

**SOUTHERN NEW HAMPSHIRE UNIVERSITY
&
OPEN UNIVERSITY OF TANZANIA
COMMUNITY ECONOMIC DEVELOPMENT
PROGRAM**

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

**LOCAL CHICKEN PRODUCTIVITY IMPROVEMENT
PROJECT FOR KIKUNDI CHA WAFUGAJI KUKU
BUKEREBE VILLAGE**

MAGU DISTRICT, TANZANIA

KWIDIKA, GODFREY. M

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**Submitted in partial fulfillment of requirement for the Msc. In
Community Economic Development**

KWIDIKA, GODFREY. M

ABSTRACT

In rural areas of Tanzania local chickens are among of the potential enterprises that quickly and reasonably can generate income for the poor households. That potential notwithstanding, the sub sector is facing several production constraints that have limited its potentials for contributing to poverty alleviation. The constraints include low management capacity, low genetic potentials, diseases and poor marketing strategies. Diseases are the major constraint, and in particular New Castle Disease (NCD), which causes high mortality of up to 100% of the stock.

Despite the mentioned constraints local chicken are birds found almost in all farmer households in the rural areas. That situation is an indication that local chicken is an economic opportunity of which farmers can learn easily the entrepreneurial skills required for making local poultry keeping a reliable source for income generation and household food security. Thus, through capacity building farmers can develop the necessary attitude, knowledge and skills for keeping local poultry as an economic enterprise.

Guided by the possibilities for developing enterprising local poultry keepers, the study focused on designing and implementing process for improving capacity of members of local poultry keeping group. Through capacity building to the members the expected outcome is productivity improvement and enhancement of income from the sales of chicken products. The members involved in the local poultry keeping are 36 of which women are 24 and 12 men. The group is located in Kisesa village in Magu district.

The overall objective for establishing the project is to put in place a reliable source of income to members through productivity improvement of the local poultry. In response to ensuring attainment of the objective, the capacity building processes emphasis has been on entrepreneurial knowledge and skills related to management, genetic improvement techniques and strategies for diseases control especially new castle disease.

EXECUTIVE SUMMARY

The Local Chicken Productivity Improvement Project aims at contributing to improvement of the livelihoods of Bukerebe community through improvement of local chicken husbandry. The Project owners are the members of Kikundi cha Wafugaji Kuku Bukerebe (KIWABU group). The other implementers are SNHU- student who is an advisor on technical issues and SCC- Vi Agro-forestry Project who are the providers of entrepreneurial techniques training.

The KIWABU group is part of the Bukerebe community in Kisesa village in Magu District. The village is occupied mostly by Sukuma people who traditionally are cattle keepers but currently few households are keeping cattle. Major reasons for the decline is due to diminishing grazing areas, increasing urbanization and low economic capacity to acquire and keep cattle in a more modernized technique.

Free range practices on local poultry is predominant in almost every household. Households are generally poor with no access to clean and safe water. Most of the houses are constructed by mud bricks and roofed with thatched grasses. The community is unable to cultivate enough food and thus they are spending 49% of their incomes to purchase food. It is hoped that the local poultry keeping improvement project will directly contribute to uplifting the members' livelihoods through reduction of income poverty and enhancement of food security at household level.

The strategies for uplifting the livelihood status is through learning entrepreneurial techniques and establishment of local poultry keeping enterprise in every individual participating household. The learning will result into reduction in mortality rate of chickens by 70% in households involved in the project and increase in income of households by at least 20% through sell of chicken products. Other results include increase in household protein consumption through consumption of eggs and chicken and awareness creation to the Bukerebe community on the economic potentials for keeping local poultry and disease control.

The project used participatory methods in designing and implementing the project. Community needs assessment was done with the objective of defining the needs and problem to be addressed. From the findings a project implementation plan was designed involving all members of the group. The plan defined the objectives, indicators, inputs, responsible persons and how the monitoring and evaluation process will be carried out.

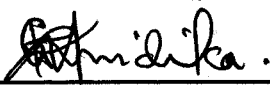
The progress of the Project has been moderate and encouraging. Thirty percent of participating households have established local chicken enterprises at their households. Others are at different stages of implementation. They have purchased improved cockerels for cross breeding. Training on entrepreneurial techniques with particular emphasis on control of NCD through vaccination and use of good management practices has been provide. Upgraded chicks have been produced and sold. Vaccination of chickens against NCD is ongoing and those vaccinated have been protected as mortality is dropping in vaccinated flock.

Also, the group is processing registration after having completed preparation of their constitution as well as putting in place a continuous process for monitoring and evaluation. The capacity building processes is still ongoing by encouraging and assisting other members in establishing and completing their enterprises and securing external funding after registration of the group.

To a large extent the activities planned have been achieved. Significant income is yet to be realized as few 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 delay in establishment of individual household poultry keeping is due to the high level of poverty inflicting the members and the community. With the constitution in place, registration of the group will be done and thus opening an opportunity to access credits from financial institutions.

DECLARATION

I, Godfrey Magoma Kwidika, do hereby declare that this project is my own original work and that it has not been submitted for a degree in any other university.

Signature:  Kwidika.

Date: 3 / 09 / 2007 .

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.....HERMENCILS MIENTA.....

Signature.....*HM*.....

Date.....31/9/2007.....

DEDICATION

This work is dedicated to committed development practitioners, who truly and tirelessly devote their time in helping poor communities in Tanzania to fight against poverty in all its dimensions

ACKNOWLEDGEMENT

I feel privileged and honoured to thank the community of Bukerebe village, in particular KIWABU group members for their time trying to make the Project a success. Their willingness to collaborate in the survey and acceptance was phenomenal and enable and enabled the success of this study. Indeed, I pass my appreciation to SCC-Vi Agro-forestry project management and field staff for allowing me to work with the group. Special thanks go to Mr. Yuda Lusengeka, the extension officer who works with the group in providing them with technical advice. His mentoring and support greatly contributed to the success of this study.

I am grateful to Mr. Hermengild Mtenga, my supervisor, for his guidance and constructive criticism towards making the work better. I remain indebted to the Tanzania Country Director, Heifer International for allowing me to undertake this course and also for sponsoring my study. I am grateful to Heifer Tanzania Finance and Administrative Manager Mr Sam Golugwa, for facilitating the funding process and his continuous encouragement and moral support throughout the course. I admit, without all the people, I would not have been able to undertake this program.

I also extend my gratitude to the Heifer North West Zone staff for moral, technical and material support during the course of this study. The North West Zone staff's willingness to fill in the gap while I was away contributed greatly to the achievement and success of my thesis. May God bless them. Special thanks to my dear mother, Sanyiwa Kapalu for her patience as I could not well support her during my studies. I remember her prayers. Lastly but not least, I thank all colleagues in the Mwanza Centre class, 2007 for their cooperation during the program. We lived like a family and shared, discussed and constructively criticised each other for improvement of our work.

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LIST OF ACRONYMS

1. CBO	Community Based Organization
2. CNA	Community Needs Assessment
3. FGD	Focus Group Discussion
4. FAO	Food and Agriculture Organization
5. LOGFRAME	Logical Framework
6. MDG	Millennium Development Goals
7. MKUKUTA	Mpango wa Kukuza Uchumi na Kuondoa Umasikini Tanzania
8. MOA	Ministry Of Agriculture
9. NGO	Non Governmental Organization
10. ND/ NCD	Newcastle Disease
11. UNDP	United Nations Development Program
12. VEO	Village Executive Officer
13. WEO	Ward Executive Officer
14. LEO	Livestock Extension Officer
15. WHO	World Health Organization
16. SCC-Vi	Swedish Cooperative Centre- Vi
17. MUCCOBS	Moshi University College of Cooperative and Business Studies

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CHAPTER ONE: COMMUNITY NEEDS ASSESSMENT

This project study used a number of tools to conduct a community needs assessment that enabled the research to understand the community's needs, challenges and perceptions as well as gaps that need to be addressed. Primary and secondary data collection was the methodologies used to collect information. Primary data collection used tools like key informants interviews, focus group discussion and direct observations. Moreover, semi structured questionnaire tool was used for all household interviews. Secondary data collection mainly focused on existing information from various sources e.g books, journals, internet, various reports including national statistics and key government departments that are well versed in poultry intervention as a source for community economic development

Community needs assessment was conducted in two phases, the first phase focused on the intervention This aimed to get information for writing a project design. It dwelt more on focus group discussion with the KIWABU group members. The second stage covered the whole community and detailed secondary data survey that involved a variety of tools. The survey was to further prove if the need of the KIWABU group was real a community need. The results of both surveys were similar, showing the same need. The results of the community needs assessment formed a basis to the writing of a problem statement.

1.1 Community Profile

Bukerebe community is located in Kisesa village in Magu District. It is about 12 km from Mwanza city along Musoma road. It is dominantly occupied by Sukuma people who traditionally are livestock keepers. The Sukuma are known all over the country for their kindness and tolerance. There are about 185 females, 160 males and about 98 children. The average number of people per household is 7. Christianity is the predominant

religion in the area. Most of them belong to the Roman Catholic Church. The community happens to be in the village where one of the oldest Catholic Church in Mwanza region was built by an American missionary, Clement. Today, the area where the church is built houses the famous Sukuma tribe museum, Bujora. Although the community is a livestock keeping tribe by tradition, cattle are very few and scanty. Local chickens are predominant and are found in almost every household (Graph I). Households are generally poor. They do not have access to safe drinking water. Houses are poor, made of mud bricks and grass thatched. 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.

The community is food insecure. Members spend more money on purchasing food than any other needs in the families (Graph II). Ninety seven percent of the households produce food that doesn't meet the food demand for the whole year (Table 1). This necessitates them to buy food for the months that they don't have home harvest. On average, about 75% of all the households need to buy food for four to six months in a year (Table 2).

The community takes advantage of the natural and planted seasonal fruits. They sell mangoes and few guavas. When you visit the community in early December, you could see a number of children and adults carrying buckets of mangoes on their heads to the Igoma centre and Mwanza city. They sell these to get money for Christmas expenses like purchase of clothes, food, beverages and recreation.

