviews/evaluation.

4.5 Implementation Progress

The benefits that the CBO members have so far gained are mainly of two groups namely; software and hardware. Software includes capacity building, formation of project committees. Table below shows types of capacity building conducted in the village with corresponding number of trainees.

The hardware support includes purchases of five improved cockerels.

Table 12: Capacity building conducted to UKIMMOS group members at Old-Shinyanga village

Capacity building category	Number of trainees	Remarks
Trained in General indigenous chicken husbandry	47	Included both practical and theory
Trained in chicken handling and vaccination	43	Some of the group members didn't attend
Trained village project management skills	38	Some of the group members didn't attend

4.5.1 Project planning

The project planning focused on resources, time frame and responsible person to enhance the success of the project. The project addressed four specific objectives that contributed to its overall goal. The planning process has been done at all levels of project design; that is from the communities; stakeholders and project expatriates.

The project was scheduled for a period of twelve months (December, 2005 to may, 2006). During this period different activities conducted include:

4.5.2 Project design

This was the first stage of the project where SNHU student meet with the CBO group members for preparation of project action plan. After preparation of a final proposal that shows the role of each stakeholder in the project. The proposal was followed by other activities such as community needs assessment.

4.5.3 Community needs assessment

This was second stage of the project where the UKIMMOS members were facilitated to put forward their needs and rank them in order of priority. A pair wise ranking showed indigenous chicken micro-enterprise project ranked as priority number one a triangulation technique through use of FGDs, structured questionnaires and community general meetings revealed the same (see CAN in appendix 1).

4.5.4 Community capacity building

Capacity building was done to CBO group members in technical and management skills including marketing and participatory evaluation. During the training period construction of chicken house for the group unit were also done soon after the topic of proper chicken house for the chicken.

4.5.5 Purchase of local pullets and improved cockerel

After all agreements with both the UKIMMOS members and funding NGO Agriculture Programme) purchasing the local pullets and improved cockerel was done. UKIMMOS members purchase 20 local pullets while Agricultural Programme purchased 5 improved cockerels.

4.5.6 Management of the flock

After purchasing the intended flock management aspect started with vaccination of the flock soon after being placed in the house. Concurrently routine management which include feeding and disease control were done accordingly as per the requirements for ensuring proper health of the stock

4. 5.7 Report writing and follow-up to gather CBO feelings towards the project

This was follow-up stage where UKIMMOS members' feelings upon the project was assessed and documented. Also, any concern regarding technical, knowledge and skill were assessed and where weaknesses were noticed a technical support was provided so as to ensure that members and the community would acquire that knowledge and use it. Appropriately This was done with intentions of ensuring sustainability and through gradual reduction of dependency from the project facilitators.

CHAPTER FIVE: MONITORING, EVALUATION AND SUSTAINABILITY

Monitoring and evaluation if well designed and used is a powerful project management and learning tool that can be used by all stakeholders in a project. With appropriate monitoring and evaluation system, a project will have capacity to foster information flow to and from projects participants, supervisor and all stakeholders. Monitoring is a continuous process of gathering information on all aspect of the project. The process is vital since it helps to understand the current situation, identifies weaknesses and thus is a means for objectively seeking solution, discovers trends and patterns so as to keep activities on schedules. Monitoring also provides information for and measuring progress towards objectives, formulates or revises future project goals and objectives, apart from enabling making decisions about human, financial and material resources (CEDPA 1994).

Effective monitoring is a continuous process that is geared towards looking at the day to day activities are implemented and make necessary adjustments in order to achieve the desired goal. Monitoring is closely linked to evaluation as monitoring benchmarks set a basis for evaluation, be it formative or summative evaluation. For both monitoring and evaluation to be meaningful, they should involve the major stakeholders of any particular project from the beginning to the end. This means that monitoring and evaluation method should be participatory. This creates a sense of ownership of the project by the project beneficiaries. It is part of the implementation process of the project.

5.2 Monitoring Plan and Strategy

UKIMMOS members are the owners of the project. They know what they wanted to achieve in future through the project. Their major objective for having the project is to improve their household income as well as nutritional status. In order to reduce poverty, local chicken enterprise was a project of their choice. The CED student together with the Agricultural Programme extension officer, as well as the government ward extension officer facilitated the group on what activities to be carried out in establishing the local chicken enterprises. They were assisted to identify indicators that will show them that they have achieved their targets and also to see the activities planned are achieved as planned (time frame). It was also agreed on who will be collecting the information and how often should that information be shared with others thus giving feed back (table 13). That included also, how will individual group members present successes or problems of their enterprise.

