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Follow-up Cooperation for Ex-Participants on the group training "Farmer-led Extension Method"

Hokkaido International Center(Obihiro), Japan International Cooperation Agency (JICA)

Follow-up Seminar

14th March 2013 8:30 – 10:30

Venue:Ludzu EPA

1. **Welcome remarks/Introduction of attendance** - Ex-participant
2. **Opening Speech**
   -Hironori KATO Program Officer JICA Hokkaido International Center(Obihiro)
3. **Introduction of the training in Japan (10 min.)**
   -Ex-Participant
4. **Presentation of " Implementation of Action Plan " (15mn.each)**
   -Chair: Professor,Mutsuyo KADOHIRA
   Obihiro University of Agriculture and Veterinary Medicine

[Presentation]

1. Soil and water conservation and afforestation that includes women and youths
   ~ Mr. Cosmas KASAWE~
2. Improve soybean production through use of inoculant
   ~ Ms.KUMWENDA Getrude Shupikire~

Questions and Answers (15 min.)

3. Improvement of soil fertility (Namatetule Village)
   ~ Mr. LIPENGA Madalitso Precious~
4. Increasing of maize production among small holder farmers
   ~ Mr. MKWAPATA Noel

Questions and Answers (15 min.)

5. Conclusion

5.Work shop

6.Closing Remarks -Ex-Participant

SOIL AND WATER CONSERVATION AND AFFORESTATION THAT INCLUDES WOMEN AND THE YOUTH

Presented by

COSMAS KASAWE

Introduction

- The project activities took place in Whayo Village which is under T/A Kapeni, Blantyre North Constituency. The area is under Blantyre ADD, Blantyre Agriculture District, Lunzu EPA, and Matindi West Section.
- Matindi West Section has 8 villages which include Chimwaye, Maluwa, Ben Ligogo, Cedrick, Maliko, Masangano, Yoyola and Whayo. Innitially we singled out Whayo Village to be Pilot project so that successes could be replicated in other villages.
- Whayo Village has 322 households with an average land holding size of 0.3ha

Project Objective

- Project objective was to increase conserved area in the section from 264ha to 806ha by 2015
- **Specific objectives**
- To increase conserved area by increasing number of women groups doing conservation.
- To introduce agricultural clubs in schools and village agricultural youth clubs that will be used as farmer field schools.
- To increase number of gullies reclaimed through gully groups that will be used as farmer field schools.
- To increase number of agroforestry trees planted through agroforestry groups that will be used as farmer field schools.
-

WHAYO VILLAGE ACTIVITIES

- Activities started on 13th July 2011 with sensitization of the whole village about the project. Although the main focus was women and youth, men showed interest to take part and they were allowed to do so. 34 farmers volunteered to join the school. Lucky enough the village head offered his piece of land to be used as a learning ground.
-

Whayo Farmer Field School

- Ground rules were spelt by the farmers themselves that learning should be for 30minutes, let comers should pay a fine and each student should practice what he/she was learning among other rules.
- Three plots were demarcated each 0.01ha(10m*10m)thus pit planting, mulching and conventional method farmers contributed money for purchasing inputs thus

- maize seed, and fertilizers. Compost manure was made. They also had agreed that the harvest (produce) should be given to pre-school feeding programme in the village.
- 65kgs, 45kgs and 15kgs thus pit planting, mulching and conventional method respectively were realized from the pieces of land.
- One field day was conducted to give chance to the whole community to appreciate good soil and water conservation.

- A mention should be made that although these activities were being carried out at the FFS, they were not new in the village but the impact made was that some farmers practiced them for the first time in their gardens. As of now a total of 157 households have conserved an average of 0.2ha each translating to 31.4ha. Presently we have two women groups in the village which will be running their activities with an aim to improve their farming activities. This year will mark their initial phase to identify a problem on their own and try to address it in a project way and share the results with the rest of the village.

Farmers conducting an assessment of fields performance before conducting field day

Conservation agriculture plot

Moisture is retained apart from fertility improvement

Fast drying in conventional method

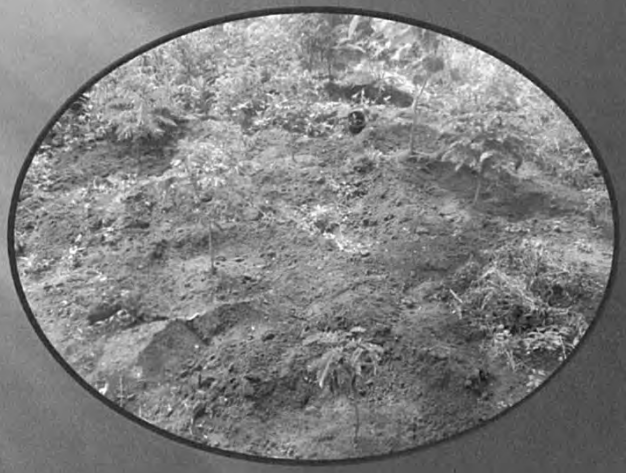
Pit planting

Farmers after selecting a plot for field day

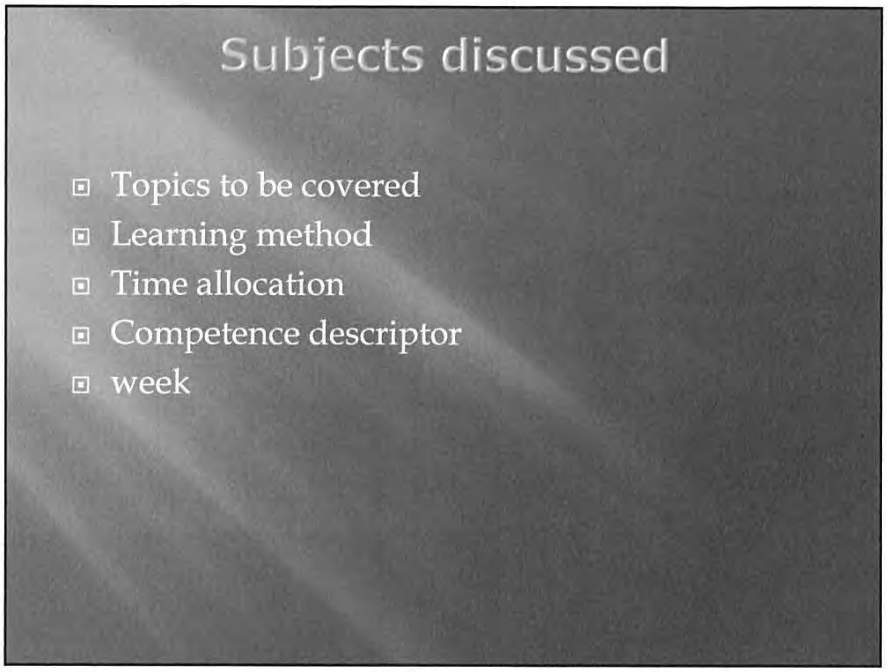
2012/13

- In the agroforestry section tree planting was not the main focus but rather management of the already planted trees was of paramount importance as COVAMS Project was already doing the needful.

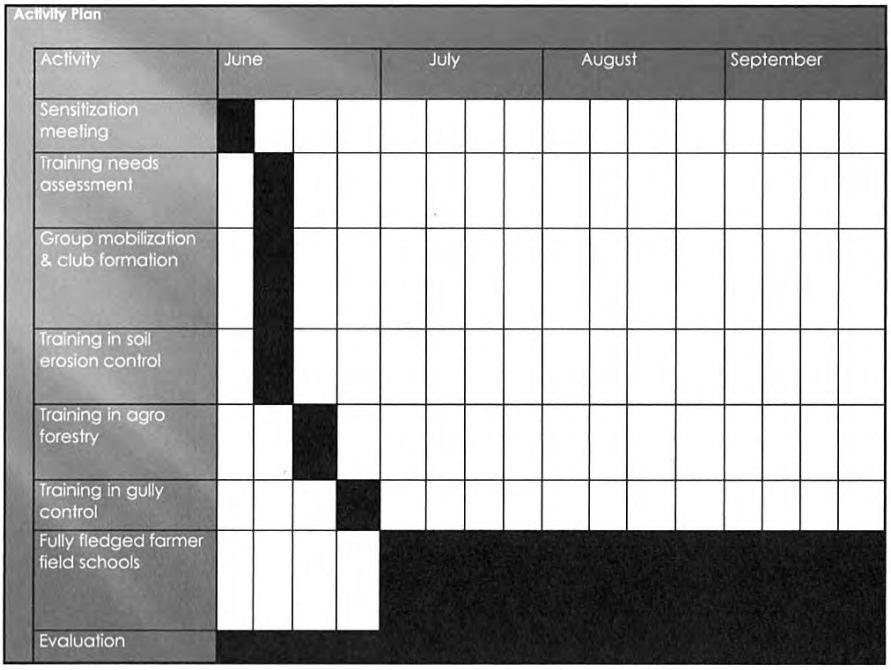
Taking care of the planted trees



Planting of trees is predominantly around homestead



Topics to be covered	Learning method	Time allocation	Competence descriptor	week
1. Soil and water conservation;			Ability to apply the knowledge & skills without guidance from extensionist	2nd week Jur
• Manure making.		3hrs		3rd week Jur
✓ Types of manure.		20min		4th week June
✓ Importance of compost manure versus inorganic fertilizers.		20min		1st week July
✓ Compost manure application.		15min		2nd week July
• Tools for slope assessment.		20min		
✓ Measuring the slope.		30min		
• Conservation agriculture.		1hr		
• Pit planting.		10min		
✓ Pit spacing.		10min		
✓ Plant spacing.		10min		
✓ Fertilizer & manure application.		5min		
✓ Weeding.		30min		
1. Agro forestry.		5min		
• Nursery management.		30min		
✓ Site selection.		20min		
✓ Medium mixture		20min		
✓ Pot filling		20min		
✓ Sowing & planting.		20min		
• Natural regeneration.		30min		
✓ Site selection & treatment.		20min		
✓ Management of trees in natural regeneration.		20min		
1. Gully reclamation.		20min		
• Types of check dam.				
✓ Brushwood check dam.				
✓ Stone check dam.				
✓ Sack check dam.				



Primary School Agriculture clubs

- Mlambe Primary and Katete Schools were approached and sensitized on the project and they showed interest to take part. Plans were laid down to start activities this year (2013) although I am not sure as to whether we should start with classes 5-8 or we should be dealing with one class at time. Mind you, this is primary school. I wish I could be dealing with secondary schools. This is an area where I need more input from the course leader.

The primary goals

- Pupils should learn basic practical of modern technologies in farming.
- Malawi's economy is agro-based farming experience is vital at all levels of society.
- Identify problems in their respective communities and try to tackle them in a project way and share results with the community.
- Pupils will act as change agents on modern farming techniques to their parents who mostly are farmers.
- Pupils are future farmers-reduce resistance to change by most current crop of farmers.

Current Activities

- Manure making.
- We have two groups at each school
- Five methods of compost making already been taught to pupils theoretically.
- Main focus is on the two methods thus Pit and chimato.

Gathering materials for compost making

Digging pit for making compost manure

'seven-four' group digging thiers

Laying stuff in making compost manure

Final touches- covering the pits with tree leaves

Here we are-done!

- Malawi government introduced Farmer Business School (FBS) and as a way of making variation I decided to run FFS and FBS together at Ben Ligogo Village. Since more focus is on the profit making side of thinking in FBS, this added an extra dimension in the farmers' perspective of analyzing issues as with FFS it is all about environmental issues to them (farmers). Here we wanted farmers to be marrying the two (environmental issues and profit making) every time a decision was about to be made on the farm.

- Ben Ligogo Village has 78 households with an average landholding of 0.4ha.After sensitization, 22 farmers joined the school.
- Classroom activities started in June 2012 where farmers were drilled on business concepts alongside conservation concepts in a classroom setup so that farmers should apply them during farming. They use one farmer's garden as a learning ground before practicing in their own fields. They intend to venture into bee keeping business so as to strike a balance of sustainably use the environment and make profit.

Tentative programme for activities in schools-2013/2014

Activity	Time frame	Target	Responsible personnel	Resources	Indicator
Manure making	1st-4th week March 2013	Class (std 5-8)-Mlambe & Katete schools	Pupils, teachers & AEDO	Animal dung, hoes, poles m/tapes	# of heaps/pits made/dug
Garden preparation ✓Plot demarcation ✓Residue incorporation ✓Pit digging	3rd week April-4th week May 2013	Class (std 5-8)-Mlambe & Katete schools	Pupils, teachers & AEDO	Hoes, measuring tape	Area /# of plots demarcated & residue incorporated
Nursery activities ✓Site selection ✓Site clearing ✓Pot filling ✓Sowing	2nd week June-3rd week July 2013	Class (std 5-8)-Mlambe & Katete schools	Pupils, teachers & AEDO	Polythene tubes, w/borrow, hoes	# of pot filled pots
Nursery management ✓Watering ✓Weeding ✓Thinning	On going	Class (std 5-8)-Mlambe & Katete schools	Pupils, teachers & AEDO	W/cans,poles,	
Manure application	1st week August- 4th week October	Class (std 5-8)-Mlambe & Katete schools	Pupils, teachers & AEDO	Buckets, wheelbarrows	Area applied
Out planting	November on wards	Class (std 5-8)-Mlambe & Katete schools	Pupils, teachers & AEDO	Buckets, hoes	# of out planted seedlings
Crops planting ✓Fertilizer application ✓Weeding ✓Fertilizer application	November2013 through January 2014	Class (std 5-8)-Mlambe & Katete schools	Pupils, teachers & AEDO	Seed,fertilizers,	
Field day for display of activities and sharing with the community.	February 2014	Class (std 5-8)-Mlambe & Katete schools pus the	Pupils, teachers & AEDO	Markers, flipcharts	# of field days

Challenges

- Challenges faced during the implementation of activities included some adhoc programmes which impacted negatively as these activities needed constant and frequent visits to the schools. However these brought in some good insights as farmer s needed to plan and execute activities without the presence of extensionists. Some farmers' dependency syndrome proved challenging during initial phase of the project. But by and by this tendency is getting eroded, off cause it is not over yet.
- Some aspects of these projects are scientific and analysis of the same proves challenging even though we encourage them to being as simple as possible.
- Mobility in terms of fuel more especially after COVAMS had phased out.
- Inadequate livestock to produce the required dung for compost making.