1.2 Community Needs

Focus group discussion, semi-structured questionnaires, field observation and secondary data review were used in conducting a needs assessment. Initial discussion with the Swedish Cooperative CentreVi Agroforest advisor on farmer enterprise development from MUCCoBs, directed the researcher to the group, which was formed under the support of SCC – Vi Agro forest project. An introductory request letter was written asking for the group's permission to carry out the study. Group meetings occurred every tuesday where key issues regarding local chicken enterprise development were discussed. The group had already started the enterprise.

1.2.1 Results from Survey Tools

1.2.1.1 Focus Group Discussion:

Focus group discussion was conducted at one of the meetings of the group. The CED student organized the meeting and an open discussion guided by questions was conducted. Every member was encouraged to contribute. Further discussion was made with the group leadership and the village livestock extension officer. The objective was to establish reasons for formation of the group and know other details about the group like 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:-

- The group started with 20 members. Of these 14 were women and 6 were men. SCC-Vi Agroforest sensitized the community members to establish groups through which they could provided with training in entrepreneurship to enable them start small income generating projects. The sensitization was done through village assembly meetings. The sensitization was done through the village

livestock extension officer who works for SCC-Vi Agroforest. The membership was based on residential status, willingness to participate in the group activities, attend meetings, contribute membership fees and attend training without getting allowance.

- 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 goats, fish farming, beekeeping 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 local chicken enterprise.
- However detailed discussion revealed that the group was afraid of losses due to a local disease they called “IKULA / 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.

1.2.1.2 Semi-structured questionnaire results

A questionnaire comprising of forty questions was administered to thirty four households. It was administered by two livestock extensionists and one primary school

teacher. Data was analyzed by SPSS and PAPP 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 and poor soils (Table 7).
- The Survey results indicated that heavy losses in chicken are due to diseases were mainly caused by New Castle Disease, Fowl Pox and external parasites in that order (Table 3). NCD was ranked number one in causing the highest chicken mortality. Fowl Pox was said to affect mostly chicks (Table 4). 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* (Table 5). 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. Ninety six percent (96%) of respondents said the healing rate was at around 30% (Table 6). In the order of importance causes of low productivity in chickens included diseases, poor feeds, predators, poor management and less attention to chickens.

1.2.1.3 Secondary data review

Literature review involved reviewing of SCC-Vi Agroforestry baseline data for the Bukerebe community; internet sources, journals, books and personal communications.

The following were the findings:-

- Review of SCC - Vi Agro forest project baseline survey data and discussion with the District Veterinary Officer and Ward Extension Officer confirmed the epidemic of the disease in respect to local chicken in Bukerebe

- 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 that the potential of local chickens in increasing household food security and income as well increasing gender equity, amongst the rural poor. Moreover, such improvement in particular women, children, vulnerable and land constrained individuals has been realized. This has there fore 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 - 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)

1.2.1.4 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 like house structures, shelter,

animals kept, income generating activities, public services facilities like schools, health centers, power supply etc.

- The community happens to be in the village where one of the oldest Catholic Church in Mwanza region was built by an American missionary, Clement. Today, the area where the church is built houses the famous Sukuma tribe museum, Bujora.
- Households are generally poor. They do not have access to safe drinking water. Houses are poor, made of mud bricks and grass thatched. 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.
- The community takes advantage of the natural and planted seasonal fruits. They sell mangoes and few guavas. When you visit the community in early December, you could see a number of children and adults carrying buckets of mangoes on their heads to the Igoma centre and Mwanza city.

The four tools used were also meant for triangulation to ascertain the reliability and validity of the findings. Findings were similar from focus group discussion, questionnaire, literature review and field observation.

1.3 Methodology

1.3.1 Survey Design

The survey aimed at getting general information about the Bukerebe community. The study focused at household structure and livelihood strategies in the community. The core

objectives were to find out the community members' understanding on local chicken husbandry and problems associated with raising chickens in their community.

Also the the survey identified interventions that have been improvised by farmers and the efficiency of such interventions. The results from the survey helped this research to explore ways that can contribute towards income generation in order to improve the living standards of Bukerebe community and Kiwabu group. In order to accomplish those objectives, the survey formulated a number of questions to be answered. The questions centered on the following aspects:

- Family / household structure: gender, average population and education level)
- Household resources: Land and livestock holdings in particular. Under household resources the study confined itself to these two aspects given that the majorities of the rural farmers depend on agriculture and livestock, thus making land and livestock the backbone of farmers livelihood strategy.
- The major sources of livelihood. Income and food security in the household and the level of household expenditure in specific key elements.
- Community understanding of poultry diseases (name and signs) affecting their stock, intervention and efficiency of such intervention.
- Production performance of chickens in the village and factors attributed to low production performance.
- Perception on what causes poverty in their community.

It was a cross-sectional design that aimed to collect information that enabled the researcher to gain both validity and reliability. The study also considered time constraint and limited resources to carry out the study. Information collected was subjected to descriptive statistical analysis for use in describing the community.

1.3.2 Characteristics of the survey

The survey used a structured questionnaire which was administered at household level. Since the interviews were out at household level, observation methods were used to cross check answers and helped to validate some of the responses. A structured questionnaire(Appendix 8.5) and in person interview approach was chosen because it was relatively easier and less expensive to administer as compared to group interviews where farmers / participants could demand some incentive like pocket money / meal allowances. In person interview was more reliable because most of the participants' education is low, and the use of local language was very important. This gave room for the interviewer to interpret question in local language for the interviewee to comprehend. At times, responses were written in Sukuma (local vernacular language.)

1.3.3 Sample size and sampling

Simple random sampling and purposive sampling were the main sampling techniques used in the study. A total of 40 households were interviewed. Of these, three were livestock field officers from the ward and one district veterinary officer. A total sample size of 40 and the use of simple random sampling were considered adequate enough to provide a representative sample for the 160 households of Bukerebe sub-village. community. The sample was chosen to cover the whole targeted area and to to cross – check for consistency of the information collected, ten members of the CBO group were purposively selected for interview so that previous responses could be compared.

Furthermore, the study used ten cell leaders from the village including thirty respondents from selected households. Ten more respondents Using ten call leaders of the village, a list of all households was made and from the list thirty respondents (households) were selected. Ten respondents were also randomly selected from the CBO (KIWABU). The other 4, namely livestock extension officers and district veterinary officer were purposively selected. There were no potential biases of respondent's responses as the sample chosen was representative of the population. Since all respondents were visited at their homesteads and interviewed, it was easier to have a highest response rate of about 96%. Few data which were specific to livestock diseases and performance missed because respondents who had never owned chickens could not respond to such questions.

1.3.4 Questionnaire administration

The questionnaire was administered by three livestock extensionists who have been working in the area for more than four years. One is a chicken keeper and provides extension services to KIWABU group.

Before the actual study a four hours training for the extension officers. Training aimed at ensuring that the interviewers understood the survey instrument and build more clarity on the questionnaire and possible answers. Four hours of training was adequate because the interviewers were knowledgeable on livestock issues and some had previously participated in similar surveys. Pre-study training helped to ensure questionnaire uniformity and interpretation. All interviewers were Sukuma and therefore understood well the dominant language, which helped in ensuring that the questionnaire was consistently and uniformly administered. On average one questionnaire was completed in 30 minutes. The entire survey took eleven (11) days.

1.3.5 Validity

Validity literally means reality and truth of results obtained. Several categories of validity were considered in ensuring truth and reality of the results. These included face content criterion and construct validities. The questionnaire as an instrument of the study was pre-tested to three respondents and amendment done as regard to clarity, time spent for interview and questions that looked sensitive. The questionnaire was long enough to capture a wider context of the community characteristics.

Development of the questionnaire was done together with a veterinarian. This was to ensure that appropriate concepts of livestock are well captured and framed to bring meaning to respondents and yet provide relevant answers to the research questions. The sample selected in relation to the total population statistically well represents the views of the majority. To further ensure accuracy of the answers given, interviewers had knowledge and background in livestock training which greatly helped to correctly interpret respondents' answers. It is not uncommon for farmers to mention chicken diseases by referring to commonly seen signs and not names. If they mention disease names in vernacular/local language, the extension officer would understand the scientific disease being described. Construct validity was tested by setting some questions that could bring prediction. For instance responses on the question of whether or not crop harvest met yearly household demand and the duration that a household has to buy food, was corresponded with amount of money spent in buying food and consumables. Thus, a household of higher food insecurity indicated that it spent higher sum of money in buying food and consumables than a household with low food insecurity, as the latter produced

more food for home use. This situation was clearly indicated by the data. Ninety six percent of households were food insecure and the household expenditure on food and consumables ranked number one (49% of the total expenditure on 8 items, namely school fees, health, transport and fuel, clothing, housing, social events, food and consumables and religious contributions)

1.3.6 Reliability

Reliability is a necessary but not sufficient condition for validity. Four types/approaches were used to test and ensure reliability of the survey data collected. These included temporal stability form equivalence, internal consistency and replication.

Reliability is about stability of data gathered using the survey instruments. The data collection instrument which was a questionnaire was pre-tested using three individuals not from KIWABU.. Appropriate corrections and amendments were made. Previous questions and results when conducting problem identification survey were compared with the present survey results. They showed consistence. The same people from KIWABU who were previously interviewed were re-interviewed and results compared.

To check for internal reliability/consistency, it was important to set aside specific questions to ensure this aspect. For instance, in the section of household property, a question regarding number of livestock owned was set and the same question in the section of livestock diseases was set asking respondents to answer if they have chickens. And if yes how many. If respondent said he had chickens in the household section, it was expected to answer the same in the livestock disease section. Other similar questions were set to check for consistency of responses

1.3.7 Limitations of the survey

Due to limited funds to cover a bigger area the survey concentrated on one sub village composed of three ten-cell leaders. Despite funding constraint, the questionnaire was long, rigorous and detailed in providing credible information.

1.3.8 Analysis and results presentation

The data collected was analyzed using both qualitative and quantitative method. Statistical Package for Social Science (SPSS) and Policy Analysis for Participatory Poverty Alleviation (PAPPA) software were used for the analysis. After analyzing the study results, the research presented the results in the form of tables, charts, figures and narration. Only important and relevant results were shown and presented in the text.