5.2.1 Planning and Review

All the group members were to meet every Tuesday. On meeting, the secretary reads the agenda of the last meeting; discuss problems and solutions and the way forward. At these meetings, the CED student and the extension officer attend and respond to any technical and process challenges experienced by individual group members at home. Group members also give progress of their enterprises. If there

is anything new from the CED student or extension officer, it is at this forum that it is presented, discussed and agreed upon. Review of the plan was scheduled once every month while the CED student was available after every two weeks or month.

5.2.1.2 Diseases Occurrence and Production Monitoring

The group agreed to have a routine vaccination programme. The Newcastle vaccination is being done after every three months. The vaccination is being done jointly whereby both group and individual flocks are vaccinated at the same time. The group secretaries keep vaccination records. However, every individual group members keep the records of sales of chicken as well as eggs, chicken diseases occurrence and mortality, egg production and the numbers of chickens. Every participant also recorded this information. This is what forms the household survey data.

Every individual submit a report to the secretary on every Monday of the week as it is the day that they meet. This data gathered are shared by the participants and kept as data for basis of the project monitoring. The data collected is compiled after every six months and analyzed. The CED student and the extension officer are responsible for analyzing the data and reporting to the group members for discussion. The analysis is to be done after every one year. The analyzed data is to be presented at the group for formative evaluation meeting to be held after every

one year. This information feeds to data for formative evaluation. This report is what forms the CBO progressive report.

Project objectives and corresponding indicators have been defined in a participatory manner during the planning. Responsibility for all tasks is assigned.

Table 13: Monitoring and Evaluation Matrix (source: Monitoring and Evaluation survey, 2006).

Goal	Indicator	Baseline and target	Collection Frequency	Data source	Collection method	Responsible person (s) for collecting	Users of the information	Usefulness of the information
Income poverty reduction, Improvement of livelihood and nutritional status at household level of UKIMMOS members and Old-Shinyanga community	Number of households with established chicken projects	0 and 52 CBO members	Semi annually	CBO Progressive report	- Review of reports - Field / households surveys	-Livestock extension officer - CBO members	-CBO members - Host organization - SNHU student - Others	Assess percentage of households successfully implemented the project
	Number of chickens and eggs produced	Increased production	Monthly	Collaborating household data collection forms	- Review of reports	-Livestock extension officer - CBO members	-CBO members - Host organization - SNHU student - Others	- Assess the level of production performance after intervention
	Number of chickens and eggs sold, price and revenue	Variable	Monthly	Collaborating household data collection forms	- Review of reports	-Livestock extension officer - CBO members	-CBO members - Host organization - SNHU student - Others	Measure level of income increase from project products

Goal	Indicator	Baseline and target	Collection Frequency	Data source	Collection method	Responsible person (s) for collecting	Users of the information	Usefulness of the information
	Number of chickens and eggs consumed at home	Variable	Monthly	Collaborating household data collection forms	- Review of reports - Household interviews	-Livestock extension officer - CBO members	-CBO members - Host organization - SNHU student - Others	Indirect measure of nutritional status improvement through consumption of chickens and by products
	Number and type of training conducted	4 types of training conducted	Semi annually	CBO Progressive report	- Review of reports - Household interviews	- Livestock extension officer	-CBO members - Host organization - SNHU student	Assess the extent and type skills transferred to farmers
	Number of chickens vaccinated	0% to 100% of chicken population vaccinated	Monthly	CBO Progressive report and HH data collection report forms	- Review of reports - Household interviews	-Livestock extension officer - CBO members	-CBO members - Host organization - SNHU student - Others	Measure the effectiveness of NCD vaccination programme

Goal	Indicator	Baseline and target	Collection Frequency	Data source	Collection method	Responsible person (s) for collecting	Users of the information	Usefulness of the information
	Number of chickens dying from NCD	80% to 20% of chicken mortality due to NCD	Monthly	CBO Progressive report and HH data collection report forms	- Review of reports - Household interviews	-Livestock extension officer - CBO members	-CBO members - Host organization - SNHU student - Others	Assess the efficiency of NCD vaccine and other disease control strategies
	Number of cockerels purchased and stocked	0 to 30 cockerels	Semi annually	CBO Progressive report	- Review of reports - Household interviews	Livestock extension officer	-CBO members - Host organization - SNHU student - Others	Implementation of project in schedule
	Number of sensitization meetings conducted	0 to 4 meetings	Annually	CBO Progressive report	- Review of reports	-Livestock extension officer - CBO members	-CBO members - Host organization - SNHU student - Others	Measures the level of awareness in the village on improved local chicken management