THANK YOU FOR
LISTENING

LESSONS DRAWN FROM FARMER LED EXTENSION METHOD TRAINING HELD IN JAPAN

PRESENTED BY:

GETRUDE SHUPIKIRE KUMWENDA

PRINCIPAL EXTENSION METHODOLOGIES OFFICER,
BLANTYRE AGRICULTURE DEVELOPMENT DIVISION

14TH MARCH, 2013

1

PRESENTATION OUTLINE

- Introduction
- Objectives of the training course in Japan.
- Lessons drawn from :
  - Farmer Led Extension Method
  - Project Based learning
  - Farmer Field School
- Sharing of experiences amongst staff and farmers
- Conclusion

2

1.0 INTRODUCTION

- Organized by JICA
- 7th May to 8th June, 2012 in Japan.
- 12 participants from Egypt, Afghanistan, Benin, Myanmar, Nigeria and Malawi (3 from Malawi)

PARTICIPANTS TO THE TRAINING

2.0 OBJECTIVES OF THE TRAINING

- To be able to develop a curriculum which would be used in farmer- led extension activities.
- To be able to explain the relationship between basic and the applied science.
- To be able to explain the role of agriculture including both crops and livestock in terms of community development.
- To formulate action plan pertaining to farmer-led agricultural extension activities which would be implemented after returning back home

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3.0 FARMER LED EXTENSION METHOD

- Extension method led by farmers
- Aims at empowering farmers to implement their own decisions in their own fields and situation.
- Aims at motivating farmers to want to solve their own problems.
- Involving farmers in identifying and analyzing their problems then solving them in collaboration with extension agents by giving them guidance or direction

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4.0 WAYS OF MOTIVATING FARMERS

- Conduct frequent meetings/visits with farmers. This improves on the staff farmer relationship and confident to the extension officer.
- Sharing of the roles and responsibilities amongst farmers.
- Keeping good records of activities. Its basis for farmer decision making.
- Mounting a well managed demonstration on the farmers field.
- Capturing pictures, video shooting.
- Conducting farmer tours.
- Awarding the best performing farmers

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5.0 FARMER FIELD SCHOOL (FFS)

- Not new in Malawi concept but the approach
- Initially, as long as farmers were able to follow the cultural practices of a specific technology and at the end issued with the certificate.
- It is basis for innovative, participatory and interactive learning approach.
- Aims at building farmers capacity to analyze their production and identify their main constraints, to test possible solutions suitable for their farming system using comparative experiment. Farmers are involved in observation, group discussions and analyzing activities involved in.
- emphasis is on empowering farmer to implement their own decisions in their own fields.

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6.0 PROJECT BASED LEARNING (HIGH SCHOOL)

- A learning method for students to independently identify agricultural problems, make plans to solve those problems, implement, evaluate and reflect on the result.
- These projects assist students to acquire skills to solve agricultural problems, improve agricultural technology and management.
- Contributed to small staff: farmer ratio. Skills to solve agricultural problems are acquired while at school hence no need for extension worker support.

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- Demonstrations to be effective must be implemented at the farmers' field to easily compare the results and make decisions out of it.
- Capacity development for extension agents is very important to improve their knowledge and skills that later will be transferred to the farmers.

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7.0 SHARING OF EXPERIENCES ACQUIRED IN JAPAN

- Need to work as team
- Continue sharing of experiences to staff who participated in the training in Japan.
- Conduct exposure visits for farmers and staff targeting staff who participated in the training.
- Training of fellow staff members during fortnightly training sessions.
- Capacity development for extension agents on how to motivate farmers.

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8.0 CONCLUSION

- farmers' participation in all aspects of problem identification, planning implementing monitoring and evaluation of the programme is directly related to its success.
- Farmer led extension is the best method promoting farmer to be the principal agents of changing situation in their communities.

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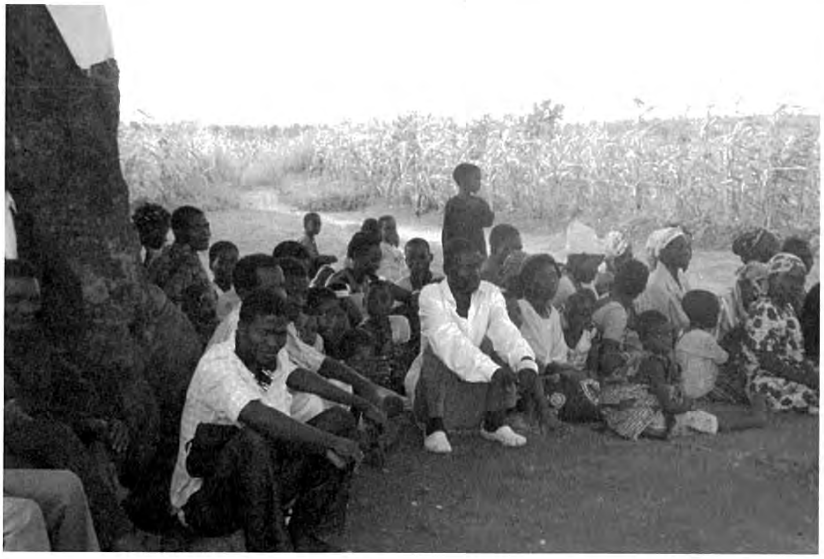
THANKS FOR LISTENING
13

PROGRESS REPORT ABOUT NAMATETULE ACTION PLAN

PRESENTED BY: MADALITSO LIPENGA(A.E.D.O.)

DATE:14TH MARCH,2013

VENUE: LUNZU R.T.C



INTRODUCTION

This action plan is being implemented in Namatetule village in traditional authority Kuntaja in Blantyre rural west constituency .This follows the course on farmer led extension methods that I attended at Hokkaido international training center in Japan. The action plan has the following objective: to increase soil fertility thus at least 50% households in Namatetule village has gardens that rich in essential soil nutrients proper crop growth thus 67 households of 134 households in the village by the end of project.

- The following strategies were set in order to achieve the intended goal:
- Promotion of conservation structures i.e. maker ridges, box ridges, swale construction, ridge realignment.
- Promotion of making and application of manure
- Promotion of vertiver grass planting
- The project is being implemented basing on the hypothesis that conserved garden improves soil fertility thereby increasing yields per unit area.

- The methodologies that are currently being used include:
- Farmer field school
- Project based learning

NAMATETULE F.F.S STUDENTS

THE PROGRESS OF THE ACTION PLAN (THE PROJECT)

- I started the implementation of the action plan with briefing meetings as follows:
- Briefing of my bosses at district level about my action plan and my fellow extension workers at E.P.A. This was done in the 3rd week of June.
- Then traditional leaders and stakeholders were briefed about the project and their roles in the project. This was done in the 4th week of June.
- Villagers were also briefed of the project .This followed by registering interested farmers for Farmer field school. This was done in the 4th week of June.

ACTIVITY	TIME IT WAS DONE	REMARKS
Briefing of farmers on how F.F.S is operated, forming guide lines, making by laws, office bearers were elected	1st week of July	It was successfully done
Formation of working groups and their leaders, making of time table,	1st week of July	done
Training farmers on record keeping, observation methods, discussing and analyzing the results, monitoring and evaluating results, planning demo plots	2nd week to 4th week of July	Done with difficulties since some are illiterate hence difficult understand some of the materials. But I tried my best to simplify the contents of the training
Training of farmers on crop husbandry practices such as constructing maker ridges, ridge re-alignment, box ridges, swale construction, manure making and application, vertiver planting, 1-1 maize planting,	1st week to 3rd week of August	Successfully done since farmers were training themselves

FARMERS PARTICIPATING DURING ONE OF THE TRAININGS

FACTORS THAT AFFECTED THE IMPLEMENTATION OF THE ACTION PLAN

- **POSITIVE FACTORS**

- Cooperation among traditional leaders, stakeholders, government staffs and farmers.
- Willingness by farmers that acted as the major great force for the implementation of the listed activities.
- Inputs from the government i.e. seeds, fertilizers, training materials e.g. flip charts, ball pens, exercise books, spirit levels. These helped the smooth running of the project.
- Motivation factors laid at each activity. These factors include giving farmers a chance to decide how they want the activity to be done, the promotion of the CAN DO SPIRIT among farmers, monitoring of the activities, positive feedback and trust between and among farmers.

FARMERS RECEIVING INPUTS

- **NEGATIVE FACTORS**
- Shortage and scarcity of fuel- Namatetule is 37km from my home. This means that I need a lot of fuel which is contrary to the fuel allocation that Iam given thus reducing my frequent visit to the site.
- Drop outs: there have been a lot of drop outs since we started i.e. we started with 57 farmers but now we have 36 farmers. This has been the case due to dependency syndrome

- **ACTIVITIES TO BE DONE**
- Continuation of the project for second year
- Inviting farmers from other district to see what is happening at Namatetule village
- Helping farmers to carry out research on the best methods for irrigation farming
- Expanding the project to neighboring villages

IMPACT MADE SO FAR

- Farmers are able to note the differences in the conserved and non conserved gardens.
- Farmers are able to understand important cultural practices in agriculture
- Sense of ownership has been built

CROP STAND IN CONSERVED AND NON CONSERVED GARDEN

Impacts CONTD.....

- Farmers have now realize that high yields does not depend on how big the garden is.
- Farmers are now leading extension services.
- Farmers are now understanding agriculture in scientific manner

Government of Malawi

Ministry of Agriculture and Food Security

PROGRESS ON INTERIM REPORT WORK PLAN

Group Training Program of Farmer-led Extension Method (A)
Obihiro JICA International Training centre
NO. J-1200857
From May 7, 2012 to June 8, 2012

By
Noel Mkwapata

13/03/13

Government of Malawi

Ministry of Agriculture and Food Security

Project title	• Increasing maize production among small holder farmers
Project goal	• To promote sustainable maize production and self sufficiency to ensure food security and increased incomes to alleviate poverty
Project area	• Matapwata EPA, Sharpe section

Government of Malawi

Ministry of Agriculture and Food Security

Project Specific Objectives

- To improve zero/minimum tillage practice by 60% among maize growing small holder farmers by year 2014
- To increase maize production by 20% per ha by year 2014
- To increase agricultural generated incomes per household by 10% by year 2014

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Ministry of Agriculture and Food Security

Activities implemented

- Awareness meetings
- Farmer registration
- Proposals
- Procurement of physical materials
- Farmer respect course-farmer field school

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Demonstration-specific activities

- Land preparation
- Planting (maize & fertilizer trees)
- Weed control
- Fertilizer application

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Ministry of Agriculture and Food Security

Demonstration-plot layout

PLOT 1	PLOT 2	PLOT 3	PLOT 4
PLOT 5	PLOT 6	PLOT 7	PLOT 8
PLOT 9	PLOT 10	PLOT 11	PLOT 12

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Demonstration-CA plot

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Ministry of Agriculture and Food Security

Demonstration plot-control

Challenges

- Poor stakeholder response
- Late release of funding to the district

Conclusion

- The project is promoting bottom up extension approach of which farmers will ably compare trial results and make a decision to adopt minimum tillage or not
- This is in line with extension policy

  Pluralistic and demand driven extension services

Government of Malawi

Ministry of Agriculture and Food Security

Thank you

Presentation on Agriculture Sector & JICA Activities

A. Introduction

- Agriculture – Contributes 37% to GDP, employs about 80% of the work force in rural and urban areas and it contributes over 90% of foreign exchange.
- Agriculture is one of the 9 priority areas outlined in Malawi Growth and Development Strategy.
- Agriculture sector is divided into two smallholder sub sector and the estate sub sector.
- Main crops are maize, rice, cassava, beans and cotton mainly grown by the smallholder sub sector and tobacco, tea, sugar, and others grown by the estate sub sector.
- Main livestock types are chickens, goats, cattle, pigs and sheep reared by both sub-sectors.