1.3.9 Survey Results and discussion

The study results show that the community of Bukerebe is food insecure and that much of the income is still spent on food and other related consumables, a situation that should not be expected in rural areas where they depend on agriculture for their livelihood. The food insecurity situation possesses another challenge that needs to be addressed seriously. This problem is further exacerbated by large family size, nine people per household. Chicken numbers per household is still low (5 chickens per household, a true reflection and indication that most of the chickens were wiped out by NCD, which was singled out to be the major causes of high mortality of chickens.

It was evident that most interventions to combat NCD have been unsuccessful as mortality rate of up to 70% was found. The study also validated that the local treatment of NCD provided, which largely consists of herbals / plants like pepper, sisal, *datura stramonium*, aloe vera, and neem tree) are not effective. Furthermore it is clear that causes of low production performance (decrease in numbers) was due to diseases mostly NCD and Fowl Pox. This was further exacerbated by poor feeding due to management system, poor housing that predispose birds to predators, low income to improve on management e.g. failure to purchase improved cockerels and lack of interest to manage the birds. These results compare with findings from other surveys as cited in the literature section.

NCD still is a problem to chicken production. Since the disease can only be prevented by routine vaccination, every possible effort to establish sustainable vaccination program may pave a way towards sustainable and profitable local chicken business. Introduction and establishment of vaccination program using thermal stable NCD vaccine is necessary to control mortality and increase productivity (numbers) of local chickens. Bad weather has been consistently singled out as a cause of poverty. It is therefore pertinent to critically assess as to what really caused bad weather (draught) so that purposive efforts are done to rescue the situation. If deforestation comes out to be a major cause, then efforts from national level to household level need to be improvised to redeem the situation, unless otherwise agriculture will no longer be a meaningful undertaking in rural areas, thus adversely affecting the country's economy and communities' livelihood.

Interestingly, these results show the challenges and dynamics of addressing poverty in rural areas. It is clear that there needs to tackle the problem of food insecurity. There is a correlation between food insecurity and income insecurity. Income is utilized to purchase

food to sufficiently provide the households. The less the income the less the food at household level.

1.4 Graphical Content

Table 1: Ability of harvest to meet household food consumption per year (source: CNA survey data, 2006).

Response	Frequency number	%
Yes	1	3.0
No	32	97.0
Total	33	100.0

Table 2: Number of months households need to buy food when harvest is insufficient (source: CNA survey data, 2006).

Months	Frequency number	%
.00	1	3.0
2.00	1	3.0
3.00	1	3.0
4.00	4	12.1
5.00	14	42.4
6.00	7	21.2
7.00	1	3.0
8.00	1	3.0
9.00	1	3.0
10.00	1	3.0
12.00	1	3.0
Total	33	100.0

Table 3: Chicken diseases affecting the area (source: CNA survey data, 2006).

Disease	Frequency number	%
New Castle Disease	30	90.9
Fowl pox	1	3.0
Infectious Coryza	1	3.0
External Parasites	1	3.0
Total	33	100.0

Table 4: Diseases causing high mortality to chickens (source: CNA survey data, 2006).

Disease	Frequency number	%
New Castle	30	90.9
Fowl Pox	1	3.0
Diarrhea	1	3.0
External Parasites	1	3.0
Total	33	100.0

Table 5: Traditional treatment given to sick chickens (source: CNA survey data, 2006).

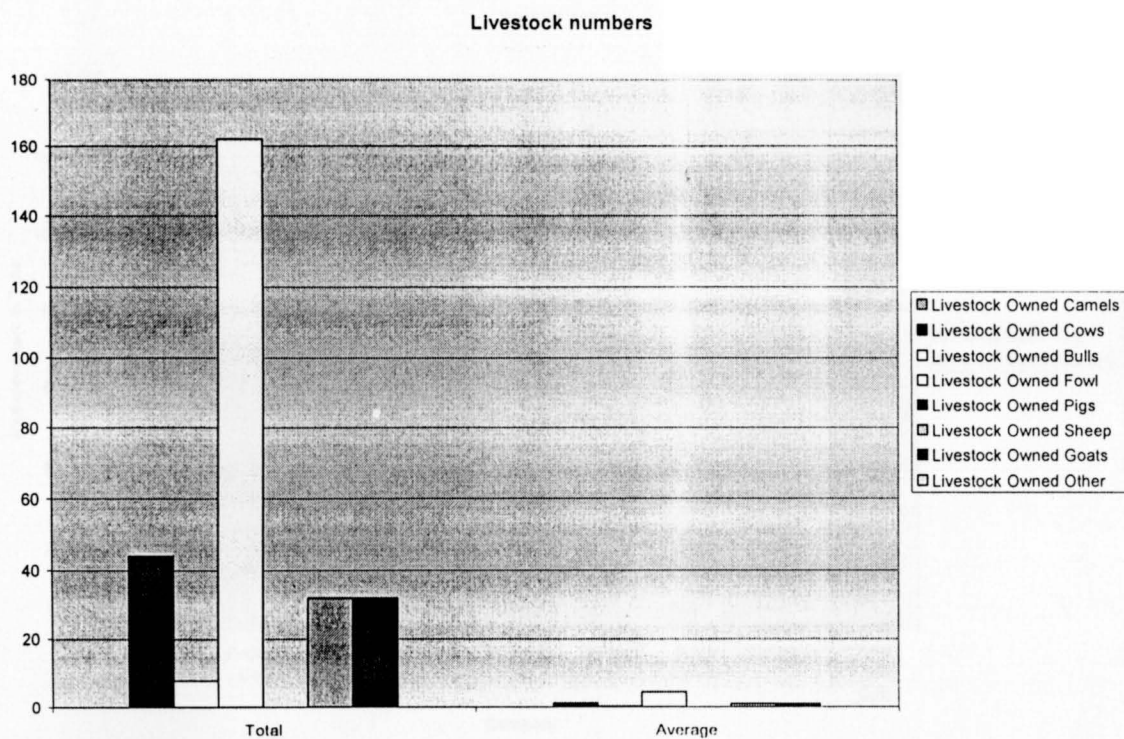
Type of treatment	Frequency number	%
Neem	13	39.4
Pepper	9	27.3
Aloe Vera	4	12.1
Datura Stramonium	1	3.0
N/A	5	15.2
Kerosene	1	3.0
Total	33	100.0

Table 6: Healing percentage of chickens after treatment (source: CNA survey data, 2006).

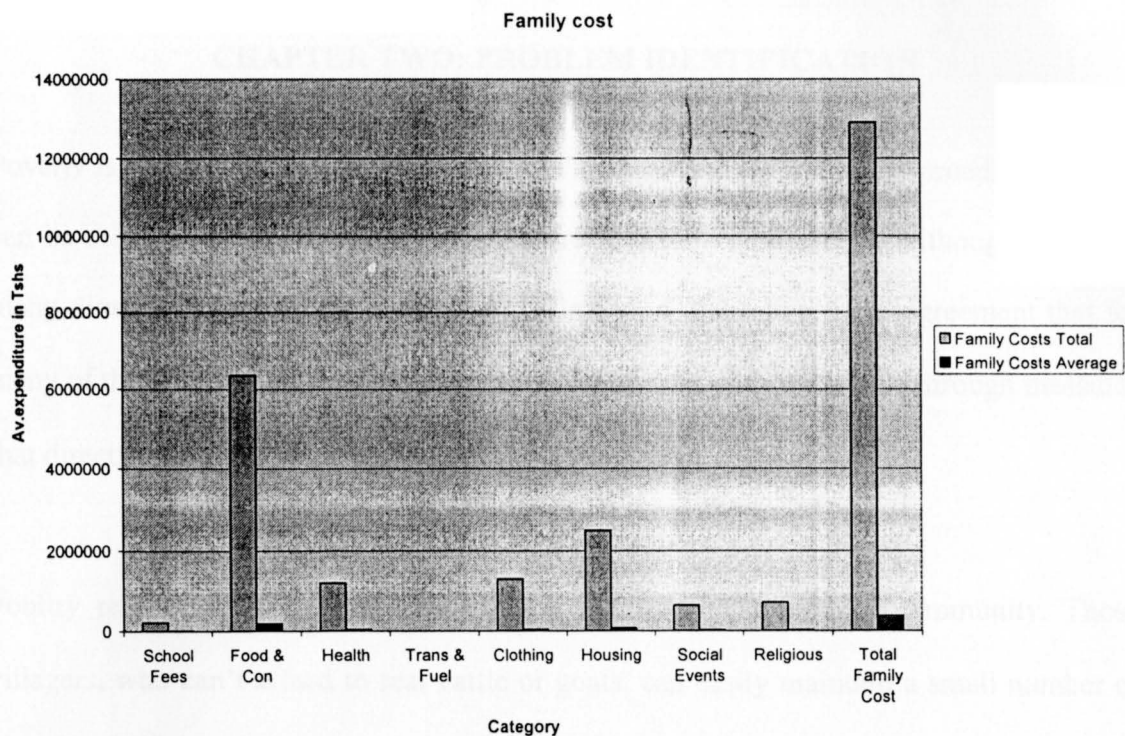
Healing Percentage	Frequency number	%
50%	1	3.0
30%	24	72.7
0%	8	24.2
Total	33	100.0

Table 7: Major causes of poverty in the community (source: CNA survey data, 2006).

Cause of Poverty in Community	Frequency number	%
Diseases	4	12.1
Low income	11	33.3
Marketing	1	3.0
Lack of Education in Agriculture	6	18.2
Low production in Agriculture	2	6.1
Bad weather	6	18.2
Shortage of land for farming	3	9.1
Total	33	100.0



Graph I: Graph showing different livestock numbers owned in the community
 (Source: CNA survey data, 2006).



Graph II: Graph showing average costs in household expenditure per year (source: CNA survey data, 2006).

CHAPTER TWO: PROBLEM IDENTIFICATION

Poverty is still largely a rural phenomenon. This means that substantial inroads in poverty can be made only if the livelihoods of the rural poor are improved. Although there are many dimensions to poverty and poverty alleviation, there is general agreement that for many of the poor, the most immediate route out of their poverty will be through measures that directly target the poor themselves (UNDP, 1997).