Goal	Indicator	Baseline and target	Collection Frequency	Data source	Collection method	Responsible person (s) for collecting	Users of the information	Usefulness of the information
	Constitution in place and the registration process done	0 to 1 constitution	Annually	CBO Progressive report	- Review of reports	Livestock extension officer	-CBO members - Host organization - SNHU student - Livestock extension officer	A preliminary indication for securing external resources
	Number of good clothes, improved houses, household items, increased purchasing power	Variable	After two years	- CBO Progressive report, - Household data collection forms - Field visit	- Review of reports - Household surveys and interviews -	- CBO members - Extension officer - External evaluator	-CBO members - Host organization - SNHU student - Livestock extension officer	Assess the impact of the project after intervention

5.3 Monitoring Progress

Project monitoring started even before the beginning of implementation of the project where community situational analysis was understood, analyzed and community designed ways of solving their problems as regard to management of indigenous chicken.

Monitoring process involved three stakeholders of the project who had different roles to play. First, project coordinator; expertise from SNHU student, Agricultural Programme, and ward, and divisional extension officer. The roles of this category of stakeholder were to support community in analyzing problems during community situational analysis. As well as facilitating capacities building on different technical know how with regard to better management of indigenous chicken.

Second category was that of the Agriculture Programme as a donor. The role of the NGO was to assess the request made from community needs assessments; advise the community and monitor financial expenditure during the implementation of the project. The third category was UKIMMOS members. This was the major section of monitoring process since they were responsible on day-to-day monitoring of project activities and giving feedback to other two categories of the projects' stakeholder.

5.3.1 Methodology

After discussing the agreement on the monitoring and evaluation plan the members of UKIMMOS agreed to discuss problems and solution of the project during their every Monday meeting. The CED student and the extension officer attend meetings and respond to any technical issues and challenges as experienced by members as well as

reviewing the group's plan. During this meeting group members also give progress of their enterprises. However any thing new from the CED student or the extension officer, it is at this forum it is presented. Review of the plan is done after a month. In most cases, the CED student was available every week or every two weeks.

As part of monitoring the project, all group members agreed to keep vaccination records, sales of chicks and eggs. Also each group member kept records of chicken diseases occurrence, mortality and number of chicken. This information was formally recorded and the records formed the bases of the study's household survey data.

Record entry data table was designed and shared among the UKIMMOS members and it was explained on how to fill in the information . For those who could not read or write , it was agreed that they report the data to the secretary who then fills in the information on their behalf.

The data collected was compiled after every six months and analyzed both qualitatively and quantitatively. The CED student and the extension officer were responsible for analyzing the data and reporting the result to the UKIMMOS group members for discussion. Analysis is to be done after every one year. The analyzed data was used during formative evaluation meeting held after every one year.

To ensure active participation of the UKIMMOS group members in monitoring and evaluation of the project, project objectives and corresponding indicators have been

defined in a participatory manner during the planning. Responsibilities and duties were assigned and agreed upon. The executive committee was comprised of the chairperson, secretary and the treasurer responsible for ensuring group cohesion and group focus.

5.3.1.1 Management Information System

Project Management Information System was designed to collect and provide feedback to community and technical personnel as well as host organization on a project activities to enable project stakeholders to plan, monitor and evaluate the operations and performance of the project. The table below summaries the project monitoring information:

Table 14: Summary Monitoring

CATEGORY OF INFORMATION	WHAT TO MONITOR	WHAT RECORD TO KEEP	WHO COLLECT DATA	WHO USES DATA	HOW TO USE INFORMATION	WHAT DECISION CAN BE MADE
Work plan activities	<ul style="list-style-type: none"> • Timing of activities • Availability of resources and personnel 	<ul style="list-style-type: none"> • Monthly work Plan • Work schedule 	<ul style="list-style-type: none"> • SNHU student • Extension officers • CBO executive committee 	<ul style="list-style-type: none"> • Stakeholders (CBO, Agriculture programme and District Council) • SNHU student 	<ul style="list-style-type: none"> • Ensure staffs, committees and other resource are available and all works are done as scheduled if not reasons must be clear to all stakeholders 	<ul style="list-style-type: none"> • Reschedule or implementation must be done as planned activities
UKIMMOS members meetings	<ul style="list-style-type: none"> • Attendance of members • Community needs, views and suggestion during implementations • CBO member problem to wards participating in the project 	<ul style="list-style-type: none"> • Meeting minutes 	<ul style="list-style-type: none"> • CBO Executive committee • Village government • Stakeholders 	<ul style="list-style-type: none"> UKIMMOS • SNHU student • Stakeholders 	<ul style="list-style-type: none"> • To implement what the community has proposed • To considerer community suggestion on project implementation and apply the suggestions 	<ul style="list-style-type: none"> • Support their request or re discuss to find alternative support