B. Agriculture Development Divisions

- 8 Agric Divisions (PM)
- 32 RDP/Districts (DADO)
- 187 EPAs (AEDC)
- Over 2000 sections (AEDO)

C. Constraints in Agriculture

Low Investment in Agriculture Sector

Agriculture Sector Government Spending Trends, 1970 – 2009

Indicators	1970-79	1980-84	1985-89	1990-94	1995-99	2000-05	2006-09
Agriculture Share in Budget (%)	32.15	24.83	10.08	11.17	8.98	6.13	15.96
Agriculture Budget ($m)	21.3	43.98	29.05	41.9	36.12	37.48	233.11
Recurrent Budget ($m)	8.39	21.69	18.52	30.56	26.66	22.17	188.58
Development Budget ($m)	12.91	22.29	10.54	11.34	9.46	15.31	44.54
Agriculture Spending/Capita ($)	4.03	6.88	3.85	4.77	3.51	3.21	16.25

Source: Chirwa et al; and Compilations from Various Annual Economic Reports

Effects of Declining trends in agriculture investment

- Erosion of core services to smallholder farmers such as extension and training, research and development. (ASWAp)
  - Between 1994 to 2004,
    - Farmer Residential Training Centers were closed
    - Training of extension workers was practically stopped
- Signs of improvement
  - Between 2004-todate
    - Improvements are noted RTCs are opened, training of extension staff is intensified, Input Subsidy Program is in place and irrigation is promoted as a result of increased allocation to agriculture sector.
      - 2005/06 agriculture was at 12%
      - 2006/07 agriculture was at 14%
      - 2009/10 Agriculture is at about 14%

1

Low Productivity

- Low input use percent yield gaps range from 38% to 53% for cereals, and 40-75% for legumes
- Poor access to agriculture credit
- Poor input and output markets
- Unfavorable weather (floods, drought)
- Dependence on rain-fed farming (99% of cultivated land still under rain fed agriculture)
  - Maize Production estimates (Final round maize estimates 2009/10)
    - 1,531,010ha under rain-fed maize
    - 165,260ha under irrigated maize
- Small per capita land holding sizes (due to population growth, inter-generational land fragmentation etc) from about 0.4ha in 1970 to about 0.2ha in 2006. Population density 140/km² of land. This gets worse as one moves from the North to the South.
- Inadequate technology development and transfer
- Lack of capital to invest in livestock
- Ineffective control of animal diseases
- Over exploitation of fish resource
- Poor pre and post harvest handling
- Poor enforcement of legislation

Low profitability of smallholder agriculture

- Due to poor market links, high transport costs, undeveloped farmer organizations, poor quality control, limited value addition.

Livestock Figures

Livestock (No.)	2007-08	2006-07
Cattle	894,930	880,597
Beef Cattle	866,656	852,017
Dairy Cattle	28,274	25,580
Goats	2,888,447	2,720,126
Sheep	188,641	188,609
Pigs	1,110,292	928,952
All Chickens	24,481,030	19,524,671
Indigenous	12,231,814	10,802,810
Broilers	8,255,759	5,621,325
Layers	3,555,903	4,892,196
Black Austrolorps	437,554	343,340
Source: Agriculture Production Estimates 2008		

Fisheries Production Estimates

Fisheries (MT)	2007/08	2006/07
Karonga	2,853	3,174
Nkhata Bay	4,644	6,062
Likoma	2,172	4,663
Nkhotakota	13,647	14,352
Salima	6,069	10,071
Mangochi	24,343	12,205
Commercial Fisheries	4,247	4,102
Lake Chiuta	1,028	1,024
Lake Chilwa	5,359	5,904
Lower Shire	3,505	3,643
Commercial Aquaculture	450	320
Small-scale Aquaculture	1,000	800

D. Major Government Policies and Strategies

- Vision 2020: Vision of Malawi Government by the year 2020

By the year 2020, Malawi, as a God-fearing nation, will be secure, democratically mature, environmentally sustainable, self-reliant with equal opportunities for and active participation by all, having social services, vibrant cultural and religious values and a technologically driven middle-income economy.

Major Government Policies and Strategies (contd)

- Malawi Poverty Reduction Strategy: Operationalizing Vision 2020 developed in 2002/03-04/05
- Main weakness
  - Poor leadership resulted into increased domestic debt stock as a major setback.
  - Lack of fiscal discipline
  - High interest rates and large stock of short-term domestic debt exacerbated pressure in the operation of the budget as most resources went into debt servicing.

Major Government Policies and Strategies (contd)

- Malawi Growth and Development Strategy: Successor of MPRSP 2006-2011
  - Agriculture and food security;
  - Irrigation and water development;
  - Transport infrastructure development;
  - Energy generation and supply;
  - Integrated rural development;
  - Prevention and management of nutrition disorders, HIV and AIDS.
  - MGDS II- developed with 9 Priority Areas

MGDS II Priority Areas

- Agriculture and food security,
- Green belt irrigation and water development,
- Transport infrastructure development and Nsanje Inland Port,
- Education, science and technology,
- Public health sanitation and HIV and AIDS management,
- Youth development and empowerment,
- Integrated rural development,
- Energy mining and industrial development, and
- Climate change and natural resources and environmental management.

MGDS II

- Agriculture and food security✓
- Green belt irrigation and water development✓
- Transport infrastructure development & Nsanje Inland Port✓
- Education, science and technology,
- Public health sanitation HIV AIDS management✓
- Youth development and empowerment
- Integrated rural development, ✓
- Energy mining and industrial development, ✓
- Climate change and natural resources and environmental management.

MGDS I

- Agriculture and food security;
- Irrigation and water development;
- Transport infrastructure development;
- Energy generation and supply;
- Integrated rural development;
- Prevention and management of nutrition disorders, HIV and AIDS. ✓

E. Sector Level Strategies

- Agriculture Sector
  - Agriculture SWAP (Agriculture Development Programme)
    - Result oriented and supports priority programmes in the sector
    - Spearheaded by government through Ministry of Agriculture and Food Security.
    - Encourages gradual harmonization and alignment of government and donor financial support
    - Comprehensive programme and budget framework
    - Has a formalized process for donor coordination and harmonization of management systems and procedures
    - Supports capacity building of public and private sector institutions & systems
    - Allows increased control of resources by the beneficiaries
    - Linked to the MGDS and CAADP agricultural strategies

Focus Areas of ASWAP

- Food security and Risk management,
- Agri-business and market development
- Sustainable land and water management
- *Key-support Services:*
  - Technology generation and dissemination and
  - Institutional strengthening and capacity building
- *Cross-cutting Issues:*
  - HIV and AIDS pandemic
  - Gender disparities

Current Status

- Process at national level was endorsed
- ASWAP Secretariat established at MOAFS hdqrtrs
- ASWAp Support Project started (IDA-US$32m credit, GEF US$5.8m grant)
- Final document of the ASWAP produced
- At Africa level
- CAADP Compact signed by GOM, Civil Society, Farmers Union of Malawi, Private sector, donors, COMESA and NEPAD.
- High level business meeting scheduled for March 2011.
- Mobilization of resources to implement the programme

F. Other Policies impinging on Agriculture

- National Food Security Policy 2005
- HIV-AIDS Policy and Strategy agriculture sector January 2003-08
- Malawi National Land Policy 2002
- National Irrigation Policy and Development Strategy June 2000
- Agricultural Extension in the New Millennium, October 2000
- Cooperative Development Policy June 1997
- Crop Production Policy
- Department of Fisheries Strategic Plan January 2003
- National Aquaculture Strategic Strategy July 2005
- National Land Resources Management Policy and Strategy Jul 2000
- National Seed Policy 2003
- Policy Document on Livestock in Malawi December 2004
- Strategic Plan to improve Livestock February 2003

G. Current MOAFS Programmes

- Input Subsidy Programme-Medium Term Plan formulated
- Irrigation and Green Belt Initiative
- Land management programmes
- Crop protection programmes:
- Livestock programmes
- HIV/AIDS at workplace
- Aquaculture programmes

H. ROLE OF JAPANESE ODA

- The greater part of Japanese ODA funds in agriculture has been invested in irrigation projects. Major projects financed so far include the following:construction of and technical support:
- To the 800ha Bwanje Valley Irrigation Scheme (Grant Aid), 1999.
- To the Rehabilitation Project of Bwanje Valley Irrigation Scheme – 2006 to 2008
- To the Development of Small-scale Irrigation Schemes Technical Cooperation Project, 2006 to 2009
- To the Development of Medium Scale Irrigation Schemes Technical Cooperation Project in Malawi, (2011 to 2014)
- Community Based Irrigation Management Project in Dedza District – JICA Partnership Program with Miyagi Prefecture (2011 to 2014)

Role of Japanese ODA (cont)

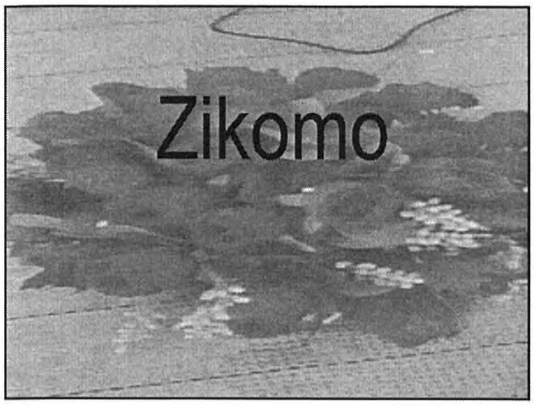
- Other areas have been technical assistance in diversification of livelihoods:
  - One Village One Product Project
  - Community Vitalization and Afforestation in Middle Shire (COVAMS)
  - Sustainable Land Management Project
  - Trials in New Rice for Africa (NERICA)
  - Artificial Insemination Programmes

I. OTHER DEVELOPMENT PARTNERS IN AGRICULTURE SECTOR

- DFID, EU, FAO, WB, RNE, ADB, IFAD, Irish Republic, FICA.
- To facilitate coordination among the various partners, there is a donor grouping under agriculture called Donor Committee on Agriculture and Food Security which meets every month.

J. OTHER DEVELOPMENT PARTNERS IN AGRICULTURE SECTOR - NGOs

- Total Land Care
- FAIR
- WVI
- CARE
- FISD
- GOAL
- etc



5

Introduction to COVAMS

For Better Life Better Environment

Forestry Department

COVAMS

The Project for Community Vitalization and Afforestation in Middle Shire

A SUMMARY OF COVAMS 1 EXTENSION APPROACH, PROGRESS AND ACHIEVEMENT. (2007 to 2012)

A Presentation to District Councils for the Catchment Mgt Activity Promotion Project in Middle Shire.
Date: February, 2013
By Peter M.H. Mkwapatira
(PM-COVAMS 1)

COVAMS

Community Vitalization and Afforestation in Middle Shire

Watershed rehabilitation of a part of Middle Shire area by community vitalization and afforestation

Contents of the presentation

- 1. Introduction
- 2. Extension Approach
- 3. Farmer Trainings
- 4. Achievements
- 5. Impact

1. INTRODUCTION
Type of Project: Technical Cooperation Project with JICA.

Project Period:
5th November 2007 – 4th November 2011.

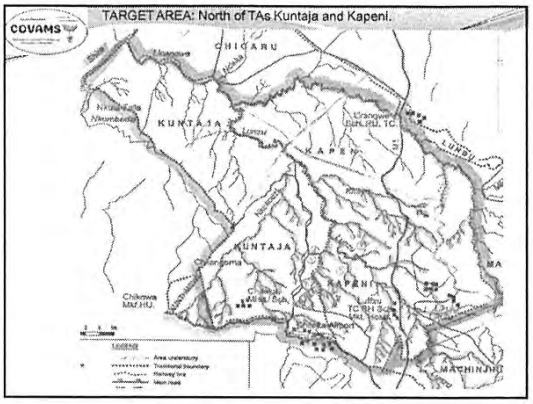
Project Overall Goal:
Villagers in the target villages practice sustainable forest management and conservation through the improvement of livelihoods.

Project purpose:

- 1.Productive activities including tree growing are implemented with consideration of forest conservation and rehabilitation in the target villages. (forest conservation and rehabilitation include soil conservation in the catchment area.)

- Project outputs:

1. Target villagers acquire knowledge and skills regarding productive activities including tree growing.
2. Capacity of the target villages is enhanced to access necessary resources for productive activities including tree growing.
3. Capacity of the counterparts is enhanced in supporting productive activities including tree growing.



Target Area Villages and Extension Staff

Approach Year	IVTA	SVTA	House Holds	Extension Officers
2007/08	7		626	11
2008/09	7			
2009/10	9	42		
Total Vgs 2009/10		51	4,957	12
	Kapeni	33		
	Kuntaja	18		
Total Vgs 2010/11				
		Kapeni 85		
		Kuntaja 84		
		169	20,377	15
Total Villages 2011/12		Kapeni 113 Kuntaja 131	33,583	20

ACTIVITY YR.	APPROACH	Nos.	EXT. OFFICERS
2012/13	SVTA	75Vgs	
Total Vgs.		Kapeni 28	
		Kuntaja 47	8
		75	
HH		13,670	
Remarks	Ordinary extension approach	169 previous vgs	12

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Status of land in most villages after rains (gullies).