Poultry rearing is an integral part of agribusiness of the farming community. Those villagers, who can't afford to rear cattle or goats, can easily maintain a small number of poultry. It is an important source of cash income for the poor rural families, particularly for women. Most birds are kept in small flocks under scavenging system feeding from domestic wastes, insects, grasses and crop residues. Productivity of the local chickens is low and losses due to diseases and predators are high.

It is therefore apparent that, the majority of the poor mainly rear small livestock and in particular, local free range chickens. Unfortunately these farmers face production constraints that if addressed could increase their income and subsequently improve their livelihoods systems.

2.1 Problem Statement

Poultry keeping in rural areas of Tanzania is a natural practice. For decades local chickens have been raised in almost every household (Katabange and Katule, 1989; Melewas, 1989). Even the poorest of the poor have chickens because at times chickens

are given as gift when relatives visit each other. To date, local chickens continue to act as an immediate source of income for vulnerable individuals in a community especially amongst women and children. Traditionally, within the African culture , chickens belong to a woman hence can easily be sold without discussion with the male household head of the family..

Despite the chicken industry's crucial role economical and social role to the poor and vulnerable individuals, the industry has never grown to its full potential. Causes to low growth are many but diseases morbidity has been singled out by many researchers as the major obstacle towards growth of the industry. Local chickens are said to be resistant to most common diseases and parasites, but very vulnerable to New Castle Disease (Robyn et al., 2003; Soinaya, 1990; Mitchell, 1984; Minga et al., 1989; Awan et al., 1994; Yongolo, 1996; Mohanty, 1987). This is a disease of great economic importance to the local chicken enterprise in rural areas. Out breaks of the disease have been reported to cause mortality of up to 80% in unvaccinated flock(Minga et al., 1989; CNA Survey results, 2006).This therefore causes a major economic loss to all communities trying to establish local chicken enterprise as source of income.

KIWABU group in the effort of fighting against income poverty to improve their livelihood decided to establish local chicken enterprise at individual households. At the early stages of the project they started experiencing loss of chickens due to a disease they described locally as IKULA or KABUDI. This description is based on major symptom of droopy wings. From the clinical signs mentioned, it was evident that the disease is New Castle Disease (NCD). Causes of NCD were not known to farmers. They said, it is

caused by wind, water or it is just a myth that happens every year at specific periods. Detailed discussion on community's strategies towards combating the disease revealed that the disease has no cure. However, farmers try to give infected chickens anything that tastes bitter as medication. The efficacy of such treatment however is low as hardly 0 – 30 percent of the infected chickens were reported to recover.

Besides the IKULA or KABUDI disease, results from the interviews with the community and KIWABU group also indicated that challenges like poor management, predators, parasites and low growth rate were seriously affecting the chicken enterprise.

Since it is evident that NCD is the major obstacle to local chicken productivity, innovative strategic interventions by the project are needed to address the problem. Control of this disease only helps increase chicken numbers; furthermore cross breeding with exotic cockerels will improve the genetic potential of chickens and increase their laying capacity. The project will thus dwell on strategies to control the disease. This will need appropriate vaccination regime using the recently developed thermal stable NCD vaccine. Without such rigorous intervention the free range chicken industry will continue to be adversely impacted by all these challenges mentioned which will subsequently negatively impact the poorest of the poor who rely on local free range chickens for their income and livelihood.

2.2 Stakeholders analysis and their participation to the project

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

- Small scale farmers/peasants
- Livestock extension officers
- Government institutions (veterinary Investigation Centre)

- Poultry/chicken vendors
- Consumers
- Feeds supplier/veterinary drugs shop
- Magu District Council
- NGOs working in the area.
- KIMKUMAKA center.
- CED Student.

Table 8: Different stakeholders involved in the project and the role, level of participation and impact to the project (Source: survey data, 2006).

Stakeholder	Participation	Evaluation	Impact	Rate	Plan
KIWABU group members	Key implementers of the project (local chicken development Project)	High	Will be involved with keeping of chickens in their homesteads	+	Involve them in the whole project cycle in a participatory way
Livestock extensionists	Provide advisory services to the project, including monitoring and backstopping	Medium	Will improve the production performance of the chicken through advisory on overall management of the chickens	+	Discussion to see how motivated they are in providing sound advice and skills.
Government Institution Lake Zone (veterinary Investigation Centre)	-This is an institution that deals with production distribution and sale of vaccines. -Also provide technical expertise/disease surveillance in case of outbreaks.	Medium	Reduction in chicken mortality leading to increase in flock strength or number of chickens.	+	-Make negotiation with tem for reduction in cost of vaccines and possibilities of getting Fow Pox vaccine. -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 chickens in town	Medium	These will enhance the marketing of chickens to consumers	+	Since are already doing this business, they will be contacted in the process about the existence of the

Stakeholder	Participation	Evaluation	Impact	Rate	Plan
					poultry keepers group
Inputs suppliers	Sources of inputs like drugs, feeds and other materials	Low	<p>If they don't supply genuine preparations will affect the production performance of the chickens.</p> <p>-At times may cause production costs go high if raise prices of inputs unnecessarily leading to high uncompetitive consumer or market prices</p>	+/_	Plan to identify a reliable source and negotiate on the supply prices. Buying inputs in bulk may reduce the price.
Consumers	Local and outside the village. These are the ones that are the ultimate consumers of the chickens	Medium	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	+	Potential consumers like hotels, restaurants, Bars and Pubs will be contacted and agreements made if at all the vendors prove failure.
Magu District Council	Provide loans to farmer groups through the village development programmes like MKUKUTA	Medium	Will increase the capacity of farmers to rear more chickens when have access to credit	+	Will be contacted after group constitution is established and registered
NGOs (SCC-Vi Agro forest Project)	Provides technical training in business planning and farming	Medium	Improve the capacity of the group to plan and manage the enterprises cost	+	Involve them in project planning.

Stakeholder	Participation	Evaluation	Impact	Rate	Plan
	as an enterprise (Capacity building) and facilitate study tours and exchange visits		effectively.		
KIMKUMAKA Centre.	Source of cockerels at a cost for crossbreeding purposes. Will also provide some training materials (books for reference).	Low	Improved production of chickens Capacity building	+	Have been contacted for provision of cockerels and some training materials.
CED Student (Kwidika)	Provides technical assistance through training and advisory in implementation of the local chicken enterprise	High	Improved productivity of the chickens	+	He is readily available to provide assistance to the group even after completion of studies

2.3 Project Goal

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

2. 4 Project objectives

Objective I

By the year 2008, the income of the households will have increased by 20% through sale of chickens, chicks and eggs.

Objective II

By the year 2008 mortality rate of chicken will have decreased by 70% in households involved in the project.

2.5 Host Organization

KIWABU group is the result of efforts and intervention of SCC- Vi Agro forest project in the area. The project emphasizes in capacity building to enlighten the community in entrepreneur skills and farming as a business. The roles and responsibilities of the researcher are to provide technical assistance in the implementation of the local chicken enterprises established by farmers at their households. This involved training in local chicken husbandry with emphasis in disease control strategies. In the course the researcher also assists them with monitoring and evaluation plans. The researcher will also be available for any duty as requested by the group. He will continue mentoring the group even after end of the studies.

CHAPTER THREE: LITERATURE REVIEW

This section documents work and theory on the project which has been documented and conducted by other people in local chicken enterprise. It reviews both local and global work. The review is presented into three parts. These include theoretical, empirical and policy reviews. 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 KIWABU local chicken enterprise. Lastly, the last chapter ends by analyzes policies 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. Findings from these reviews shows that the project has been well researched and documented and that local chicken have a potential role in improving the income of the rural poor worldwide. However, in all attempts in promoting local chicken enterprise, the major problem has been diseases in general and in particular New Castle Disease. Attempts to control this disease have been through the use of thermal stable vaccine. The regime was to apply at three months interval. However, evidence has shown a failure as it has not provided enough protection to the chickens. This was addressed in the design and implementation of KIWABU project. Indeed, local chicken have market potential due to tradition use , easy to maintain and taste. However, the crossbreeding method mostly adopted and advocated posses a danger of eliminating the taste trait. Risk for eliminating the good taste trait in local chicken was countered in the project design by introducing the

concept of back crossing of the filial one and two generations to local chicken cockerels with the purpose of retaining the local chicken taste trait.

3.1 Theoretical Literature

The poultry production systems of Africa are mainly based on scavenging indigenous chickens. Mostly these chickens are found in virtually all 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).

Poultry production systems in Africa are distinguished by the fact that chickens are indigenous and integral part of the farming system, with short life cycles and quick turn over ; low – input production system with outputs accessible at both inter household and intra household levels. These free range chickens convert low – quality feed into high – quality protein. 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 (Van veluw, 1987; Yongolo, 1996).

Increasingly land is becoming a limiting resource in most Africa countries. Degradation and depleting soil fertility further makes traditional practices on agriculture and ruminant keeping not economically viable. This is not a limiting factor in village free range chicken production system. Disadvantaged groups in the community can be direct beneficiaries of village chicken improvement programmes. Chicken productions in Bangladesh have improved the status of landless women through access to more food, income and labour as well as increased social status in the rural community (Saleque and Mustafa, 1996). Further, accessing village woman with chickens encourages their involvement in rural development, particularly where technology transfer includes the participation of end users (Ngongi, 1996; Alders, 1997).

In Tanzania the free range local chickens account for most of the 27.8 million poultry kept (MOA, 1995). They are present wherever there are human settlements (Katabange

and Katule, 1989; Melewas, 1989). Local chicken 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). Housing in modern poultry is an important input, accounting for a major component of the initial capital investment. (Weaver, 1996; Baghwat, 1996). Surveys have shown cases where no housing/shelter is provided in rural poultry system (Huchzermeyer, 1973; Kuit, Traore and Wilson, 1986; Antubi and Sonaiya, 1994; Yongolo, 1996). Reports suggest that where housing is provided to village chickens the houses are made with locally available materials such as wood, mud, bricks, sugarcane stems, bamboo and cereal stovers (Antubi and Sonaiya, 1994; Huchzermeyer, 1973; Yongolo, 1990).