CATEGORY OF INFORMATION	WHAT TO MONITOR	WHAT RECORD TO KEEP	WHO COLLECT DATA	WHO USES DATA	HOW TO USE INFORMATION	WHAT DECISION CAN BE MADE
Community capacity building	<ul style="list-style-type: none"> • Number of Planned training conducted • Type of training • Training participants 	<ul style="list-style-type: none"> • Training reports • List of trained beneficiaries • Training needs 	<ul style="list-style-type: none"> • Training facilitators • CBO executive committee • Participants 	<ul style="list-style-type: none"> • Training coordinator • Stakeholders • Communities 	<ul style="list-style-type: none"> • Use of knowledge and skill to run project activities • Implement project goals and objective and activities planned 	<ul style="list-style-type: none"> • Hand over the role of project activities to communities and trained community members • Empower committees to undertake their day to day activities and support them when they get stuck
Community assessment	<ul style="list-style-type: none"> • Knowledge, attitude and skill before and after the inception of the project • Work performance of trained committees • Benefit of the project and problem encountered 	<ul style="list-style-type: none"> • Number of intervention before and after project inception • Social economic activities before and after project inception 	<ul style="list-style-type: none"> • SNHU student • Stakeholders • Communities • Extension officer 	<ul style="list-style-type: none"> • SNHU student • Stakeholders • Communities 	<ul style="list-style-type: none"> • To identify the impact of the project and people perception on the project 	<ul style="list-style-type: none"> • Facilitate the communities to benefit more from the project and increase or change intervention technique in order to facilitate more project effect • Introduce multiple water uses projects
Improved management of indigenous chicken.	<ul style="list-style-type: none"> • Number of CBO members practicing recommended management of indigenous chicken • Historical background of rearing of indigenous chicken. 	<ul style="list-style-type: none"> • Survey report • Village historical reports • Reports on existing number of CBO members who are practicing recommend management of 	<ul style="list-style-type: none"> • CBO members • SNHU student • Livestock extension officer 	<ul style="list-style-type: none"> • Community • SNHU student • CBO members • District council 	<ul style="list-style-type: none"> • Understand potential impact of rearing indigenous chicken in an improved manner • Establish/ support existing indigenous chicken units 	<ul style="list-style-type: none"> • Identify sites to drilled • Make cost analysis based on depth and potentialities of water sources

	<ul style="list-style-type: none"> • Reason for failure of other project • Community suggestions, 	indigenous chicken.			<ul style="list-style-type: none"> • Support proposed sites by CBO members 	
						WHAT DECISION CAN BE MADE
Inputs distributed to the CBO flock	<ul style="list-style-type: none"> • Number of local chicken and improved cockerel purchased supplied to the CBO communal flock 	<ul style="list-style-type: none"> • Number of local chicken and improved cockerel purchase • Survival and death rate 	<ul style="list-style-type: none"> • CBO members • Agricultural programme 	<ul style="list-style-type: none"> • SNHU student • CBO members • Community • All participating stakeholders Community 	<ul style="list-style-type: none"> • To understand the potentiality of improved cockerels when used to upgrade indigenous chicken and improved management of indigenous chicken 	<ul style="list-style-type: none"> • To proceed with borehole or to abandon it according to discharge rate as well as cost implication and water quality

5.3.2 Evaluation Strategy Plan

Evaluation begins during project development and continues throughout the life of the project. The intention is to assess ongoing project activities and provide information to monitor and improve the project.

In relation to UKIMMOS project, it was done at several intervals during the project formulation and implementation. The purpose was to assess whether the project is being conducted as planned. This is what constituted the so called implementation evaluation and in the UKIMMOS project was treated as monitoring and indicators for monitoring are the ones used for implementation evaluation.

5.3.3 Formative evaluation

At its most basic, formative evaluation is an assessment of efforts prior to their completion for the purpose of improving the efforts. It is a technique that has become well developed and involves all the stakeholders.