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2. Extension Approach

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MESSAGE

POLICY ACTION

EXTENSION ACTIVITY IS THE BRIDGE FROM POLICY TO ACTION

COVAMS

Problem, Countermeasures and methods

Problems	Solutions	Methods
•Erosion/Siltation •Degraded forest	•Prevent soil erosion from farming garden •Tree growing	•Technical training for villagers

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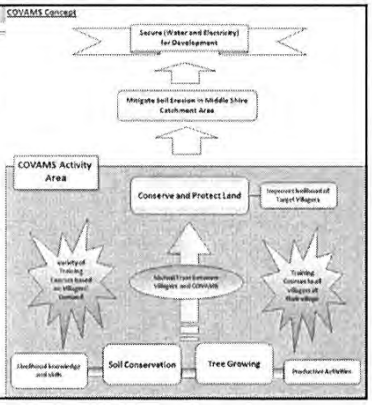
COVAMS Concept

Training approach (PRODEFI model)

Five principles of Training

1.For all villagers
2.Based on their needs
3.With local available resources
4.In their village
5.For many villagers



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Requirement

Expansion of activities
to Large area
In Short period

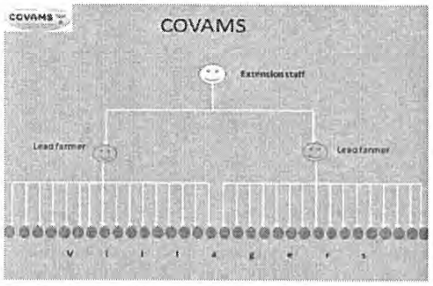
To whole Middle Shire Catchment area
735,000 ha

Extension Messages

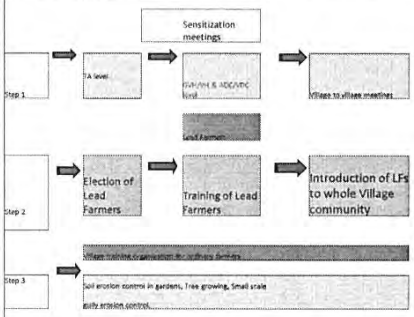
(a). Soil erosion control
- Contour ridge planting
- Small scale gully control

(b). Tree growing
- Agroforestry
- Tree planting (include direct sowing)
- Rehabilitation of existing vegetation

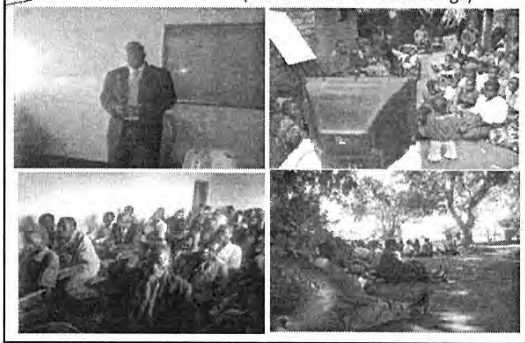
COVAMS Extension approach required villagers to elect trust worthy persons to receive practical knowledge and skills as Lead Farmers, then go out to train and do follow ups of farmers' activity after training.

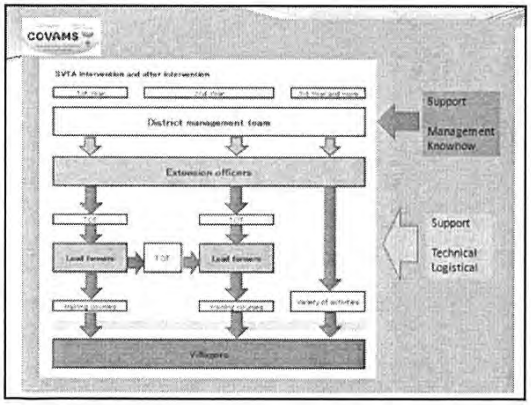


COVAMS Extension Activities flow



COVAMS EXTENSION APPROACH (Pictorial focus of meetings)





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The Project for Community Vitalization and Afforestation in Middle Shire

3. Farmer Trainings

Practical training on soil erosion control

Soil Erosion Control Component.

Below: Small scale gully control training

- Left: A conserved garden

Tree Growing Component

Tree growing component activity implementation

A visitor appreciating A. lebeck seedlings raised in a target village.

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After attending the set themes of practical TOT trainees were awarded provisional certificates and had to conduct trainings in the village for one year, monitored by CCOs to qualify as a certified Lead Farmer.

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The Project for Community Vitalization and Afforestation in Middle Shire

4. ACHIEVEMENTS

Number of training Sessions and Attendance

Training approach	Item	Total Sessions conducted	Total attendance	Remarks
SVTA	Soil Erosion Control	2,636	44,188	
SVTA	Tree growing	2,398	42,353	
SVTA	Gully Control	1,209	23,048	
	Total	**6,843**	**109,789**	
IVTA	**Bee keeping**		8 vgs	There is spill over effect.
	Fish farming		**1 group + 1 Individual**	

Practicing households and conservation practices.

Outlook of a conserved gardens after rain.

9,367 HH in 2011/12 with 2,376 ha conserved.

17, 298 small check dams constructed from local materials.

Soil prevented from erosion due to conservation practice

2009/2010 = 4,123 cubic metres,

2010/2011 = 12,000 cubic metres,

2011/2012 = 31,000 cubic metres. This is based on measurements done from the project's 2 Result demo plots on soil conservation at Chiwalo and Chuma vgs.

Achievements in tree growing.

- A record 461,655 tree seedlings that germinated were planted in 2011/12.
- Planting sites included river banks, Homesteads and Communal woodlots.
- 25,440 HH participated in tree growing activity last season.

31 VFA have been established/maintained and some enrichment planting done.

Direct sowing trials in tree growing: 318,783 planting stations were directly sown with seeds in the field and produced encouraging results.

A Village Forest Area

5. Conclusion: Impacts

- 1. Change of peoples' attitude to attend trainings without receiving allowance.
- 2. Villagers now understand the importance of self reliance other than dependency syndrome (waiting for handouts).
- 3. Improved corroboration amongst sectors / field extension officers.
- 4. Success in direct tree seed planting where there is proper management, accepted by farmers after seeing results.
- 5. Many Lead farmers have remained active even after the project phase out.

ZIKOMO KWAMBIRI.

THANK YOU.

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The Project for Community Vitalization and Afforestation in Middle Shire

参 考 資 料

An assessment of current status of livestock production in Malawi

AN ASSESSMENT OF THE CURRENT STATUS OF LIVESTOCK PRODUCTION IN MALAWI

Animal Science Department
Bunda College of Agriculture
P. O. Box 219
Lilongwe,
Malawi

May 2005

1

SUMMARY

This study was conducted in all the eight Agricultural Development Divisions of Malawi. The main objective of the study was to assess the current status of livestock production in Malawi and propose the way forward. The livestock production systems are generally extensive with majority of livestock kept by smallholder farmers with little or no inputs. Major types of livestock kept include cattle, goats, chickens and pigs. Very little populations of sheep, rabbits, pigeons and turkeys exist. In general, there has been a decline in livestock numbers due to diseases such as African Swine Fever in pigs, Foot and Mouth Disease in Cattle and New Castle Disease in Poultry, especially chickens. Guinea fowl production has become very popular and there has been a tremendous increase in guinea fowl population throughout the country.

Livestock development programmes are mostly implemented by NGOs with assistance of government personnel. Most programmes have focused on small stock such as poultry (chickens and guinea fowls) and goat production. Work oxen programme, stall feeding and small scale dairy production have also received considerable promotion.

The most significant constraints are low animal productivity due to poor genetic make-up of the animals and /or poor management, declining livestock numbers, poor nutrition, poor animal health, unreliable extension of information, lack of provision of finance to small scale producers, and poor marketing infrastructure and systems, and livestock theft. Increasing livestock in Malawi production will require examination of all parts of the livestock production to determine the areas that would give the greatest benefit. It is clear from this study that in order to buy or raise livestock productively, there is need for land to keep livestock; money or capital to purchase parent stock; good quality feed from conventional or alternative feedstuffs/sources; reliable market systems and infrastructure; effective disease prevention and control programme, a reliable technically sound extension service system and control of cattle theft. Selection of a sustainable form of livestock development and selection of stock type will depend on these aforementioned factors.

TABLE OF CONTENTS

1 INTRODUCTION

Livestock constitute a relatively small sub-sector within agriculture in Malawi and contributes about 7% of the total GDP and below 20% of the total agricultural production (MoAI, 1999). In most cases livestock are an integral part of a mixed farming system in Malawi. Over half of the two million smallholder farmers are involved in livestock production. The majority of these operate low input-low output production systems where small ruminants and chickens make a vital contribution to household food security. However, the levels of husbandry, nutrition and health care are generally poor, resulting in low productivity and high mortality, particularly among young stock. Cattle ownership in the smallholder sector is confined to fewer than 10% of farming families who keep on average 7 Malawi zebu cattle in their herds.

There are relatively a small number of large-scale commercial enterprises located around the main urban areas of Lilongwe, Blantyre and Mzuzu producing poultry meat, eggs, pork, beef and other pork and beef products. The dairy industry is quite small but has considerable potential for growth. Smallholder dairy farmers in Blantyre, Lilongwe and Mzuzu milk-shed areas keep 2 –4 crossbred cows.

1.1 Problem statement and why this study was undertaken

Commercial livestock farmers account for only one percent of Malawi's small ruminants and a mere 5% of the national cattle herd, but keep more than 12% of the total pig population. The proportion of poultry kept under commercial conditions is of the order of 15% (estate plus intensive smallholder poultry) of the total poultry population, although this type of enterprise dominates the organized retail market in urban areas. The profile of livestock production in Malawi shows that livestock are both scattered and extremely small-scale. This pattern of livestock farming has important implications for the effective delivery of advisory and animal health services and subsequently on livestock productivity.

1.2 Objectives

1.2.1 General Objective

The main objective of the study was to assess the current status of livestock production in Malawi and propose the way forward.

1.2.2 Specific objectives

1.2.2.1 To assess the current trends in types of livestock and their population in Malawi
1.2.2.2 To evaluate constraints to livestock production and their possible solutions
1.2.2.3 To assess current livestock development programmes being undertaken in Malawi by both government and non-governmental organisations
1.2.2.4 To identify interventions gaps and propose a way forward to improve the livestock industry in Malawi

2 METHODOLOGY

The study was conducted in all the eight ADDs in Malawi viz. Machinga Agricultural Development Division (MADD), Salima Agricultural Development Division (SLADD); Lilongwe Agricultural Development Division (LADD); Kasungu Agricultural Development Division (KADD); Mzuzu Agricultural Development Division (MZADD); Karonga Agricultural Development Division (KRADD); Blantyre Agricultural Development Division (BLADD) and Shire Valley Agricultural Development Division (SVADD). The study used a number of methods in order to collect information from the ADDs. The main focus of information collected was on Livestock populations, constraints/problems faced and possible solutions, current livestock development programmes in place and the way forward. Meetings were held with ADD staff, farmers or farmer groups and nongovernmental organisations. In BLADD, farmers were met at the ADD headquarters plus a visit to Bvumbwe Milk Bulking Group (MBG). A visit was also made to Shire Valley Abattoirs. A list of people met/visited and their affiliations are shown in the Appendix.

3 RESULTS AND DISCUSSIONS

3.1 Livestock Population Types, Trends and Distribution

Table 1 shows that types and population of livestock in each ADD and at national level. Detailed figures of the livestock populations for each of the ADDs and Extension Planning Areas (EPAs) are given in the Appendix. The main types of livestock kept in Malawi include cattle, goats, sheep, pigs, rabbits, poultry (mainly chicken & guinea-fowls) and donkeys.

Table 1 Type and Population of Livestock in each ADD (Updated information not yet)

Livestock Type	AGRICULTURAL DEVELOPMENT DIVISION							
	Shire Valley	Blantyre	Machinga	Lilongwe	Salima	Kasungu	Mzuzu	Karonga
Cattle	52,801	70,157	45,045	129,188	17,445	138,526	165,050	109,751
Goats	164,790	289,903	223,736	447,670	72,279	335,119	145,753	34,982
Sheep	3,575	11,293	39,336	16,570	10,322	16,615	20,591	5,456
Pigs	36,267	59,369	14,639	117,002	13,349	89,832	84,806	31,302
Chickens	330,288	982,749	1,238,171	1,521,819	287,000	1,154,657	822,723	
Turkey	514	7,597		1,564				
Ducks	38,035							
Doves	45,826							
Guinea Fowls	44,654	66,812	93,287	34,746				
Rabbits				50,787				3,923
Donkeys								6

In general, the livestock population trends varied depending on species. For instance, in Machinga ADD, there was an increase in populations of cattle (9%), goats (9%) and sheep (17%) with declining populations of chickens (5%) and pigs (4%) from the previous year. The decline in pigs and chickens is mainly attributed to outbreaks of African Swine Feather and New Castle Disease.

On the other hand, in the Shire Valley, the population of cattle and goats was on the increase. This was mainly affected by the ban on sale of cattle and goats due to the outbreak of Foot and Mouth Disease in the Area. As a result, farmers were not selling or slaughtering their cattle.

Many farmers in Malawi are domesticating guinea fowls and the population of these birds has taken an increasing trend for the past five or so years. However, because the guinea fowls use

local hens for incubation of eggs, the need to control New Castle Disease among local chickens is an important aspect when considering promotion of guinea fowl production among farmers.