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 main source of animal protein (Suleiman 1989). Shortage of maize, which is the staple food for most Tanzanians, affects production of commercial poultry feeds (maize being the major ingredient). The free-ranging local chickens sector can therefore provide a sustainable means of provision of much needed animal protein at a minimum cost (Msofe et al., 2002).

Despite the potential of the sector both in terms of income and environmental friend of the enterprise, the rural chicken production systems suffer from general production constraints namely diseases and parasites, low genetic potential, poor feed supply, high prices of inputs, lack of appropriate marketing strategies, low management skills and limited access to credit. All these contribute to low productivity of the local chicken (Tibamanya, 1994, Minga et al., 1989; 1996, Mwalusanya, 1998). 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 therefore called for several poultry scientists to suggest specific scientific thrust for rural poultry. The researches aim at improving on the understanding of the biological and social – economic factors affecting the input - output relationships and the economic efficiency of the production systems. (Aichi, 2003).

3.2 Empirical Literature

World-wide poultry rearing has been considered worldwide as a tool to poverty alleviation especially to the marginalized and disadvantaged, landless or land limited people, and in particular women.

Kazi (2000) reported that improvement in the livelihood of poor women and jobless youths was realized after engaging in poultry production. The project was geared towards improving productivity of chickens through diseases control and improved nutrition

In Tanzania, efforts to control ND in village chickens using the heat-tolerant vaccine were initiated in the Morogoro and Dodoma regions. The activities were coordinated at the Sokoine University of Agriculture and supported by Food and Agriculture Organisation (FAO). During the Morogoro studies, boiled maize, roasted maize, raw rice, raw sorghum and roasted sorghum were used as V4 vaccine food carriers tested. Unfortunately, final results from this research are not yet available; however, the interim results showed better protection from the sorghum-based vaccine, while the oral method gave lower protection levels than ocular and drinking-water delivery methods. In Dodoma region, similar results were reported after field trials were conducted by the Diocese of Central Tanganyika with technical and financial support from ACIAR, (Table 9)

In Tanzania, a number of researches have been conducted as efforts 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 December 1996 in Tanzania, a strategy to control ND in local scavenging chickens was put in place. This was discussed in a workshop financed by ACTAR and attended by scientists from various countries. Tanzania was also represented by veterinary officers from the zonal veterinary investigation centres, veterinary research officers and poultry extension officers from the Ministry of Agriculture.

The workshop discussed modalities for introducing the V4 vaccine and I₂, a new seed vaccine containing an avirulent thermostable Australian strain of ND virus, for control of ND in village chickens

Table 9: Trials with vaccines in three villages in the United Republic of Tanzania

Method of vaccination	Serology		Number survived/ number challenged
	GMT ^a	Protective titre ^b	
Eye drop	4.1	55/70	8/11
Drinking-water	4.1	45/64	8/11
Food	2.3	17/46	3/11
None	0.6	5/56	0/10

Source: Foster, unpublished data.
^a Geometric mean titre, log₂.

^b A titre ≥ 3 is accepted as evidence of protection.

Other scholars and rural development agencies have highlighted the importance of rural poultry in national economies of developing countries and its role in improving the nutritional status and incomes of many small farmers and landless communities (FAO, 1982, 1987; Bernbridge, 1988; Creevey, 1991; Makotjo, 1990). The rural chicken also is more widely distributed in rural Africa than other livestock species. In the united republic

of Tanzania a survey of 600 households in 20 villages showed that chickens were the only form of livestock found in most household (Collier et al., 1986).

Interviews with farmers in Tanzania (Chibelela village, Dodoma) indicated diseases and specifically NCD, as the major constraint in village chicken production. In the same village, an NCD control program was executed by the Diocese of Central Tanganyika with financial support from Australian center for International Agriculture Research (ACIAR). In addition to NCD, the interviewed government extension officers cited poor veterinary infrastructure and inadequate veterinary support services as other problems (Kitalyi, 1995). Other studies also have reported that NCD is the number one killer of the free ranging local chickens in Africa (Minga et al.1989; Bell, 1992; Sonaiya, 1990; Musharaf, 1990; Yongolo, 1996):

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 general well fare in South East Asia (Supramaniam, 1998; Johnson, 1990). This big programme was based on the control of New castle disease (ND) using a heat – stable oral vaccine.

A pilot scheme to introduce the heat – stable orally distended 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 in 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, there was a Special Programme for Food Security (SPFS) in response to the urgent need to address the problem of household food insecurity in Low –Income Food Deficit Countries. The programme was endorsed by the World Food Summit held in

Rome in 1996 and household poultry formed one of the elements of the programme (Aichi, 2003)

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

All these efforts indicates that village chickens have an important role in increasing household food security and income as well as increasing gender equity (Aichi, 2004)

3.3 Policy Review

3.3.1 Tanzania Strategies Towards Agricultural and Livestock Development

Development of the rural areas is the major concern of social and economic development policy in Tanzania. The majority of the people in Tanzania, about 80% live in rural areas where poverty is widespread and severe. Thus the rural areas are central to Tanzania's overall development strategy. Given this economic significance, a robust rural economy is necessary to support the country and realize the "vision 2025" goal of becoming a middle income nation by the year 2025. Through consultative workshops, it was realized that success to this mission can not be realized without targeting rural based productive activities and related policy variable. These activities include agricultural and livestock productivity including local chicken.

The Government of Tanzania aims to eradicate poverty by the year 2025. In order to meet this objective, the government has developed a Master Plan under the Poverty Reduction Strategy Paper (PRSP) and other important strategies including the Rural Development Strategy (RDS) and the Agricultural Sector Development Strategy (ASDS). Successful

implementation of these strategies will be crucial to rural development, growth in the agricultural sector and poverty reduction.

The Tanzania Development vision 2025 provides broad guidance on goals for achieving social and economic development in the country. The Poverty Reduction Strategy Paper (PSRP) is an overarching policy framework to achieve these goals. Within the rural sector, there are two policies that are important and these are , the Rural Development Strategy and the Agricultural Sector Development Strategy

(ASDS). The ASDS aims for public and private sectors support effort to stimulate agricultural growth and to reduce rural poverty (ASDS, 2001).

The ASDS (2001) highlights migration of youth from rural to urban areas as a growing problem in Tanzania. The strategy therefore places emphasis on empowering youth through programmes to reduce migration, incorporating agriculture and livestock production in rural areas. This would be a strategy to attract youth back into their communities and rebuild the economy of most villages in Tanzania.

The ASDS policies are in line with the United Republic of Tanzania Agriculture and Livestock policy which was revised in 1997. It is recognized that the traditional poultry Sector largely contributes about 70% of the flock and 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) High mortality rates due to poultry diseases like Newcastle, Fowl Typhoid, Infectious Coryza etc. which subsequently reduce production.

- (iii) Poor quality poultry feeds and poor management greatly limit productivity and adversely affect the quality and quantity of day old chicks.
- (iv) Poor Extension Services; government budget constraints leading to fewer manpower affect the extension service provided to farmers.
- (v) Inadequate research services. There is no major research programme being undertaken to develop the poultry 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 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 Inter-chick; Kibo. Polo Italia etc is growing.

In most developing countries the increasing demand for animal protein in low and middle income provides an opportunity for the rural poor to improve their livelihoods. However, the nature of livestock farming is determined by policy and institutional frameworks that rarely favour the poor. Therefore, in 2001, FAO of the United Nations launched the **Pro – Poor livestock Policy Initiative (PPLPI)** to facilitate and support the formulation and implementation of livestock related policies and institutional changes that have a positive impact on the world's poor. The initiative addresses four thematic areas which articulate the role of livestock in household, community and national economy; political economy of livestock sector-related policy making. Markets and standards which are key determinants of the balance between subsistence and market oriented production. The last thematic issue is on livestock services which constitute a wide variety of basic inputs to livestock production such as feeds, drugs, health services, credit and insurance which are often not accessible to poor livestock keepers. The policy enforces the point that livestock are particularly important as means for rural households to benefit from trends in urban economic growth (<http://www.fao/ag/againfo/projects / en/ pplpi/roles.htm>).

3.3.2 Structural Adjustment policy and globalization

Room for more improvement in agricultural had been strongly reduced since the 80's. The decline of commodity prices on worlds markets, combined with failing Marco-Economic Policies and budgetary laxity, caused the decline of the economic situation in most African countries. Their external debt rose. The international monetary fund (IMF) and the World Bank (WB) imposed implementation of structural adjustment plans as a precondition for loans. In line with this, African countries have been forced to lower their custom barriers, to reduce aid to agriculture and abolish monitoring of prices.

Since the implementation of the structural adjustments programs, the livestock sector has greatly suffered in most African countries including Tanzania. Extension services have declined due to retrenchment. Livestock mortality due to diseases has increased as animal health services have been privatized. Infrastructures for public veterinary services have collapsed.

3.3.3 European Union and Africa Agricultural Trade

The European Union and other developed countries had been able during the past 40 years to develop its agriculture, protecting it from imports coming from more "competitive" countries. For a number of reasons; African counties have no possibility to do the same. This protection policy provided room to lay the foundations for development. It also helped to develop trade within their community as well as well as European agriculture. In the struggle to balance trade relationships, some conventions have been passed between EU and countries of Africa, the Caribbean and the Pacific

(ACP). For instance, in 1975, the Lome Convention set the frame for cooperation between EU and ACP countries, granting privileged trade relations to the latter. Products from ACP countries were allowed to enter European territory without limitations or custom duties, except for “sensitive” farm products. Some rules and agreements have also been adopted in order to restore compatibility between EU – ACP relations and World Trade Organizations (WTO). These agreements stipulate the creation of free trade zones between the EU and effective regional common markets among groups of ACP countries.

Generally, it looks a fair play for the ACP countries to have a wide access to European markets. However, the benefits are minimal, as in the contrary, ACP countries are forced to open their market for European products. In the farming sector, including poultry production, already it is suffering from competition of European products and consequences would be traumatic if no protective measures are taken. Moreover, access to European markets means that more public health requirements must be met, which ACP countries are hardly able to cope with.