There are many evaluation tools that have been used, this include – observation, in-depth interviews, surveys, focus groups, analysis reports, and dialogue with participants, each of which can be part of formative evaluation. Depending on the goals of the formative evaluation, it has emphasized one or more of these tools.

Within the range of formative evaluation approaches, there are four main goals for formative evaluation, each of which may be more or less emphasized depending on the programme needs. Each of these approaches to formative evaluation are briefly summarized below, with a focus on their applicability to formative evaluation of Indigenous Chicken Micro-enterprises.

5.3.3.1 Planning evaluation

Planning evaluation was used to clarify and assess a project's plans. Are the goals and timelines appropriate? Are the method utilized to reach the goals appropriate? In addition, a planning evaluation was used to lay the groundwork for future formative and summative evaluations by developing indicators and benchmarks. In this project, it was useful to include a planning evaluation component in order to ensure that all stakeholders share common enough visions of the project plans. A planning evaluation was used as a form of consensus building amongst those involved in the project.

5.3.3.2 Implementation evaluation

An implementation evaluation focuses on the extent to which a programme is proceeding according to plan. Information about ways in which a program is not proceeding according to plan can be used to either revise plans or to revise programming. In this project, implementation evaluation was used as a component to feed into a planning-focused evaluation. (Implementation evaluations can also be part of summative evaluations.). Where an activity was

not proceeding according to plan, participants and facilitators used an implementation evaluation with a planning focus to ask themselves why things were not going according to plan, and adjusted the plans or strategies accordingly.

5.3.3.3 Monitoring evaluation

An outside evaluator usually conducts a monitoring evaluation during the course of a program . The Agricultural Programme of the Shinyanga Diocese monitored the implementation of the project by visiting, checking in with participants, and talking with field officers. This enabled the host organization to have useful reassurance that the resource that she provided was being well spent.

5.3.3.4 Progress evaluation.

A progress evaluation assesses a program's progress. The project's unique goals should serve as a benchmark for measuring progress. Information from progress evaluation can later be used in a summative evaluation. In this project, a progress evaluation assess attitude change partway through a multi-year program, providing both feedback on what's working, and evidence of impact early on in a programme.

A method developed by Pearce Coops Volunteers, known as participatory self-review and planning will be used in progress evaluation. This will be done annually and data from monitoring and implementation evaluation will be used in the evaluation. The method gives room for participants to assess also what went wrong, weaknesses, opportunities, responsible people and requirements. It gives them direction as to what they should then do to improve the project. The decision

alternatives may include dissemination to other sites or agencies, continue funding, increase funding, continue on probationary status, modify and try again and discontinue. It addresses questions like; to what extent has the project met the stated goals for change or impact, can the program be sustained, is the program replicable and transportable, which components are the most effective and which components are in need of improvement?

5.3.3.5 Summative Evaluation

The project has planned to conduct summative evaluation in the fourth year, which is 2008. Indicators for assessment are reduction in chicken mortality, increase in income as the result of sale of chickens, chicks and eggs; improvement in participants livelihood which will be reflected by improvement in household items like furniture, clothes, beddings; type of food eaten and number of meals; improvement in housing etc.

The approach in data gathering will be through a semi-structured questionnaire, focus group discussion and on site observational. Since the evaluation is not intended to present to external donors, the approach will be participatory and the results will be presented to the group members for discussion and comments and way forward. Analysis will be qualitative and presented in a simple way using tables, charts and narrative for all the participants to understand.

5.4 Sustainability

Commonly, project sustainability is defined as the capacity of a project to continue functioning, supported by its own resources (human, material and financial) even when external sources of funding have ended. However, in a different context, money alone is not a justifiable element for sustainability. It has implications for many other aspects of the organization /project including the services it provides. It is important for every CBO/NGO; or rather project to

develop its own definition of sustainability, the links between these and the organization's own context, focus and circumstances.

The Indigenous chicken micro enterprise project for UKIMMOS is likely to be sustainable both financially and institutionally. To a large extent the project uses the locally available resources (chicken and other materials) to implement the project. As pointed earlier on by different literature and evidenced by survey during CNA, chickens are found in every household. This makes the take of the project easy without depending much from external donors. The group is already embarking on a fund raising strategy by contributing two thousands Tanzanian shilling each month. It is through this credit system that group members are raising fund to purchase more chickens, buy vaccines, construction materials if not available around, and other necessary inputs. In addition to this, the group has been already registered and thus making it possible to access loan from the local government through the SACCOS support program.