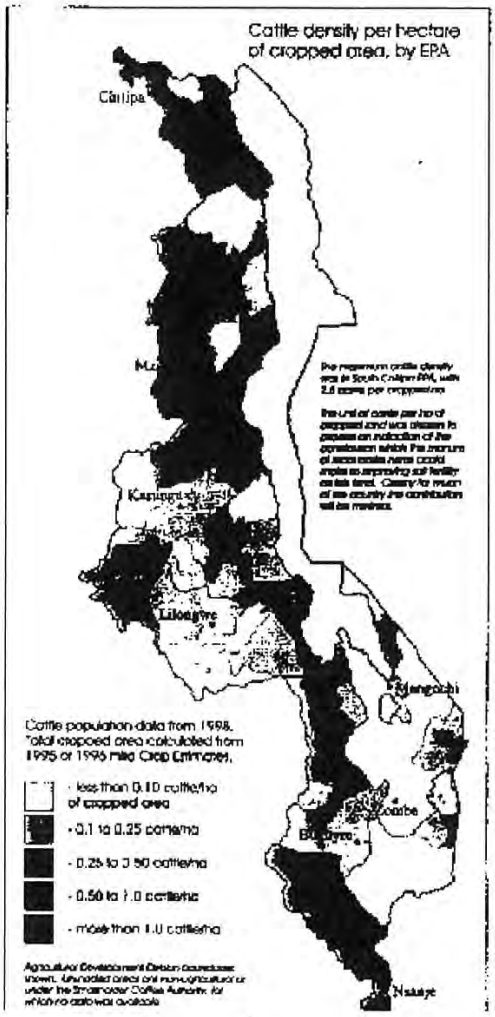

Figure 1 Cattle Density in Various Agricultural Development Divisions by Extension Planning Area (EPA)

Figure 2 Malawi Zebu

In the central region, there are variations in the distribution pattern of livestock. Salima district has more livestock than Nkhotakota district. Within Salima district, the southern area has a high percentage of beef cattle and pigs while the northern areas and areas around the lake had a greater percentage of goats. This is, to a large extent, a reflection of religious differences and along side this, tribal differences. The southern area is highly inhabited by the Ngoni's whose religion is mainly Christianity while the northern and the lakeshore areas are inhabited by Yao's who are mostly muslims.

Likewise in Nkhotakota, the south-west area occupied by the Chewa/Ngoni ethnic groups, keeps beef animals and some pigs while the central and the lakeshore areas inhabited by the Yao's keep mostly sheep and goats for the same reason above. The northern part of this district keeps beef animals and also goats. The central region generally shows a diminishing population trend throughout. This is due to increase in demand for meat, unabated slaughter of immature and breedable stock, theft, lack of disease and parasitic control, and poor management mainly so with regards to animal nutrition.

In the northern region, the population trend indicates a decrease in cattle population for the past two years. There is also a high decrease in sheep population. Farmers are more interested in goat production and are less willing to keep sheep and rabbits. It seems there are taboos associated with sheep and rabbits. There is no definite trend on poultry and pig production but these are distributed throughout the region. Higher pig populations were noted in Mzimba and Karonga districts.

Important points emanating from the study with regard to livestock distribution, population and management are indicated below:

1. There is generally a decline in the overall livestock population in all the ADDs.

2. The major decline was in terms of sheep and beef cattle. Very little work has been done on sheep and beef cattle in Malawi.

3. Decline in livestock population was also attributed to indiscriminate slaughters where butcher men, in pursuit of money, even slaughter breedable or pregnant animals, which is against the laws of Malawi.

4. There is generally low numbers of Black Australorp birds which could not meet the demand in rural areas.

5. There is a notable increase in the number of guinea fowl population. Most farmers use broody local chickens to hatch/incubate the eggs. However, the major problem noticed in guinea fowl management were lack of skills in guinea fowl management and husbandry and high mortality of keets.

6. Use of hens to sit on guinea fowl eggs poses an important and challenging question? "Is the removal of the eggs from the broody hen to replace with guinea fowl eggs (and/or) Black Australorp eggs a threat to survival of chickens?" This should be seriously considered. This has been attributed to farmers' attempts to increase the guinea fowl population since the guinea fowls fetch more money than chickens (MK200 vs. MK300).

3.2 The Role of Livestock

Livestock contribute towards subsistence and generate occasional cash sales for over half of Malawi's two million smallholder families. They also provide regular cash earnings for approximately 15% of these families that can be classified as commercial producers. Animals provide a way of transforming crop residues (e.g. straws, stove) and crop by-products (e.g. maize bran, cottonseed) into food or cash, of using areas of grazing land unsuited to arable farming, and of making profitable use of resting land within a crop rotation. They also serve as a marketable asset that acts as a hedge against inflation. Poultry and eggs provide cash, and food for special occasions, even in food-deficit households.

Given the current high prices of mineral fertilizers manure is highly prized for crop production, and in some areas cattle are used as a source of draught power and transport. Livestock products provide the raw material for the production of footwear and leather goods and are also exported in the form of hides and skins.

Within the smallholder sector, livestock constitute an integral part of the food and social security system. In a harsh and uncertain environment they provide a significant nutritional supplement to vulnerable groups, increase the resilience of smallholder households in the face of food crises, and help to maintain traditional social safety nets for which governments cannot usually provide an alternative. However, they constitute only a limited part of most people's diet in Malawi, as they account for less than 10% of average household expenditures and only an estimated 1.3% of total energy intake.

Despite the crucial role that livestock play in the livelihoods of the population in Malawi, very little attempts have been made to improve this sub-sector. This study therefore was carried out to document the current status of livestock production so as to come up appropriate intervention strategies. The study was carried out in all the eight Agricultural Development Divisions in the country.

3.3 Current production and management systems

3.3.1 Feeding

Smallholders keep the majority of livestock in Malawi, with each producer owning a small number of animals. In terms of feeding, specific areas are not set aside for grazing or fodder production. The extensive smallholder livestock production system in Malawi, in most cases, is a low-input-low-output system. The animals' diet is mostly made up of residues from the farmer's own crops, and the livestock graze and scavenge on common or waste land. Small-scale producers do not feed their livestock with feed that is otherwise used for human consumption. In contrast to the small-scale producer, commercial production is generally intensive and based on commercially compounded feed which is produced locally or imported from other countries especially Zimbabwe and South Africa. Major sources of commercially compounded stock feed in Malawi include Proto Feeds, Central Poultry Feeds and Rab Processors. Others have opened and shut down unceremoniously.

3.3.2 Housing

Housing leaves a lot to be desired. Cattle are usually kept in unprotected kraals made of wood or wire mesh. Special houses are built or constructed for other livestock such as goats, pigs, sheep and poultry. Unfortunately, these livestock houses are hardly used because of fear of theft. For goats, the houses are usually on the ground or raised for easy collection of droppings. In Poultry, pigeon type houses and deep litter houses are common. Very few commercial farmers use battery cages for egg production

3.3.3 Disease prevention and control

Under the extensive smallholder farming systems in Malawi, the general attitude of farmers is more towards treatment to cure sick animals other than prevent the disease. Farmers find drugs and vaccines to be too expensive. Initially, the government was responsible for the cure of animals and provision of general disease prevention and curative services. Some of these services have been privatised leaving Government with the task of managing major Trans-boundary animal diseases (TADs). Sale of drugs and vaccines is now in the hands of the private sector. Members of the Veterinary Association of Malawi (VAAM) and organisations such as Foundation for Improvement of Animal Health (FIAH) have been in the forefront to supply veterinary drugs and vaccines in the rural areas in Malawi.

Government extension workers, the Assistant Veterinary Officers (AVOs), formerly known

as Veterinary Assistants, mainly provide disease prevention and control outreach activities and/or services. In some situations non-government organizations (NGO's) such as CADECOM and World Vision Malawi in Chikwawa have provided limited livestock training and assisted in organizing vaccination of stock, especially chickens. This assistance is invaluable in the livestock industry in the country.

Village Livestock Technicians (VLTs) or Keymen (KMs) have also been trained by organisations such as Food and Agricultural Organisation (FAO) under the Smallholder Food Security Programme (SPFS) and FIAH to assist in animal health outreach activities such as New Castle Disease vaccination. These VLTs or KMs keep the appropriate vaccines and drugs and charge for their services at an agreed cost.

As livestock owners become commercially based, they will become more aware of the benefits of disease prevention and control but will, probably, not be aware of the most appropriate methods for disease control due to poor extension services.

3.3.4 Breeding

Breeding under the smallholder extensive livestock systems is indiscriminate at best. Herds of livestock usually roam around together looking for food. In the process, there is no controlled breeding. Most of the available breeds are of the local type characterised by low productivity. However, these are hardy and survive the harsh tropical conditions in Malawi. Unfortunately, there have been no deliberate efforts to purposely select and preserve high producing local breeds.

Exotic breeds have, instead, been introduced to improve productivity of livestock. In poultry, the Malawi Government introduced the Smallholder Commercial Poultry Project to improve productivity of local chickens through crossbreeding with the Black Australorp in the 1950s. For goats, Boer and Saanen breeds have been introduced for improved goat meat and milk production respectively. For beef cattle, the Brahman breed has been dominant, especially in the Lower Shire Valley. The Friesian is the main dairy breed available in Malawi for improvement of the dairy sector. Crossbreeding with local Zebu cows through artificial insemination or use of bulls is practiced by most dairy farmers. Semen is provided by Mikolongwe Livestock Centre, Worldwide Sires or Land O Lakes.

3.4 Constraints to Livestock Production in Malawi

The Livestock sector in Malawi is faced by a number of constraints. These are both technical and institutional in nature. The most significant constraints are animal productivity/genetic make-up of the animals, declining livestock numbers, nutrition, animal health, extension of information, provision of finance to small scale producers, and marketing

Where the problem is unique to a specific area, due attention has been highlighted accordingly. Common constraints for each species are indicated below.

3.4.1 Declining livestock numbers

This has been observed mainly in cattle and chickens. This has been due to outbreaks of diseases such as African Swine Fever (ASF) and New Castle Disease. An outbreak of ASF in 2001 wiped out a considerable population of the pig population. Most farmers do not follow proper disease preventive measures. Very few farmers keep ducks, rabbits and sheep. Duck meat, rabbit meat and mutton are also not readily accepted by majority of Malawians and difficult to sell when slaughtered unless it is in towns. For chickens, the high mortality among chicks also contributes to declining numbers of chickens.

Declining numbers of livestock can also be attributed to slaughter of breedable or pregnant animals, especially cows. Livestock owners do not usually take time to have their cows undergo pregnancy diagnosis before slaughter. This leads to loss of productive animals.

High levels of stock theft have contributed to reduction of livestock especially cattle.

3.4.2 Poor livestock health/Diseases

Livestock health is a limiting factor to livestock production in Malawi. While some specific diseases cited varied among ADDs, it was noted during the study that a major problem was the low level of knowledge and understanding of livestock producers of the benefits of disease prevention and control. However, even those aware of the benefits of implementing disease prevention and control measures have limited access to appropriate vaccines and

therapeutic drugs.

Diseases and other parasitic infestations are major threats to advancement of the livestock industry in Malawi. This has been exacerbated by a tremendous decline in the provision of livestock services. In general, the number of veterinary or livestock staff is dwindling without replacement, especially in the advent of the HIV/AIDS pandemic. There is need for training additional staff. The use of government veterinary assistants, now Assistant Veterinary Officers to supply drugs has not benefited the farmers in some areas. This must be reviewed urgently. Efforts to introduce Village Livestock Technicians and drug revolving funds have resulted in mixed results. Supply of drugs has always been a problem.

There are several animal health problems associated with livestock industry in Malawi.

3.4.2.1 Ticks

Government reviewed its tick control policy in 1991 from compulsory to strategic dipping of Malawi Zebu cattle. In some areas, dipping was not considered economically feasible. The felt need for revival of dip tanks in such areas very high among farmers. In some parts of the country, farmers were provided with an initial supply of drugs to resume the dipping of cattle, however, farmers were not adequately prepared to take over the running of dip tanks. Poor management was apparent in attempting to bring sustainable mechanism for the dipping programmes, e.g. charging for each animal dipped was not incorporated. Dip tanks flood during wet season and this dilutes the acaricide, thus making dipping ineffective.
In some areas dipping has been successfully revived, for instance in Karonga ADD where three dip tanks are operating managed by farmers. The ADD assisted with a starter pack while the farmers contributed MK1000 each. During dipping, members pay K5/animal/dipping while non-members pay MK50/animal/dipping. However, this is not sustainable and will lead to a collapse of the system as minimum for all should be at least MK45.00 – 50 with the current cost of acaricide and excluding labour and transportation.

3.4.2.2 Trans-boundary Animal Diseases

Another problem with diseases has been Trans-boundary (cross-border) Animal Diseases (TADs). Main trans-boundary animal diseases are Foot and Mouth Disease (FMD), and

African Swine Fever (ASF) suspected to come from Mozambique in the south and Tanzania in the North. The project veterinary office in Zomba RDP had received reports of Heartwater outbreaks in exotic sheep, goats and cattle during the period of this study.

3.4.2.3 Other Animal Disease Outbreaks

There were also outbreaks of Senkobo Disease and Blackquarter. The Black Quarter was alleged another TAD from Mozambique and had penetrated Malawi through Tsangano, Balaka, Manjawira and Phalula. These require a total ban of all livestock activities (including marketing) by Government. This brings undue hardships to many families as the families cannot sell livestock to purchase and pay for essential services (food, school fees, etc). Livestock diseases therefore become a major cost and burden to the farmer.

Newcastle disease and Gumboro are the major poultry diseases in Malawi. It has been suspected that some broilers were infected due to transmission from infected parent stock at hatcheries.

Many animals suffer from trypanosomiasis, especially near forest and game reserves. This is exacerbated by the fact that drugs to treat trypanosomiasis are not readily available to farmers.

3.4.3 Insufficient good quality feed

The provision of adequate nutrition to livestock is a major problem in Malawi. From the study, it was evident that there is generally lack of good quality feed in all the ADDs in Malawi. Commercial feed is known to be expensive. This has been attributed to lack of ingredients and feedstuffs especially protein feeds. Due to lack of skills, on farm feed formulation is also limited. There is need to promote on farm feed formulation. Recent droughts have also made availability of raw materials such as maize and soybeans scarce. Fish is also scarce as there is strong competition with humans. Commercial feed is also not readily available in rural areas for small-scale livestock/poultry farmers. Under free range conditions, supply of feed varies with season hence affecting productivity of livestock/poultry under the free range system. For pigs, commercial feed is a problem, as most feed manufacturers do not manufacture pig feed on religious grounds.