The trade liberalization policy, structural adjustment programs, and other trade conventions like the 1975 Lome Convention have created a situation for more agricultural products imports for European and other development countries. The supermarkets in African countries are flooded with imported cheaper, subsidized food products including poultry meat. For instance, in Senegal, the price of chicken” locally produced in family farm costs between 1500 to 2000 FCFA per kilogram. The imported chicken is landed at 425 FCFA per kilogram and after tax and import margins, it is sold

for less than 1000 FCFA/kg.on the market. With this situation, consumers will go for the imported chickens' meat thus killing the local poultry farms. (Ceroline et al., 2003)

This situation seriously impedes the development of the local poultry sector in the long run. It will not be cost – effective and irrational to have more investment in local chickens' enterprises which are regarded as good source of income for the rural poor. Unless this situation is reversed and measures to ensure balance of trade and fair competition in trade, the local chicken industry may not stand a chance to develop.

“I started breeding chicken in 1993, when i learned that chicken meat is essential for celebration and that there was a high demand for broilers on the market. Customers came to buy them at the farm, and i had no problem to sell the rest on the market. At the beginning of 1999, i noticed that for the big celebrations, the organizers no longer came for chickens for their guest. That is when i learned about imported chicken meat. Very soon i had to watch, so many frozen chicken invaded my village”. This is a testimony from a farmer in Cameroon, Mr. Jean Workap (Ceroline et al., 2003).

3.4 Policy Statements

The Agriculture and Livestock policy of Tanzania has one general goal of “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 have been put in place to achieve 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. Specific policy

statements regarding the local chicken production and management have been put in place and the following four areas are noted:

- (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; Besides enforcing hatchery regulations Government will provide animal health extension services and monitoring of disease outbreaks.

CHAPTER FOUR: PROJECT IMPLEMENTATION

This chapter gives explanation of the planned project implementation and what has actually been implemented by describing the project products and outputs, activities undertaken to achieve the objectives, responsible persons, resources required and time frame for accomplishment. The chapter also highlights the tentative budget.

KIWABU local chicken productivity improvement project was initiated prior to this study. The group had already received training in entrepreneurship and Saving and Credit Cooperative Organisation (SACCO's) management. Local chicken project had just started and was managed at group level. It was then advised that individual chicken enterprises should be given emphasis and the group chicken business remains as a demonstration centre. It was anticipated that by the end of 2007, the project will have accomplished major activities and monitoring and evaluation would be ongoing activities. However, due to some unforeseen constraints establishment of individual chicken enterprises has been delayed. Lack of funds to purchase construction materials for chicken enclosures has contributed to some of the delays. 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. The project will use a thermal stable vaccine. The anticipated project product is livelihood improvement of KIWABU members and their families through increased and stable income realized from local chicken enterprise. However, this is yet to be realized as the project is half way. It will come evident after project

evaluation by the end of 2008. It is expected that KIWABU members will have improved housing shelter, clothing, furniture and food. Moreover the members expect to engage in savings to cater for other expenses like health, education and recreational activities. The project is implemented by three main stakeholders who are KIWABU group, SCC-Vi Agro forest and CED student.

4.1 Implementation Strategy

The project targets the KIWABU members from Bukerebe hamlet community. The project foresees others joining the group in developing local chicken micro enterprise that will contribute in alleviation of poverty to the whole community. At the same time, the project will benefit the whole community in the long term, as the management skills for rearing indigenous chicken will reach the rest of the community through sensitization and learning from the target farmers

The project is to a large extent involved in training target farmers in managerial and technical skills for local chicken with particular reference to control of New Castle Disease through vaccination.

KIWABU group contributed to the construction of chicken enclosure and management of the chicken. This group enterprise serves as a learning centre and meeting point for the group. All group members have participated in the whole process involved in establishment and management of the enterprise.. Both theoretical and practical training were conducted at the site where chickens are kept. The selected site is in one of the group member's household.

Membership fee of two thousand shillings was contributed by members and each member brought a chicken and the group used membership fee to purchase cockerels. The members also contribute towards purchase of feeds, vaccine and necessary resource to boost the project. The engagement of the members in these activities brought commitment and ownership to the group.

The CED student is a facilitator. As a facilitator, the student is responsible for providing guidance through training in general chicken husbandry, facilitating the availability of good cockerels and proper cross breeding procedures without losing much of the indigenous chicken traits. Indigenous traits provide the potential and marketability of local chicken.

Individual members of the group were then encouraged to establish similar projects at their households. It was encouraged that group members visit each other for experience sharing, advice and learning. The group was also advised to jointly participate in the construction of chicken enclosures as at times it proved difficult for the individuals to do it on their own.

The project engages one volunteer extension staff who assist the group with social and technical support. The volunteer is a local farmer. The volunteer is also a practical farmer used like a model farmer and has more experience and is engaged in both exotic and indigenous poultry keeping. It is a strategy of the project to expose him to different opportunities for the benefit of the group.

4.2 Project Outputs

The project is expected to accomplish the following outputs by the end of the second year:

Output I

Thirty KIWABU group members trained in local chicken husbandry and entrepreneurship.

Output II

Group (KIWABU) Constitution prepared and if possible registration of the group.

Output III

Twenty KIWABU group members with established improved local chicken's enterprises at their individual households.

Output IV

A NCD vaccination program in place and all chickens of the group members vaccinated using thermo-stable vaccine through eye drop method.

4.3 Project Impact

The major project impact is livelihood improvement of the KIWABU members and the community at large. This is expected to be reached after realization of income from local chicken enterprises and SACCOS activities. It is expected that KIWABU members and others who will subsequently have improved shelter, good clothing, good household furniture, increased purchasing power, good meals and savings to cater for other expenses like health, school fees and recreational needs.

4.4 Project Plan and Implementation Schedule

In the implementation process, the project planned to involve three key stakeholders namely KIWABU group members, Community Economic Development (CED) student and SCC-Vi Agro forestry as a host organization. The roles of each stakeholder are described (Table 9). Resources to be used were contributed by both partners. KIWABU members contributed funds for purchase of chickens, cockerels, NCD vaccines, feeds and construction materials of chicken enclosures. The CED student was responsible for training and advice in local chicken husbandry and control of chicken diseases and constitution preparation. The CED student as the main researcher covered all the costs related to training in local chicken husbandry and monitoring and evaluation of the project. SCC-Vi Agroforestry, the host organization, was responsible for capacity building in entrepreneurship. The organization brings vast experience in farmer enterprise

development. Besides, SCC-Vi Agroforestry organized study tours and exchange visits to increase knowledge sharing amongst group members. To show their commitment, SCC-Vi-Agroforestry covered all costs related to their training.

Before the full implementation of the project, the members planned to implement a number of activities. These activities were geared towards accomplishing a number of objectives. Core activities included familiarization with host organization and the target group; community needs assessment, project design, training of members and purchase of improved cockerels. Others included vaccination of chickens, constitution preparation and registration, consultation to the district council, sensitization meetings, series of training on management of chickens, monitoring and evaluation. The activities formed the basis of monitoring and evaluation. The details on timeframe, inputs (resources) and responsible people are described (Table 10).The monitoring and evaluation plan articulated the following objectives:-

Objective I

By the year 2008, the income of the households will have increased by 20% through sale of chickens and eggs.

Output I

Thirty KIWABU group members trained in local chicken husbandry and entrepreneurship.

Activity I

Familiarization with the CBO, CNA, and Conceptualization of the project.

Activity II

Project Design preparation. This involved plan on how the project will be implemented, responsibilities, monitoring and budget estimates. It involved all project members.

Activity III

Preparation of training materials.

Activity IV

Organize training for the CBO members in technical and management skills including marketing, record keeping and participatory monitoring and evaluation.

Activity V

Purchase and distribution of improved cockerels to group members. Purchase of cockerels will continue.

Activity VI

Feeding and routine management of chickens

Activity VII

Marketing of eggs, chicks and chickens

Activity VIII

Monitoring and Evaluation of the project. This activity is ongoing and covers across all the objectives and outputs.

Output II

Group (KIWABU) Constitution prepared and group registered.

Activity I

Preparation of group constitution

Activity II

Review and endorsement of the constitution

Activity III

Registration of the group with Magu District Council

Output III

Twenty KIWABU group members with established improved local chicken's enterprises at their individual households.

Activity I

Construction of chicken runs or enclosures

Activity II

Purchase and stocking of chickens and cockerels at individual households

Activity III

Routine management of chickens which includes feeding, deworming, etc

Activity IV

Consultation with Magu District Council for possibility of external funding

Objective II

By the year 2008 mortality rate of chicken will have decreased by 70% in households involved in the project.

Output I

A NCD vaccination program in place and all chickens of the group members vaccinated using thermo-stable vaccine through eye drop method.

Activity I

Designing of a vaccination protocol

Activity II

Preparation of vaccination record forms

Activity III

Sensitization of the community in control of NCD through vaccination and good management

Activity IV

Purchase of thermal stable NCD vaccine

Activity V

Routine vaccination of chickens. The vaccination will also involve chickens from other community members who are willing to have their chickens vaccinated.