Training (skills transfer) in both technical skills especially on disease control and business skills has developed their capacity towards handling some problems and run their enterprises as businesses. The group in addition has a defined leadership and constitution to give guidance of the group. Even when the supporting NGO, the CED student leave, the group will continue with their activities. This is institutional strengthening and sustainability.

Participation is one of the key issues that have been given priority. The entire group is equally involved in the designing, implementation, monitoring and decision making of the project. This has given the group a sense of ownership of the project. This is an important input to the project sustainability. Since the group is involved in monitoring and evaluation of the project activities, they will be involved in examining what goes wrong and how to improve for progress of their enterprises.

The extension officer, who is also a model farmer himself, is involved in all aspects of the project. The Agricultural Programme has exposed them to a number of skills through the village training. The organization will continue working with group giving guidance and support.

Another aspect that helps this project to be sustainable is readily available market of local chickens. The survey showed that local chickens are more preferred as compared to exotic chickens and fetches high prices. The growing population in Shinyanga Municipal and near by city of Mwanza and Kahama mining forms a potential market for the indigenous chickens.

Indigenous chickens' enterprise is environmental friendly and feeds for the chickens in most cases are by-products and waste products from feeds and food from hotels and restaurants. Socially, there are no restrictions in terms of tradition and culture in keeping local chickens. Both religions, Muslim and Christianity have no any restriction.

The only challenge about survival of the project is the outbreak of a deadly zoonotic disease and avian Flu. This is outside the control of the project.

The following are the key issues that will enable the long-term sustainability of the project. During the needs assessment and problem identification CBO members participated well and decided themselves to participate in the project, as they were the ones who choose the project. This commitment referred to contribute towards initial capital and full operation and running financing.

The type of technologies chosen are appropriate to the CBO members and proven to be accepted through the experiences of other actors in the field of village/indigenous/local chickens in Tanzania, Africa and world at large.

Municipal Agriculture and Livestock officers in the project area will continue to support the CBO during and after completion of the project.

Agriculture programme, which is owned by the catholic diocese of Shinyanga, will continue to render extension services to the CBO because it is within its area of specialization. Also the project is within the priority of the government policy on income as one of the priorities of giving another source of income to resource poor families. On the context of social arena indigenous chicken play a great role as they have multipurpose use, therefore they are well accepted by the entire community.

CHAPTER SIX: CONCLUSION AND RECOMMENDATION

It was anticipated to have one unit of indigenous chicken managed by all the 52 CBO members and also, 26 CBO members to start rearing the indigenous chicken using improved system. Currently, the joint unit is in place and functioning and 34 CBO members are managing indigenous chicken by using the improved method. We hope that full goal attainment will be attained in the year 2008 as targeted. The rest of activities planned were successfully completed as they were shown in the work plan.

Achievement of the project objectives is half way. To a large extent the activities planned have been achieved. These will continue contributing to achievement of the project objectives and goal. Significant income is yet to be realized as few participants have sold chickens and eggs. Many are now trying to solicit funds to buy more chickens, cockerels and materials for construction of poultry enclosures. The 28 CBO members that have not yet established the individual household chicken enterprises is due to the high level of income poverty within the community. Already the constitution is ready, as well as registration. Therefore the group is about to access credits from the SACCOS fund provided by the government to every region. Apart from this fund, the group still can access fund from the local government community development support fund.

However, in the course of implementation of the project, the objective on improved protein consumption was dropped as it was out the scope of the project and was difficult to measure.

Indigenous chickens for a long time have been considered to be the primary source of income for the poorest households especially in rural areas.. With the current level of poverty in the country especially in rural areas where the majority Tanzanians lives, coupled with the increasing environmental degradation for survival of ruminants, indigenous chicken remains the mostly likely alternative source of income and protein to most populations in Tanzania. The local chicken industry or enterprise has all the features for a poor person to start as a project. Low cost investment, readily available in every household, environmentally friendly and readily available and increasing demand makes it feasible and lucrative enterprise to advice farmers to venture into it. However, a defined and planned disease control strategy, especially New Castle Disease, using the thermal stable vaccine makes the project more viable and profitable. It is also important that, the control strategies should involve the whole community to ensure efficient protection of the whole flock in the community.

The recommended vaccination protocol of three months interval has proved failure elsewhere and the adopted vaccination regime of first day, 14 days later, then at one month interval for two months consecutively and then the normal three months interval is recommended. This protocol gives a booster dose and protective to chickens, as the challenge is high in most cases due to unvaccinated chickens around neighborhood.