In most parts of Malawi, available pasture is generally of low quality and very few farmers grow pastures for their animals. The livestock systems among smallholder farmers rely to a large extent on pasture resources to supply most of the feed. The level of nutrition to livestock in most areas is poor because of the seasonality of pasture growth, which limits both the quantity and quality of herbage. Growing of improved pastures such as legumes for use as animal feed is an exception other than the norm. Where practiced, it is mainly the dairy cattle farmers. Karonga and Kasungu ADDs have programs to promote growing of improved pastures and some farmers have taken up the practice. In Karonga up to 10.5 ha of Rhodes grass pastures have been established. However, pasture seed material is also not readily available to establish pasture improvement programmes. In some parts such as the Lower Shire Valley, droughts or lack of reliable rainfall limit pasture growth, especially in summer.

In general, there is also lack of information on alternative feed resources available in Malawi. Where available, this information has not been extended to livestock owners. Farmers have no idea as to what production benefits can be derived from alternative feeds and appropriate feeding regimes.

As such, livestock produced under the prevailing small scale conditions in Malawi have a low level of productivity.

3.4.4 Lack of skills

Most of the farmers do not have prerequisite skills and knowledge to professionally run livestock enterprises. Most farmers are subsistent with little or no inputs into their livestock production ventures. This has also been aggravated by lack of adequate numbers of extension personnel. HIV/AIDS has taken a heavy toll making extension services, especially in livestock unavailable hence denying the livestock farmers of the knowledge they need. With few extension workers, there are no regular contacts between livestock farmers and government extension staff to discuss livestock matters. As such, many animal husbandry practices are left to be learned without expert advice among mostly new livestock owners. There is no continuity of improvements as farmers stick to what they see their neighbours do.

There is need for upgrading and refresher training for staff. There is also very little research

work in Livestock. Additionally, the results from research work do not reach the target clientele and are usually not available to field staff. There are therefore no new technological development innovations relayed or outreached to farmers.

Although work plans for farmer training exist in almost all the ADDs, there are no funds to implement. Most livestock farmer training sessions are conducted by nongovernmental organisations. Sadly, some NGOs that may be lacking in expertise do conduct their own training, mostly without involving ADD staff. This has led to some misunderstanding between ADD and NGO personnel. For instance in Kasungu ADD, Plan International has a project to promote poultry production. For the project to be carried out, consultations were made with government staff to train farmers on poultry feed formulation and management. However, after the training, the government staff were no longer available for further advice to the farmers. The farmers were confused and could not effectively continue the feed formulation on their own.

3.4.5 Conflict of Interests

3.4.5.1 Weak Livestock Associations and conflict among farmers

Several livestock associations exist in the country, but some are weak and there are conflicts of interests among the members. For example in Ngabu (Lower Shire) the Livestock Association has no power because of big buyers' interference (money power). There is no transparency/accountability in the association. The current committee is the same original one, and they have not held elections for more the 7 years. The Livestock Association in Nsanje lags behind and needs help.

In Mzuzu, poultry farmers cited that they do not manage the Poultry Association of Malawi in Mzuzu; hence their concerns are not voiced. The Mpoto Dairy Farmers Association in Mzuzu also cited that the buyers dictate on milk prices and do not pay them in time. Worse still, the buyers are not consistent in milk collection such that at times milk in collection centres is spoiled. The farmers make losses and their voice is not heard.

3.4.6 Low productivity/poor animal genetic make up

Indigenous breeds of livestock are low producing. In a bid to improve productivity, farmers do crossbreed local animals with exotic ones e.g. crossing local chickens with the Black Australorp and the local goat with the Boer goat. However, the exotic breeds are in low supply. For goats, there are very few stud breeders and Black Australorp birds are not always available.

The price of the exotic animals is also prohibitive for most farmers. People want animals which are not available. For instance, In the Lower Shire Valley, the Brahman breed of cattle is now not readily available. A long time ago, Shire Valley Ranch released Brahman bulls into villages to mate with indigenous cows and this led to improvement of the cattle stock in the lower shire, by upgrading some herds to Brahman crosses. There are no major government or donor projects promoting livestock improvement in the Shire valley as is happening in other parts of the country, yet the valley is the livestock capital of the country. Farmers do not know where to go to obtain seed stock to improve or upgrade their livestock. Apart from cattle, seed stock is also scarce for goats where there is high demand for Boer and Saanen goats for meat and milk production respectively. The Special Programme for Food Security has been unable to get all the Boer and Saanen goats for its intended beneficiaries in its project sites.

Despite their low productivity, cognisance should be taken of the fact that when animals are fed low quality rations and are not protected from disease, genetic traits for survival are more important than those for production. Indigenous breeds excel in this area. With an increase in nutrition and health, large gains are made in productivity. Therefore, improvements in production traits of local breeds in Malawi will only become important once certain conditions in health and nutrition are met.

3.4.7 Lack of Livestock services

There are no provisions for some important veterinary services such as dipping, vaccinations and disease control except in emergencies such as outbreaks of FMD and African Swine Fever (ASF). With the closure of Natural Resource College (NRC), there has been no training of Veterinary Assistants for the past ten or so years. This has made the farmer to extension worker ratio high leaving the farmers with no field worker to provide livestock extension and

outreach activities.

There is an apparent lack of veterinary medicines to treat animals. Drug sales have been left to Veterinary Assistants and private traders. These are running animal treatment as business and usually overcharge farmers. In Karonga farmers reported that prices of drugs are too high and are ever changing. In addition to that, farmers do not know dosage of drugs although they wish administer them on their own. There are no training provisions to farmers on drug administration at the moment; therefore they are forced to consult people that exploit them.

Dilution of medicines has been suspected in certain incidences. Additionally, the drug suppliers do not stock all the drugs required by farmers to treat their animals. Apart from being few, they are also scattered and many farmers have no access to them or are not reached. For instance, Machinga ADD has only one drug distributor. There is also a possibility to supply expired drugs.

3.4.8 Poor livestock market infrastructure and system

There is generally poor livestock marketing system in Malawi. Formerly, the Government operated cattle markets and controlled slaughter houses, but now these are privatised. Livestock marketing is now left to private individuals. At local level, there are no large-scale slaughter facilities. In Chikwawa and Karonga, where we have high livestock populations, there are no abattoirs. Livestock has to be ferried to Blantyre, Lilongwe for slaughter. No local slaughters of animals can be done in a professional way. As such, local slaughters are conducted in makeshift abattoirs. At worst, animals are slaughtered in the open on leaves cut from trees.

Another noteworthy issue affecting marketing of livestock is the lack of cooperation among livestock farmers themselves. In SVADD, farmers unanimously agreed to be selling their cattle through the open auction system using their own home trained auctioneers. However, it was learned, through focus group discussion with farmers that the Treasurer of the Chikwawa Livestock Association organises his own markets on livestock marketing days, thereby reducing the bidding power of buyer for the benefit of farmers. It has also been reported that he also encourages and employs middlemen and vendors to buy livestock directly from

farmers outside the livestock association marketing system. Many members of the Executive committee are rich people who meet alone and forget the smallholder farmer whom they are supposed to help. There is therefore a conflict of interest which is adversely affecting marketing of livestock.

3.4.9 Threat to the Pig Industry

Privatisation and sale of the Cold Storage Commission to members of the Islamic faith has been a threat to production and marketing of the pig industry. On religious grounds, Muslim owners do not allow or want pig meat to be slaughtered at the abattoirs, hence leaving pig farmers with no alternative slaughter facilities in Blantyre. Wholesale establishment of all Halaal butcheries, which cannot handle pigs, has left no alternative outlets for pork products in Blantyre which is the major market. Likewise, all current feed manufacturers have stopped producing pig feed on Islamic religious grounds. This has subsequently affected supply and marketing of pig meat – pork.

3.4.10 Low Prices for livestock sales

Prices of livestock have not been very encouraging. Vendors are acting as agents of big buyers, buying livestock directly from farmers at low prices (MK50 – 60/kg) instead of through markets organised by livestock associations (MK60.00 / kg minimum bidding price) – money talks. Use of weigh band leads to a lot of cheating on weight of animals where particularly vendors deliberately declare lower weights in order to pay less for the animals. Prices for livestock are determined by buyers and not sellers / producers. Although there is liberalisation, farmers are not allowed to sell animals to foreigners from neighbouring countries, because of, supposedly, a law prohibiting livestock foreign buyers operating directly with farmers and 'exporting' animals across the border without Government's knowledge. This denies farmers of getting high prices from their cattle sales.

Farm gate prices of milk are also low. A dairy farmer in Blantyre indicated that she can sell milk locally in a 300 ml Coca Cola bottle for K25.00 (MK83.33/litre). On the contrary, the usual purchasers of the milk, Dairibord Malawi can only pay K19.50 /litre. Unfortunately local sales cannot guarantee selling all the milk she produces. In Mzuzu some dairy farmers at times resort to milk vending on their own in the streets.

In the dairy sector, farmers also do not have reliable market for their milk. For small-scale producer that get milk from local Zebu cattle, there is no market for the milk. The milk is therefore sold at give away prices. Even if the milk production is high, the farmers do not have the skills and knowledge to process milk and manufacture some dairy products such as ghee, cheese and butter. There are no facilities to enable the farmers to do so. For commercial dairy farmers, these have formed milk bulking groups. However, they have no control over prices they get for sale of their milk. The prices are set buy buyers such as Dairibord Malawi. Sometimes, the milk collection vehicles do not turn up and the milk may go bad hence losses for the farmer. This is made worse because most of the milk bulking groups have no dependable cooling facilities to keep the milk. The over dependence for buyers to collect milk from the collection points is a worrisome situation. Farmers need to have their own collection and delivery vehicles. Alternatively, they need to own processing plants. A case in point is establishment of a small-scale milk processing plant in Bvumbwe.

3.4.11 Theft of livestock

Livestock theft is one of the major problems in the livestock sector in Malawi. Due to thefts, farmers do actually sleep with cattle and/or goats in the dwelling houses over night, which is unhealthy, especially when one considers potential transmission of zoonotic diseases. Although farmers may construct recommended houses such as those for poultry, they may not be used for fear of theft. In a bid to control these problems, livestock farmers such as those under Chikwawa Livestock Association has introduced Livestock Authentic owner certificates in addition to community policing. However, this system has its own problems. Ideally, certificates are supposed to be used to confirm genuine owners of livestock but are being abused. Sometimes certificates are issued without establishing bona fide ownership of the animals. Incidences have been reported where certificates are often signed by the children of the chiefs or village headmen who do not know the true owners or are corrupted by dishonest dealers. The MK20.00 charged for issuing the certificate is misunderstood by many users of the system. Sometimes the certificates are not available at all. This is more so in Nsanje where the Livestock Association is not fully functional and needs to be assisted with production and printing of certificates.

Another factor encouraging livestock theft is the insufficient Livestock Movement Controls. For instance, there are no straight dealings at roadblocks in checking livestock crossing from Shire Valley to Blantyre abattoirs for slaughter. There are also extensive and porous boundaries between the Shire Valley and neighbouring districts and countries, thus making reinforcement of restrictions of livestock movements extremely difficult. This encourages thefts because unscrupulous operators can deal (buy, sale and slaughter) in stolen animals very easily. In Karonga the ADD attempts to circumvent this problem through establishment of anti-stock theft committees in conjunction with the police and traditional leaders. A cross border patrol system is also in the process of being established.

3.4.12 Lack of ownership of development programmes

For most livestock development programmes, there is seemingly lack of ownership among the target beneficiaries. In Ngabu, Chikwawa, there is still some misunderstanding that the animals belong to WVI who will later come and take the animals away. This originated from poor perceptions from non-participating villages and clubs. In Kasungu a group of women in Bowa Village involved in goat production with funds from HIPC are waiting to be told when to give the goat offspring to the next beneficiary. The farmers have not been empowered to make decisions such that they think that they are the raising the goats on behalf of the government. Therefore they are waiting for the government to give the next instruction. Care of the animals is sometimes suffering. In most of the FAO funded SPFS sites, extension workers also have a perception that the project is a FAO funded project. As such, they feel reluctant to be involved in the project activities unless an incentive such as allowances or transport is provided. With lack of project ownership, no substantive progress can be made.

3.5 Current Livestock Development programmes in Malawi

Most livestock development programmes in Malawi target smallholder farmers. Participating farmers organize themselves into groups and manage the animals either as individuals within a group or as a group. The programs are as follows:

3.5.1 Cattle

3.5.1.1 Work Oxen Programme

In order to improve drudgery and work load of farmers, the government that introduced the Work Oxen Programme. Under this programme, each EPA is given 4 pairs of work oxen to quicken farm operations. Farmers hire the work oxen to work on their gardens at an agreed fee. The EPA can also be used to train farmers work oxen. In the Lower Shire Valley, 42 oxen had been distributed as of February, 2004. The work oxen are available for hiring by farmers at stipulated rates of K1,500.00/acre of land. In Karonga and Mzuzu ADDs this rate is higher than (twice as much) what farmers charge each other. As such farmers are not willing to use the animals.