Table 10: Project plan showing activities to be implemented, time frame, inputs (resources) needed and persons responsible
(Source: Project monitoring survey data, 2006)

No	Activities	2005				2006												2007												Resource needed	Responsible Person
		Sept	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct				
1	Familiarization with the CBO, CNA, and Conceptualization of the project.																											Financial, human and physical.	CBO members, SCC-Vi Project-Extension Officer, CED-Student		
2	Project Design preparation																											Financial, human and physical.	SHNU-Student		
3	Preparation of training materials.																											Financial, human and physical.	SNHU-Student, Extension Officer -SCC-Vi Project		
4	Management and monitoring of the group chicken unit																											Financial, human and physical.	CBO members, Extension Officer-SCC-Vi, CED-Student		
5	Organize training for the CBO members in technical and management skills including marketing, record keeping and participatory monitoring and evaluation.																											Financial, human and physical.	CBO members, Extension Officer-SCC-Vi, CED-Student		
6	Purchase of improved cockerel																											Financial, human and physical.	Extension Officer-SCC-Vi project, CED-Student		
7	Vaccination.																											Financial,	CBO members,		

No	Activities	2005				2006												2007												Resource needed	Responsible Person
		Sept	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct				
	feeding and routine management of chickens																											human and physical.	Extension Officer-SCC-Vi, CED-Student		
8	Implementation of the project by individual members at household level (construction of enclosures and stocking of chickens, feeding etc)																											Financial, human and physical.	CBO members, Extension Officer-SCC-Vi, CED-Student		
9	Preparation of the group constitution																											Financial, human and physical.	CBO members, Extension Officer-SCC-Vi, CED-Student		
10	Processing registration of the group																											Financial, human and physical.	Extension Officer-SCC-Vi, Group leaders, CED-Student, SCC-Vi Project		
11	Consultation with Magu District Council for possibility of external funding																											Financial, human and physical.	Extension Officer, Group leaders, CED-Student, SCC-Vi-Project		

No	Activities	2005				2006												2007										Resource needed	Responsible Person
		Sept	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sept	Oct		
12	Periodic monitoring and Evaluation of the project activities.																												
	- Monitoring																											Financial, human and physical.	CBO members, Extension Officer-SCC-Vi, CED-Student, SCC-Vi Project
	- Evaluation																											Financial, human and physical.	CBO members, Extension Officer, CED-Student, SCC-Vi Project

Table 11: Implementation status of the Project showing objectives, activities conducted resources used, time frame, actual implementation and remarks on accomplishment of such objectives.

Project Objective	Activities	Resource	Time frame	Actual implementation	Remarks
By the year 2008, the income of the households will have increased by 20% through sale of chickens and eggs.	<ul style="list-style-type: none"> - Familiarization with the CBO members, CNA , and of the project design - Preparation of training materials - Training of the group in local chicken husbandry - Purchase of chicken and cockerels - Construction of enclosures of chickens at their households - Preparation of a constitution - Consultation to the Local Government Authority - Community Needs Assessment to establish baseline information. - Market survey and sale of chickens, chicks and eggs to consumers 	Stationeries, funds, construction materials and human resource Stationeries , funds and human resource	September 2005 – December 2008	<ul style="list-style-type: none"> - 30% of the group members have established chicken enterprises at their individual households - Constitution prepared and processes for registration started. - Local Government Authority not yet contacted for funding, waiting for group registration first. - Few have sold chickens, chicks and eggs and many are at different 	Many of the members have failed to get construction materials to establish enclosures though have chickens at their homes. Hoped that after registration, the group can easily get financial support from Local government to support their individual enterprises After conducting

Project Objective	Activities	Resource	Time frame	Actual implementation	Remarks
				stages of establishing enterprises to start realizing income	evaluation of the project ,it is when this will be obvious
By the year 2008 mortality rate of chicken will have decreased by 70% in households involved in the project.	<ul style="list-style-type: none"> - Community Needs Assessment to establish baseline - Designing of a vaccination protocol - Purchase of Thermal Stable NCD vaccine - Vaccination of Chickens - Monitoring and evaluation - Sensitization of the community about New Castle Disease control through vaccination. Sensitization done through village meetings, distribution of leaflets and carrying out vaccination of chickens in the community. Village volunteers will be trained on how to vaccinate the chickens. The training will be onsite through participating in the exercise. They will also be advised on how to keep records so that they will be sharing 	Stationeries, funds and human resource leaflets (from VIC – Mwanza)	December 2005 – December 2008	Vaccination of all chickens of the group members has been done and significant reduction in mortality reported. Some members of the community are aware and have started vaccinating their chickens.	<p>This is a continuous exercise and exact percentage will be obtained after doing a summative evaluation in 2009.</p> <p>The disease occurs in seasons, so until another outbreak comes will prove results</p> <p>Leaflets will be collected from Veterinary Investigation Centre</p>

Project Objective	Activities	Resource	Time frame	Actual implementation	Remarks
	information with KIWABU administration. Vaccination will be done at a reasonable fee.				and distributed to the community. Sensitization will continue through village assembly meetings. The overall objective is to achieve 100% vaccination of the chickens in the community for effective protection of the chicken flock in the whole community

4.5 Project budget

KIWABU local chicken productivity improvement project is a small project owned and run by ordinary farmers. There is no staffing need and most of the work is done on voluntary basis. The leadership is made of a chairman, a vice chairman, a secretary and a treasurer. No salaries are provided by the group to the leaders. The entire budget is largely on inputs and training costs. The total budget for the project was estimated to be about TZS 4,825,000.00 of which TZS 995,000.00 were to come from SCC-Vi Agro forestry and contribution from CED student. The remaining TZS 3,830,000.00 was to be contributed by farmers. However, the cost for construction of chicken runs amounting to TZS 3,600,000.00 on average, is expected to be solicited from District Council through a revolving fund mechanism. This has been necessary after farmers failed to raise the money. The details of the budget description are attached under Appendix 8.

4.6 Reflection on Implementation status of activities

The following activities have been implemented so far:

- Preparation of training materials for poultry husbandry
- Training of 30 CBO members in poultry husbandry and entrepreneurship
- Purchase of 15 pure breed cockerels for cross breeding
- Preparation of group constitution
- Establishment of 10 local chicken projects in 10 households
- Designing of a vaccination protocol for NCD using thermal stable vaccine
- Preparation of monitoring and evaluation tools and plans.
- Purchase of thermal stable New Castle Vaccine and vaccination of all chickens of the group and few from neighbours

Most of the ground work preparation has been accomplished leading to partly achievement of some objectives. The rest of the objectives will be achieved during the year 2007 and 2008 since most preparations of the key items has been done. It is important to note that the objective on improvement in protein consumption through consumption of eggs and chickens has been dropped as it is beyond the capacity of the project to monitor and measure. The members are skilled to run the poultry project and they are now in different stages of establishing individual enterprises at household level. Some members have sold some chickens and the demand is higher than supply of chicks and chickens. This has motivated the group to solicit resources individually and buy more chickens. Construction of enclosures has proved to be difficult due to high cost of construction materials. It was planned to use locally available resources, unfortunately due to deforestation it is not easy to construct the poultry runs using poles. This has been a setback to many. It is expected that after group registration, it will be possible to solicit support funding from the Local Government Authority and other interested local donors. The raised fund will be used to assist members with construction of enclosures which has been a major limiting factor due to high cost.

CHAPTER FIVE: MONITORING AND EVALUATION

Monitoring is a continuous process that is geared towards looking at the way the day to day activities are implemented and make necessary improvements in order to achieve the desired goal. Monitoring is closely linked to evaluation and monitoring benchmarks set a basis for evaluation, be it formative or summative evaluation. For both monitoring and evaluation to be meaningful, it is important to involve all major stakeholders 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.

5.1 Monitoring Strategy and Plan

The KIWABU members are the owners of the project. They know what they wanted to achieve in future through this project. They desired a better life that could be obtained through reduction of income poverty. In order to reduce poverty, local chicken enterprise was a project of their choice. The CED student together with the SCC-Vi Agro forest extension officer facilitated the group on activities to be carried out in establishing the local chicken enterprise. They were assisted to identify indicators for showing achievement of set targets and also for seeing if the activities planned are achieved as planned (time frame). It was also agreed on who will be gathering the information and how often should that information be shared with others thus giving feed back (Table 12). In addition, the process developed for monitoring included mechanisms designed to show how individual group members could identify successes and challenges emanating from their enterprise.

5.1.1 Methodology

After discussion and agreement on the monitoring and evaluation plan the members agreed to meet once a week every Tuesday. During the meeting, the secretary reads the agenda of the last meeting; discuss problems and solutions and the way forward, 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. 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 it is presented. Review of the plan is done after a month. In most cases, the CED student was available after every two weeks or month.

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

A record entry data table was designed and shared by the participants 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 to the group members for discussion. Analysis was scheduled 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 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 comprised of the chairperson, secretary and treasurer responsible for ensuring group cohesion and group focus.

Table 12: 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 in Bukerebe community	Number of households with established chicken projects	0 and 36 CBO members	Semi annually	CBO Progressive report	- Review of reports - Field / households surveys	-Livestock extension officer - CBO members	-CBO members - Host organization - CED 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 - CED 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 - CED 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 - CED 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 - CED 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 - CED 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 - CED 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 - CED 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 - CED 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 - CED 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 - CED student - Livestock extension officer	Assess the impact of the project after intervention

5.2 Evaluation

Evaluation is defined as systematic investigation of the worth or merit of an object (Joy, 2002). This definition centers on the goal of using evaluation for a purpose. Accordingly, evaluations should be conducted for action – related reasons, and the information provided should facilitate deciding a course of action. Therefore evaluation provides information to help improve a project. It also provides information for communicating to a variety of stakeholders including external donors of the project. It forms one of the most important parts of the project life cycle. It is the outcome of the evaluation that gives clue to recasting, planning and modification of a given project. It also gives evidence and guidance as to whether funding should continue for that particular project (Joy, 2002).

KIWABU group members were involved in the discussion as to why evaluation will be conducted and what comprises evaluation. Both formative and summative evaluations will be conducted.

5.2.1 Evaluation Plan and Strategy

5.2.2. Formative evaluation plan

Formative evaluation seeks to strengthen or improve a program or intervention by examining , amongst other things , the delivery of the program , the quality of its implementation and the organizational context , personnel , structures and procedures. As a change oriented evaluation approach, it is especially attuned to

assessing in an ongoing way , any discrepancies between the expected direction and outputs of the program and to what is happening in reality, to analyzing strengths and weaknesses, to uncovering obstacles , barriers or unexpected opportunities, and to generating about how the program could be implemented better. Formative evaluation pays special attention to the delivery and intervention system , but not exclusively. In formative evaluation , the evaluator also has to analyse the intervention logic, the outcomes , the results and impacts.