The taste of the chickens is the basic ingredient that makes it preferred by customers. So crossbreeding programs should be done in such a way that this trait is not lost. This

means that, back crossing to local cockerels should be done in the third generation chicks, which are F2 chickens.

However, in implementing such projects elsewhere, the major limitation is on the construction of the enclosures of chickens during the daytime. Construction materials are expensive to get owing to the poverty level of most communities. It is advisable therefore to ensure that enough funds are raised before the implementation of the project to cover for this important component of the project activities. Indigenous chicken micro-enterprise for Umoja Waakinamama Mkombozi Mlimani (UKIMMOS) was negatively affected by this problem.

6.1 Conclusion

Village poultry production in Tanzania could play a major role in providing supplementary food, extra income and employment for rural dwellers. There is a need to improve health delivery to rearers and to evaluate traditional remedies widely used by the rearers to control diseases and parasites. Village chickens form an extensive genetic plasm, which breeders can exploit through selection, perhaps by improving the environment. Because of indiscriminate breeding, it has become apparent that some genes of economic importance that are found in village chickens are in danger of extinction. Training of rearers in poultry husbandry as well as extension agents is necessary if productivity of village chickens is to be raised. It can therefore be concluded that village poultry play a major role in poverty alleviation and that the benefits are likely

to be realized with increased support from government and non-governmental organizations (NGOs).

6.2 Recommendations

Control of ND opens up further opportunities for improvement that hitherto were not feasible or worth undertaking. There are many improvements offering substantial benefits, which can be achieved by farmers from within their own resources without cash expenditure or external assistance, except for appropriate extension advice. Examples would include measures for reducing chick mortality, predation and theft; management of other diseases; and improving flock management. This situation presents a very attractive opportunity to enhance the benefits of ND control, by developing suitable extension programmes to promote village chicken development in a post-ND environment. The advantages that village chickens offer are increasingly being recognized:

- They are widespread throughout the rural areas, especially for the poorest households,
- Significant and widespread benefits can be achieved without the need for any expenditure in infrastructure and farm development; complex new technology; funding for the purchase of inputs; credit; or complicated training of farmers (they have been dealing with village chickens for hundreds of years), and

- Smallholders can produce chickens at little or no cost, which therefore has a very significant competitive advantage over almost any other income generating activity that they may choose, and is practically risk free, with the ND control.

The following recommendations are made:

Village poultry rearers should be trained in general poultry husbandry through seminars and field days.

- A rural poultry financial scheme should be developed similar to the Bangladesh model. Alternatively, the Financial Assistance Policy (FAP) scheme should be extended to rural poultry production in the future.
- Investigations should be carried out in such aspects as nutrition, housing, immunology, diseases and parasites. Also, the efficacy of traditional remedies in health control should be evaluated at research stations and on farms.

Preservation of genes facing extinction should be undertaken.

REFERENCES

Anonymous 1996 (FAO Production year book vol 49 – 1995 FAO statistic series No 130
FAO Rome stay

Animal productive and Health paper No 142, 811.

Bessei w (1989) persecution of local poultry stock in genotype, environment interaction
in poultry production. Report meeting in Jouy en – Josses France.

Bamhare C (2001) Country Report: Namibia. Alders R G and Spradbrow P B
(Editors) Proceedings of the SADC Planning Workshop on Newcastle Disease Control
in Village Chicken 6-9 March 2000, Maputo, Mozambique pp 26 – 3

Centre for development to population activities (CEDPA) 1994-project design for
Project Managers.

Chitate F and Guta M (2001) Country Report: Zimbabwe.. Alders R G and
Spradbrow P B (Editors) Proceedings of the SADC Planning Workshop on Newcastle
Disease control in Village Chicken 6-9 March 2000, Maputo, Mozambique pp 47-52.

Cumming R B (1992) Village chicken production: Problems and potentials.
Spradbrow P B (Editor) Proceedings of an International Workshop on Newcastle
disease in village chicken, control with Thermo stable Oral Vaccines 6 –10 October
1991, Kula Lumpur, Malaysia, pp 21-24.

Dipelou M A, Eruvetine D and Williams T J (1996) Indigenous Chicken Rearing
Under Village Conditions. International Journal of Animal Science, Volume 11: 63-67.

Etches R J (1996) Reproduction in Poultry. CAB International. University Press
Cambridge. Singapore UK.