3.5.1.2 Feedlots

In the Shire Valley, there has been a number of private feedlots that have been opened. Farmers purchase cattle from local farmers which are fattened in these feedlots. Currently plans are under way to introduce stall feeding or feedlot cattle operations by smallholder farmers in Chikwawa. Eighty-eight animals have been identified and distributed. Finished animals will be sold on a pre-negotiated price or directly to slaughterhouses. There are still problems with capitalisation of the programme since it is partially targeting those people without animals. There are also differences in pricing. There is need to conduct market and profitability analysis on the economics of stall feeding animals in the district and Malawi as a whole.

The Hunger Project is also promoting stall-feeding as a women's group income generation project at Domasi in Zomba.

3.5.1.3 Stall Feeding Program

In most areas, stall-feeding of cattle has just been introduced to smallholder farmers for beef production or plans are underway to start the operations. In the southern region, 88 animals have been identified and distributed in Chikwawa. It was reported that finished animals would be sold on pre-negotiated prices or directly to slaughterhouses. There are some problems with capitalization of the program since it is partially targeting those people without animals. There also differences in pricing. There is need to conduct market and profitability analysis on the economics of stall-feeding animals. Mwansambo area, in the Central Region

has a big stall-feeding programme reflecting also the vast grazing land existing in the area. In the northern region, dairy farmers are also encouraged to stall-feed their animals. Cattle theft is a major obstacle to beef production in the country. In Mwanza, some farmers have started a stall feeding programme. Apart from these, commercial feedlots have been established in the Lower Shire valley for fattening cattle. Producers buy cattle from farmers which are then fattened before being slaughtered. Some feedlot owners have integrated their businesses to include beef fattening and slaughter with their own abattoirs.

3.5.1.4 Dairy Cattle

Among large stock, dairy is the most advanced in Malawi. Blantyre ADD has the largest milk shed area in Malawi with the participation of estate and smallholder sections where the smallholder sector has total membership of 2,771 dairy farmers of which 2,214 are men and 673 are women. This sector has a total dairy of 6,748 with an average milk production per day of 6 litres. On the other hand, the estate sector has a participation of more than 10 estates. Some of the tea estates pulled out dairying and many of their dairy animals were sold within the milk-shed area.

There is a program to promote smallholder dairy farming where farmers are organized into milk bulking groups (MBGs) according to milk collecting centres. Each milk-collecting centre has cooling tanks with sizes ranging from 500 – 6500 litres. The MBGs are distributed throughout the country. Members of MBGs in each of the three regions in Malawi are form a central body known as milk producers association. It is regional machinery that is responsible for promotion of co-operative spirit, performing and spreading common goals of the MBGs and encouraging sound development of these groups

Smallholder dairy farming is promoted through a heifer exchange scheme and is supported by the government and some NGOs. Land 'O' Lakes (LOL) provides the technical support to the dairy farmers. The organization also offers heifer loans, training in dairy production, management, and milk marketing skills. The beneficiaries are the poor people aged between 18 and 59 years. LOL also subcontracted World Wide Sires to provide:

(a) AI services

(b) Training of key farmers as inseminators and in pregnancy diagnosis. They

have trained 75 farmers, but only 50 are active in the field. Ten of the 50 farmers are women.

(c) Training farmers in dairy management.

(d) Organising field days and regional educational tours for dairy farmers.

(e) Sale semen straws of various breeds of cattle such as Brahman, Friesian, Holstein and Jersey

Mikolongwe Livestock Farm has started multiplying dairy animals through the Breeding Program in place.

3.5.2 Poultry

In a bid to improve productivity of livestock, several initiatives or programmes are being implemented in the ADDs. These programmes are implemented by both government and non-governmental organisations. Most programs target smallholder farmers. Participating farmers organize themselves into groups and manage the animals either as individuals within a group or as a group. For government departments, most livestock activities are being implemented with funding from High Indebted Poor Countries (HIPC) and Pro-Poor Expenditure (PPE) funds. Other programmes are being sponsored by organisations, notably, the Rural Income Enhancement Programme (RIEP), World Vision Malawi, Church Action in Relief and Development (CARD), Malawi Social Action Fund (MASAF) and Bunda College of Agriculture (BCA).

The Government of Malawi, then Nyasaland, established the Mikolongwe Poultry Improvement Centre (MPIC) in the 1950s to effect stock improvement on indigenous chickens through use of the Black Australorp under the Smallholder Poultry Improvement Programme (SPIP). The programme is also sometimes referred to as Black Autralorp Village Poultry Improvement Programme. The SPIP is part of the National Livestock Development Project (NLDP) whose objective is to develop and increase productivity within the livestock sub sector in order to achieve national self sufficiency in nutritional animal proteins through local production. The breeding goal of the SPIP is to improve two identified traits: egg and meat production of local chickens through crossbreeding with Black Australorp. Hatcheries and breeding facilities were established at Mikolongwe in Chiradzulu, Bwemba in Lilongwe

and Choma in Mzuzu to cater for the Southern, Central and Northern Regions respectively.

Figure 3 Indigenous Naked Neck Chicken

In Chikwawa, the World Vision International is involved in promotion of modern poultry production and husbandry. In 2001, WVI bought and distributed 200 BA cocks in four villages. The birds were given for crossbreeding with local hens. All chickens in the participating villages of James, Mangazi, Chideya and Johannes were initially vaccinated free of charge against Newcastle Disease (NCD). Now farmers vaccinate the chickens assisted by EPA staff using vaccines bought by the farmers themselves. Two hundred and twenty (220) BA (Mikolongwe) chickens were also given to seven women clubs for egg production as an income generation activity. For hatching, local hens are used to incubate the eggs produced by allowing them to sit on them together with their own eggs. The clubs return an equivalent number of Mikolongwe chicks, which are then passed on to other clubs or new members. This way ownership of BA chickens is expected to widen. The money assists the women to purchase household goods, food and replacement chickens hence a tool for poverty alleviation and food security.

In Chiradzulu, under the Malawi Smallholder Food Security Programme, WV Malawi with funding from the European Community conducts livestock poultry census and promotes New

Castle Disease Vaccination Campaigns. The initial vaccines were given to the farmers free of charge as the starting point. This was done in September and December 2003. Ultimately, farmers will be required to contribute towards purchase of the vaccines. These vaccination campaigns are coordinated through Livestock Committees that were established in the villages.

Under the Special programme for Food Security funded by FAO, the project distributed 4 local hens and a cock per household without chickens. It also distributed a Black Australorp cock for crossing with the local chickens for people with hens. In an attempt to promote small-scale commercial poultry production, 10 Black Australorp hens and a cock were also distributed to three farmers per site.

In Lilongwe, commercial poultry is restricted around Lilongwe City. The largest farmer is Mthawanji who keep about 30,000 birds for egg production. He used to keep both broiler and layers; but, has dropped the broilers. Unstable market for broilers is the major problem. Commercial poultry is also found around Dedza and Kasungu Towns. Although the competition is stiff from imported eggs; nevertheless, farmers would prefer layers than broilers when they think about markets.

3.5.2.1 Guinea Fowls

Guinea fowls are also becoming popular in many areas. Most organisations are also promoting guinea fowl producton. One such organisation is FAO under the TELEFOOD project. There is a FAO-funded project currently taking place at Nansenga EPA where guinea fowls were given to women groups as a source of income and protein food. High mortality of keets has been reported. The Wildlife and Environmental Society of Malawi started a guinea fowl project at Kamwamba in Neno as an alternative income generation activity to charcoal burning. Guinea fowl production has now spread to almost each ADD with assistance of NGOs some areas having higher numbers of guinea fowls than chickens. The main problems faced by farmers are incubation due to large number of eggs and lack of skills in general management and husbandry of guinea fowls.

3.5.3 Pigs

The Small-scale Livestock Promotion Programme (SSLPP) is implementing the only notable pig development programme. With assistance of an Irish NGO, exotic breeds of pigs, the TriStar was imported into Malawi for distribution to farmers. These would be sold to both small and large scale commercial farmers. Farmers and extension workers were also trained in Pig Husbandry Management under this programme.

In Phalula, Balaka, women groups were sponsored to start pig production as a business under the ADB-funded Women-In-Development (WID) Project in the Ministry of Gender and Community Services. The women bought the pigs on loan.

The Livelihood Security Project under the projects Office, Blantyre Synod was also promoting pig production as a means of sustainable livelihoods in Phalula, Balaka. However, the main problem has been African Swine Fever.

In the central region, institutions such as Kachebere Seminary and Bunda College of Agriculture are the main sources of pigs. In general, the management of pigs is quite poor

especially lack of inadequate feeds. African Swine Fever is a major killer disease of pigs. However, the demand for pork is very high but the potential for pigs has not been exploited.

In Karonga and Mzuzu ADDs, pig production is supported through the HIPC funded small stock promotion program. The main problem has been sourcing of the breeding stock (Landrace breeds) and limited feed resource base. Farmers indicated that there is shortage of pig feed (maize bran) due to too many competitors from Tanzania that offer to buy the maize bran at higher prices. The farmers cannot compete with them. There is also high piglet mortality due to lack of drugs. Sometimes the animals given as breeding stock are too small and farmers fail to manage them. Farmers also stated that programs promoting pig production should have considered housing construction as part of the credit scheme since it is very expensive to build housing for pigs.

3.5.4 Small Ruminants

3.5.4.1 Goats

HIPC funding has boosted goat production in Malawi. For instance, in Chikwawa, 611 goats were distributed to farmers using funds from HIPC. The purpose of the program is to increase productivity of goats through improved management and crossbreeding. Farmers are given local goats and exotic ones for crossbreeding. Throughout the ADDs, distribution of goats is done using a pay back system where In SVADD, 611 goats were distributed to model villages. The Hunger Project initiated creation of Stud breeders in Model Villages of Dolo and Chapananga. These schemes are helping those families which had no stocks to have some. CADECOM is also involved in goat production where so far 260 goats been distributed and they are using the 'pass-on principle' to get more households to benefit. They are integrating their activities with the HIPC project and working with ADD staff. Farmers have also benefited with goats from the FAO funded Special Programme for Food Security where farmers were supplied with goats on a pass on basis. Rural Income Enhancement Programme has also been involved in the distribution and promotion of guinea fowls, goats, rabbits and Black Australorp chickens in most rural areas such as Nsanje.

Other NGOs such as World Vision Malawi are also involved in promotion of goat production. In the Ngabu Area in Chikwawa, WV Malawi was responsible for distribution of four Boer

bucks per village in Kunyinda ADP. Farmers agreed to sale off their local bucks and let the Boer bucks to do all the breeding in order to improve the size of the goats. The bucks were obtained from Salima. The area has 80 villages, 3888 households and 22,000 people. WV Malawi has another similar program in Karonga.

3.5.4.2 Sheep

Very few farmers keep sheep in Malawi. There is no development project aimed at promoting or improving sheep production. Most people do not eat or like lamb or mutton. In Lilongwe ADD, most sheep are found in Kamenya Gwaza area in Dedza District. The market for sheep, like other livestock, is not organized. Major diseases encountered include worms, mange, lumpy skin and pneumonia.

3.5.5 Unconventional Livestock

4

4.1.1.1 Rabbits

Very few organisations are promoting rabbit production. WV Malawi has been responsible for promotion of rabbit production in Kunyinda, Ngabu. For the rabbits programme, four clubs linked to children programmes are participating. Nine rabbits obtained from Bvumbwe were distributed to four families per village.

In Lilongwe ADD, most rabbits are found in Chiwamba in Lilongwe District. Unfortunately, they do not have a market. Many farmers would like to keep rabbits but they do not have markets. There is need for awareness messages for rabbits. Awareness campaign should be mounted such as on Field Days using organo-leptic tests such as barbeques and the development of recipes for rabbit meat. Additionally, parent stock is not readily available hence the need to establish stud breeders.

4.2 Marketing of Livestock

Marketing for livestock has been liberalised. The Cold Storage Commission that used to purchase livestock has been privatised. Farmers sell livestock on an individual basis to abattoirs, feedlots, butcher men or locally organised markets. In the Shire Valley, cattle sales are organised mainly by Chikwawa Livestock Association. The Livestock Association

introduced a certification system for ownership to curb theft. However, some problems have arisen with the system: the charge of K20.00 per certificate issued is perceived as a fund raising mechanism for the association by many intended users. Farmers seem not to have seen how the money realised from issue of certificates is used for the benefit of the farmers. The system has also been infiltrated by crooked certifiers who will issue a certificate for an extra fee without proof of genuine ownership of animal presented for sale.

It should be noted that middle-men play a great role in marketing of livestock in Malawi since the livestock market was liberalised. Hence sales figures from the markets organised by Associations or from local markets are not really indicative of actual livestock sales in Malawi.

4.3 Promotion of disease control programmes

In a bid to promote good animal health, both preventive and curative measures are being promoted. Common aspects of animal disease prevention and control in use include:

- Vaccination campaigns against Newcastle disease, rabies, and Lumpy Skin Disease
- Deworming
- Livestock movement controls
- Treatments
- Meat Inspection

4.4 Perceived Impacts of Livestock Development Programmes

Both farmers (target community) and extension workers indicated that there are some tangible benefits that have accrued from the livestock development projects in most areas. Noteworthy, the following were mentioned as some of the perceived benefits:

4.4.1 Improved stock

Participating farmers are happy they have improved stock, and this is what they say they want.

4.4.2 Improved diets and incomes

Farmers and households are now eating rabbits, chickens and eggs. They also get money from sale of livestock and products such as eggs. In the Lower Shire Valley, farmers indicated that livestock is a tool for food security or a safety net. In times of hunger or drought where crops have failed, they sell livestock in order to purchase food and other household needs.