Formative evaluation activities include the collection and analysis of data over the lifecycle of the program and timely feedback of evaluation findings to the program actors to inform ongoing decision making and action. It requires effective data collection strategy , often incorporating routinised monitoring data alongside more tailored evaluation activities. Feedback is primarily designed to fine tune the implementation of the program although it may also contribute to policy making at the margins through piecemeal adaptation.

Implementation evaluation

This began during project development and continues throughout the life of the project. Its intention is to assess ongoing project activities and provide information to monitor and improve the project. It was done at several points in the developmental life of the project and its activities. The purpose was to assess whether the project is being conducted as planned. This is what constituted the evaluation of the the KIWABU project. The project indicators for monitoring to

be used to monitor the project were developed and the indicators will be used as the benchmark to see if project objectives are being met and to what extent.

Progress evaluation

The purpose of progress evaluation is to assess progress in meeting the goal of the project. It involves collecting information to learn whether or not the benchmarks of participants' progress were met. It determines the impact of the activities and strategies on the goal. It is like an annual evaluation.

A method developed by Heifer Project International (HPI) known as Participatory Self-Review and Planning (PSRP) will be used as part of formative evaluation. This evaluation will take place annually and the information will be used to improve the project. PSRP as a formative method gives room for participants to self assess to see what went wrong, areas of weaknesses and opportunities. Progressive reports from the project will be used during summative evaluation. The approach is based on Strength, Weakness Opportunities and Threats (SWOT) analysis and giving room for project components to be analyzed ranked and reasons given to its success or failure. All these methods are geared towards group sustainability so that when the CED student, supporting CBO (SCC-Vi Agro forestry) leave the group can continue with its activities.

Participatory Self Review and Planning tool for formative evaluation was chosen because it is a methodology that allows all participants of the project to actively assess the progress of their project. They will be able to identify weak and strong points of the project and give reasons for the weak and strong points. With this method group members review the project objectives and indicators set for the objectives. After discussion and agreement on the objectives and indicators, a voting process follows where every group member votes against a given objective and its set of indicators. The voting is based on the extent to which a particular

objective has been achieved .A growing tree is used to depict Achievement level and the levels are in four stages. Pictures of the growing tree are used to ensure that even those who can not read can participate through seeing.

Seed level:

This means that nothing or very little has been achieved as per that objective

Sapling level:

This depicts that some achievement are noted in the given objective

Full grown tree level

This implies much has been achieved on a given objective and little need to be done for improvement.

Fruit bearing level

This level implies that the project objective has been fully achieved and needs not to engage more efforts and resources.

Voting is done and averages calculated and results are presented to the group . After presentation of the results, the members are asked to ascertain the results and have a consensus. This is to triangulate the results to see all the participants have common understanding Then the participants are asked to give reasons for the objectives that scored low points and on the objectives that scored higher points. After giving the reasons, the group puts up an action plan on how to address the issues that lead to low points in given objectives. The plan shows objective, activities, when to be done, who does it, where, resources required and any remarks. In a nut shell, this method involves focus group discussion and voting

PSRP has been planned to be conducted in November 2007. The results obtained so far are based on the weekly meetings of the group where group discussion was conducted and reports were presented and reviewed. In these meetings challenges are discussed and possible solutions suggested.

5.2.2.1 Formative Evaluation Results

- 30 group members have been trained in poultry husbandry and entrepreneurship
- 15 pure breed cockerels have been purchased for cross breeding
- Group constitution has been prepared and in process for registration.
- 10 local chicken projects in 10 households have been established
- A vaccination protocol for NCD using thermal stable vaccine has been developed
- Monitoring and evaluation tools and plans have been developed and being used.
- 2000 doses of thermal stable New Castle Vaccine have been purchased and vaccination done to all chickens of the group and few from neighbours
- 200 chicks and 12 chickens have been sold realizing a revenue of 272,000Tshs.

The major challenge to most of the group members was on construction of chicken runs. The construction materials are expensive for most poor group members to afford. It was suggested that members should just start keeping the chickens by allowing them to move around during day time and sharing shelter with the chickens at night. The sharing of shelter with the chickens has been the long time system of raising indigenous chickens in rural areas of Tanzania.

5.2.3 Summative Evaluation

The purpose of summative evaluation is to assess a mature project's success in reaching its stated goals. Summative evaluation (sometimes referred to as impact or outcome evaluation) frequently addresses many of the same questions as a formative evaluation, but it takes place after the project has been established and

normally at the end of the project. It collects information about outcomes and related processes, strategies, and activities. It is an appraisal of worth or merit. Usually, this type of evaluation is needed for decision making. The decision alternatives may include dissemination to other sites or agencies, continue funding, increase funding, continue on probationary status, modify and or discontinue the intervention. 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.

5.2.4 Methodology and Plan

The project has planned to conduct summative evaluation in the fourth year, which is 2009. The approach in data gathering will be through a semi structured questionnaire, focus group discussion and on site observation. Indicators for assessment include reduction in chicken mortality, increase in income as the result of sales from 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.

These indicators have been discussed by group members and some of the information is being collected continuously. Reports from annual evaluations (PSRP reports) will also be used in making a final report. The evaluation process will be participatory involving all the stakeholders. Analysis will be both qualitative and quantitative and results will be presented using tables, charts and narration for all the participants to understand.

The CED student in collaboration with SCC-Vi Agroforestry will facilitate the evaluation exercise and the results will be presented to all the group members for discussion and further planning.

5.3 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 KIWABU local chicken micro enterprise project 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, by different literature cited evidenced that chickens are found in every household. Availability of local chickens and low maintenance ensures sustainability of the project hence there is little dependence from external funds. The group is already embarking on a fund raising strategy by establishing a ROSCAS. It is through this credit system that group members are raising fund to purchase more chickens, buy vaccines and construction materials. In addition to this, the group is in the final stages of registration and after this, it will be possible to access loan from the local government through the SACCOS support program. The money will be put into the ROSCAS bucket that members can borrow enough to improve their enterprises.

Training (skills transfer) in both technical skills on local chicken husbandry and business skills has developed the group members 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 clearly spells out institutional strengthening and sustainability.

Full 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. As a key to sustainability the group has a sense of ownership of the project. The group is fully involved in monitoring and evaluation of the project, they will be involved in examining what goes wrong and how to improve for progress of their enterprises.

The extension officer, who is a model farmer, is involved in all aspects of the project. The supporting NGO – SCC- VI Agro forestry has exposed the extension officer to a number of skills through study tours that are related to the project. His capacity has greatly improved and he will continue working with group giving guidance and support.

Another aspect that helps this project to be sustainable is the readily available market of local chickens. Survey showed that local chickens taste is more preferred as compared to exotic chickens and fetches high prices. The growing population in Mwanza city forms a potential market for the local chickens.

Local chickens' enterprise is environmental friendly, and feeds for the chickens are by products and waste products from feeds and left over 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 restriction eating meat from chickens.

The project has been well structured to be on guard. However, for all the diseases the only fear by project members is the outbreak of Avian Flu, a deadly zoonotic disease and this is outside the control of the group.

CHAPTER SEVEN: CONCLUSION AND RECOMMENDATION

It is important to note that more progress has been achieved on the project objectives. To a large extent the activities planned have been accomplished. Significant income is yet to be realized since 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 delay in establishment of individual household chicken enterprises is due to the high level of poverty affecting this community thus failing to buy construction materials. Now that, the constitution is ready, registration of the group is about to be completed, then the group can 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.

In the course of implementation of the project, the objective on improved protein consumption was dropped as it was out of the scope of the project and was difficult to measure in terms of impact and group members were not interested in getting involved in this objective.

For a long time local chickens have been considered to be the primary source of protein and income for the poorest of the poor. With the current level of poverty in Tanzania especially in the rural areas where the majority Tanzanians lives, coupled with the increasing environmental degradation for survival of ruminants, local chicken remains the most likely alternative source of income and protein. Local chicken enterprise has all the motivating features for a poor person to start a project. Low cost investment, readily available chickens in every household, environmental friendly and increasing demand for local chickens makes it feasible and lucrative for the poor to engage. 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.

By having a holistic approach to local chicken development, taking into account technical as well as organizational aspects like access to credit, it is possible within a relatively short period to develop poultry production systems based on locally available resources , which may help farmers in developing their skills and creating sustainable income with few inputs and big output.

7.1 Recommendations

The widely recommended vaccination protocol of 3 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 is protective to chickens.

The taste of free range chickens makes it desirable 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, ie F2 chickens.

Major limitation to project implementation was noted on the construction of the enclosures of chickens during the daytime. Construction materials are expensive and challenging to the poor households. It is therefore advisable that enough funds be raised before the implementation of the project to cover for this important component of the project.

Methods of rearing local chickens have varied from place to place. In most areas farmers have been advised to completely house the chickens for all of their life time and feed them with improved feeds. This approach improves productivity but it is further expensive for most rural families to afford. However, this reduces the naturalness of local chickens thus compromising their most preferred taste. It is therefore recommended that open enclosures are used for chickens during the day

time. The enclosures should be big enough and grass and other shrubs should be left to mimic the natural environment in which most local chickens are reared. Feeds also should be just thrown in the enclosures and chickens will just find it. Manure from different animals can also be piled in the area to enhance maggots' growth which is good source of chickens' feeds. The semi intensive system practiced greatly maintains the chickens' meat taste which is desired by most consumers.

The most striking problem in relation to village poultry production is the high mortality rate of chickens. Mortality rate may be as high as 80 – 90 % (Wilson et al., 1987; CNA Survey results, 2006). Traditionally, NCD is believed to be the most devastating disease in free range systems and the main cause of high mortality. However, successful poultry production also includes the possibility of obtaining loans for further investment and improvements of the production. In village poultry production only small loans are needed, but they are mostly impossible for the producers to get (Fattah, 1990). Lack of reliable credit was also a major constraint to KIWABU poultry improvement project. The same has been experienced by other organizations like Heifer International Tanzania in implementing local chicken projects to rural poor farmers. Many have failed to build chicken sheds or enclosures due to lack of fund (HPI, 2007). It is therefore recommended that before starting local chicken projects in villages it is pertinent to consider the issue of credit which could help farmers get funds for construction of sheds. This then needs a holistic planning from the beginning so that both technical and organizational aspects are equally considered.

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