FAKitalyi A.J. (1998) Village chicken production system in Africa
**Frame work Approach / (LFA0 Handbook for objective oriented planning (NORAD)
1996)**

**Gunaratne S P, Chandrasiri A D N, Mangalika Hemalatha W A P and
Roberts J A (1992)** The Productivity and Nutrition of village chicken in Sri Lanka

Spradbrow, P B (Editor) Proceedings of an International Workshop on Newcastle
Disease in Village Chicken, control with Thermo stable Oral Vaccines 6-10 October
1991, Kula Lumpur, Malaysia, pp 144-148.

Kusina J F and Kusina N T (1999) Feasibility study of agricultural and household activities as they relate to livestock production in Guruve district of Mashonaland Central province with emphasis on Poultry Production, HASP, Harare, Zimbabwe. Pgs 129.

Lambrou L C (1993) Indigenous Poultry in Zimbabwe. *Farming World* 19 (3): 11-15.

Mdegela R.H. (1998) Epidemiological of *Salmonella gallinarum* infection in chicken In Tanzania Msc Thesis the Royal Veterinary and Agriculture University Copenhagen.

Melewas J.N. (1998) The contribution of poultry Industry to the national economy proceedings of the 7th Tanzania Veterinary Association Scientific Conference Arusha Vol 7, 13 – 36.

Minga U.M. and Nkui, R.P (1986) Disease as a major constraint to chicken production in Tanzania. Proceeding of the 13th scientific conference of the Tanzania Society of Animal production; 13:284 – 292.

T. Mususa J (1989) Potential and proteins of the traditional chicken industry in Association scientific conference, held in Arusha on 3 – 5 December 1989, 7 207 – 215.

Minga U.M. Katule A.M.Yongolo, M.E.S and Mwanjala, T. (1996) The local chicken industry in Tanzania. Does it make economic sense? Proceeding of Tanzania veterinary Association Scientific conference.

Ministry of Agriculture (MOA) (1995) National Sample census of the Ministry of Agriculture and Cooperative

Ministry of Agriculture & Cooperative (1997) Agriculture and Livestock policy.

Moreki J C and Masupa K V (2001) Country Report: Botswana. Alders R.G. and Spradbrow P.B (Editors) Proceedings of the SADC Planning Workshop on Newcastle Disease Control in Village Chicken 6-9 March 2000, Maputo, Mozambique. Pp 5-10

Mupetesi T (2000) Smallholder Poultry projects within the household Agriculture Support Programme in Zimbabwe. Pedersen G, Pemin A. and Minga Y.M. (Editors). Proceedings of a Workshop on Possibilities for Smallholder Poultry Project in Eastern

and Southern Africa, 22-25 May 2000 Smallholder Poultry Project in Eastern and Southern Africa, 22-25 May 2000. Morogoro, Tanzania. Pp 111-118.

Mwalusanya N.A. (1998) Piscductvity and Nutritional status of local chicken under village management conditions. MSC thesis the royal veterinary and Agriculture University Copenhagen.

Oakley R D (1998) Emergency assistance for the control of Newcastle disease, consultancy report on Rural poultry production-socio economy, May 25th June 9th 1998, Project TCP/ZIM/8821 (A), FAO, Rome.

Panda B and Mohapatra S C (1993) Poultry Development in India. World's Poultry Science Journal, Volume 49: 127-133.

Ramlah H (1996) Performance of village fowl in Malaysia. World's Poultry Science Journal, Volume 52: 75-79.

Roberts J.A. (1992). The scavenging feed resource base in assessment of the productivity of scavenging village chicken. In P.B. Spradbrow ed. Newcastle disease in village chicken control with thermstable Oral vaccine. Proceedings of international workshop 6 – 10 October 1991, Kuala Lumpur Malaysia.

Sonaiya E.B. (1995) Evaluation of non – Conventional food ingredients as supplicants for scavenging chicken proceeding of the 7th World Conference on Animal production. Edmonton Alberta, Canada, 28 – 29.

Shinyanga Human Development report (1998)/ (2005).

Tibamanya Y.E.K. (1994). The alternative approach to improve the producing of indigenous chicken. Proceeding of refresher course on appropriate Technology options for small livestock husbandry 70 - 74.

Yongolo M.G.S (1996) Epidemiological of Newcastle disease in village chicken in Tanzania. Mvm Thesis Sokoine University of Agriculture Morogoro Tanzania.

Wilson R T, Traore A, Traore A, Kuit H G and Slingerland M (1987) Livestock production in Central Mali: reproduction, growth and mortality of domestic fowl under traditional management. Tropical Animal Health and Production, Volume 19: 229-236.