4.4.3 Expanded Small Livestock Ownership

With distribution of livestock and poultry, most families now own livestock or poultry. For poultry, guinea fowl eggs and fertile Black Australorp eggs are allowed to be hatched by local chickens, so ownership of BA is expanding. As the pass-on philosophy is strictly adhered to, similarly the ownership of the other stock, goats and rabbits, is expanding. Using HIPC funds, 19 Boer bucks and 919 goats have been distributed in Blantyre ADD.

4.4.4 Acquisition of modern skills and knowledge in livestock husbandry

Through the programmes, knowledge and skills of both farmers and extension workers have increased. With this, husbandry skills in livestock and poultry have tremendously improved. FAO, through the SPFS, trained Village Livestock technicians which are used for livestock outreach activities in the rural areas. Similarly, the DANIDA-funded Malawi Smallholder Poultry Improvement Programme trained other livestock technicians. In Blantyre ADD, in collaboration with NGOs like Land O'Lakes and World Wide Sires, 21 farmer A I technicians and 24 staff A I technicians have already been trained. Blantyre ADD in conjunction with SHMPA and Land O'Lakes has also trained some milk Bulking Groups (MBGs) in group and co-operative development

5 MAJOR CHALLENGES TO THE LIVESTOCK INDUSTRY EMANATING FROM THE STUDY

The study has shown that there are many challenges to livestock production in Malawi.

5.1 Low productivity of animals
5.1.1 No policy on conservation of indigenous genetic resources
5.1.2 Low availability of improved breeds for crossbreeding, farmers have difficulties to access Black Australorp breeds, Dairy animals.

5.2 Lack of cheap good quality feed
5.2.1 Low supply of feedstuffs
5.2.2 Expensive imported ingredients
5.2.3 Lack of skills and knowledge in feed mixing
5.2.4 Little use of unconventional feedstuffs
5.2.5 Low levels of feed preservation practices as hay and silage
5.2.6 Some feed manufacturers do not manufacture pig feed
5.2.7 The large rural population, small farm size and intensive land use in Malawi do not allow the setting aside of areas specifically for livestock grazing or fodder production. As a result the provision of adequate nutrition for livestock production is a major constraint.

5.3 High incidence of diseases, parasites and predation
5.3.1 Main disease include New Castle Disease (Poultry), Foot and Mouth Disease (Cattle)
5.3.2 Parasites: both internal and external. IN poultry, major external parasites are lice, mites and fleas. Ticks are common in cattle.

5.4 Lack of appropriate skills and knowledge in modern livestock management
5.4.1 Most farmers have rudimentary knowledge in livestock husbandry
5.4.2 There are no training centres for farmers to learn from
5.4.3 Major areas required include housing, feeding, disease prevention and control and marketing
5.4.4 Farmers have little knowledge in guinea fowl production and management

5.5 Lack of organised markets for livestock products
5.5.1 Most farmers use make shift market for sale of their livestock
5.5.2 There is no guaranteed market for livestock/poultry products

5.6 Low prices of livestock products from farmers
5.6.1 Due to high competition, farmers usually get low prices for their products
5.6.2 Dairy farmers have no control over prices as these are determined by buyers, hence very little bargaining power
5.6.3 Lack of proper livestock infrastructure- processing facilities, dipping tanks
5.6.4 There are few processing plants / abattoirs in Malawi
5.6.5 Some abattoirs have Muslim connection and they do not slaughter pigs.

5.7 Low availability and high cost of drugs
5.7.1 There are very few outlets for veterinary drugs in rural areas
5.7.2 Price of drugs are usually too expensive for smallholder farmers

5.8 Few number of livestock extension personnel
5.8.1 There are few numbers of livestock extension personnel: The extension worker: farmer ratio is very high. Extension workers have very large areas to cover. This is exacerbated by lack of transport to these areas.
5.8.2 There is no longer training of front line staff by the government

5.9 Poor coordination in implementation of livestock projects among stakeholders- DAHI, NGOs, Bunda

5.9.1 There is no proper coordination and information sharing on what programmes are taking place in the livestock industry.

5.9.2 Some NGOs do not inform the government personnel of livestock projects they are undertaking in the ADDs

5.9.3 There is no feedback and dissemination of livestock research results from Bunda to ADDs and farmers

5.10 Lack of capital for purchase of inputs and start commercialisation of livestock production

5.10.1 There are few credit institutions that offer loans for livestock enterprises

5.10.2 Most farmers have no collateral which they can use to apply for loans

5.11 There is lack of breeding policy or anima genetic resources

5.11.1 There is no policy on how guinea fowls can be bred versus extinction of chickens. Hens are used to hatch guinea fowl and Black Australorp eggs at the expense of chicken eggs. Are we endangering the survival of chickens by removing eggs and replacing them with guinea fowl eggs?

5.12 Poor and AI Services when animal is on heat.

5.12.1 The AI services are unreliable that she misses out more often on getting animal served when oh heat.

5.12.2 AI service providers charge K70.00 transport and K80.00 / straw for each service. Usually they never turn up or come very late, their serves are not successful and yet we are still required to pay them.

6 CONCLUSIONS

Livestock production, and extensive livestock systems in particular, are an integral part of agricultural production among smallholders in Malawi. For the past few years, there has been a trend towards commercialisation of livestock and poultry production especially in peri-urban and urban areas. Livestock constitute a major economic activity for the disadvantaged and poor Malawians. Livestock provides not only food for the producers, but also a range of other products which could be sold or consumed by the livestock owner to provide nutrition, income, traction and fuel. In Malawi, the major products of livestock include meat, milk, eggs. Use of livestock as source of draught power, manure which is used as fertilizer or fuel is limited. Feathers, hides, and horns are other fully unexploited livestock products. In addition to these products, livestock serve as an asset and may provide a reserve that can be converted to cash in times of need. It is also clear from the study that the role of livestock in food security is undervalued.

In Malawi, development of livestock production faces strong socio-economic constraints that limit its capacity to provide higher levels of income and employment for sustainable livelihoods and food security. There are mainly five types of constraints identified in this study:

1. Poor genetic potential
2. Poor Management;
3. Lack of good quality feed and grazing Resources;
4. Prevalence of diseases and pests and
5. Poor livestock market infrastructure and system.

From the study, it emerged that there is need for both farmers and livestock experts to clearly understand the connection and interrelationship between livestock development and economic well-being of the rural population needs. This is important in order to derive strategic and policy recommendations for attainment of food security and sustainable livelihoods through livestock production. The recommendations and the way forward are indicated below.

7 THE WAY FORWARD/RECOMMENDATIONS

Given the above scenario of the livestock industry, it is evident that specific intervention areas required in order to increase livestock production and productivity in Malawi. The following are the major recommendations.

7.1 Capacity Building/Extension services

7.1.1 Training of extension staff and farmers

There is an urgent need to train both staff and farmers in modern livestock and poultry husbandry skills and knowledge. Farmers need livestock husbandry extension to be more intensified in a more participatory manner using the bottom-up approach, so that their views and need can be incorporated. The training and capacity building should involve extension workers, farmers and village livestock technicians or key men.

7.1.1.1 Training of village livestock technicians in management of drug boxes and simple livestock techniques

7.1.1.2 These should include technicians to provide artificial insemination service for dairy farmers. These community livestock technicians should be in the fore front to assist extension workers with imparting simple extension messages to farmers. This is in light of the few extension workers available in the livestock sector.

7.1.1.3 Extension workers and farmers should be provided with both non-residential and residential refresher courses to keep them abreast with modern technology and skills in the livestock industry. These technicians or service providers should also be trained in proper ethics to generate trust with livestock farmers. Dairy farmers have sometimes questioned the pricing of semen, promptness of delivery after reporting a cow on heat and accuracy.

7.1.1.4 Government should also train more extension workers with specialisations in livestock/poultry to meet the current demand for livestock. Bunda College and/or Natural Resources College should be able to offer such courses.

7.1.1.5 Pamphlets for use by farmers and extension workers should be developed and published in both English and the local language

7.1.2 Livestock Feed formulation/compounding in order to promote on farm feed mixing as a cost saving measure

7.1.2.1 Farmers and extension workers should be taught how to grow and process feedstuffs, formulate feeds and feed their livestock/poultry.

7.1.2.2 The government should have a deliberate policy to encourage production of crops that can be used as feedstuffs.

7.1.2.3 Emphasis should also be made to explore use of unconventional feedstuffs such as cassava, pigeon peas, cowpeas and sunflower in stock feeds.

7.1.2.3.1 Further work should be carried out on the development and dissemination of information on alternative production of livestock feeds as this is a major limiting factor in livestock development.

7.1.3 Small-scale appropriate feed processing and mixing technologies should be developed.

7.1.3.1 Farmers should be trained in how to preserve, treat and utilise crop residues in form of hay and silage for use in the dry season or during droughts

7.1.3.2 Farmers should also be advised and trained in pasture establishment to mitigate feed shortages during the dry seasons

7.1.4 Marketing of livestock products and Agribusiness skills

7.1.4.1 Farmers need to be provided with skills in agribusiness so that they are able to take livestock as a business. Farmers need to be trained on how to gather market information and plan their enterprises to be profitable according to the prevailing market trends.

7.1.5 Leadership skills for Livestock development committees

7.1.5.1 To provide proper and reliable leadership, livestock development committees and/or associations should be trained in leadership skills and participatory skills so that they can better serve their constituents and members of their committees, associations or clubs.

7.1.6 Processing of livestock products:

7.1.6.1 Training is required in dairy, meat, hides and skin processing. With increases milk production, farmers should be trained in how to process milk and meat products for added value hence increased income. Mini milk processing plants should be established within the milk bulking groups for added value and hence increased income (*ceteris paribus*).

7.1.7 Breeding:

7.1.7.1 Farmers and extension workers need proper skills in breeding of cattle, guinea fowls, goats, and chickens.

7.1.7.2 Use of artificial insemination in cattle needs special emphasis. There is need for well-trained AI technicians and reliable source of semen.

7.1.7.3 Breeding of guinea fowls and crossbreeding of goats and chickens using exotic breeds should also be emphasised as most farmers are not clear on how this is to be done.

7.1.7.4 Productivity of local breeds can be greatly increased by improving the nutrition and health of these animals.

7.1.7.5 Unless genetic make up restricts production, there are advantages in using indigenous animals which have better disease resistance and ability to survive periods of poor nutrition prevalent under the smallholder farming system in Malawi high level.

7.1.8 Basic Animal Health:

7.1.8.1 Farmers and extension need training in basic health issues including signs and symptoms of diseases, prevention and control of diseases and parasites. Of major importance are Foot and Mouth Disease in cattle, African Swine Fever

in pigs, New Castle Disease in poultry.

7.1.9 Provision of transport:

7.1.9.1 Extension workers or livestock technicians should be provided with reliable transport to enable them to cover and meet all farmers considering the fact that they cover very large areas.

7.1.10 Civic Education

7.1.10.1 Farmers should take livestock as potential commercial enterprise and animals not looked at as flowers.

7.1.10.2 There is need for close cooperation and collaboration among livestock producers. The (seemingly) misunderstanding among farmers on running and management of associations such as the Shire Valley Livestock Association should be encouraged.

7.1.10.3 Establishing livestock associations and or clubs and their importance

7.1.10.4 Organizations involved in livestock developments should be assisted to determine which combinations of species and breeds of livestock provide the greatest benefit to farmers under different circumstances and conditions (including access to markets for outputs and availability of inputs).

7.1.11 Establishment of market infrastructure To ensure proper marketing of livestock and livestock products, there is need for proper market infrastructure. Among the required interventions include:

7.1.11.1 Opening up of small scale abattoirs / slaughter houses and pilot dairy plants for farmer groups. Emphasis is required on establishment of slaughter houses that can include pig slaughters at the processing plants as the present ones do not allow slaughter of pigs. Livestock associations or clubs must be helped to establish (pilot) dairy processing plants to process (pasteurise, package, and market) raw milk, manufacture ghee, butter and other dairy products from milking both exotic and the large number of zebu cows.

7.1.11.2 With expansion, Livestock Association or other farmer organisations must be helped with construction of large-scale abattoir(s) for local slaughters of animals in livestock areas such as Shire Valley and the Northern Region. In the Shire Valley, which is the livestock capital of Malawi, this set up would help farmers to still sell stock and get livestock products for consumption in the valley in time of livestock bans due to TADs. This will provide a livestock service industry in 'clean' periods and provide employment opportunities in the livestock industry and reduce need to transport live animals. This will also see the growth of a hides and skins industry in the Shire valley with added value to its being the livestock capital of Malawi. These ventures will need Government and donor partner assistance.

7.1.11.3 Farmers should form associations to monitor sale of cattle and other livestock for the benefit of all the farmers. Laid out rules should be followed to the book such as use of trained auctioneers during market days for cattle in the Lower Shire

7.1.11.4 In order to penetrate the major retail outlets, farmers should form clubs so that they can be ably meet the demands for retail outlets which need specific quantities and specified dates.

7.1.11.5 There is urgent need for investors in alternative pig feed manufacturers, slaughterhouses and pork products distributors and outlets to cater for the pig industry.

7.1.11.6 With appropriate mechanisms set, cross border trade in livestock should be allowed so that farmers can sell also to neighbouring countries like Mozambique in a bid to improve prices and profits by livestock farmers

7.1.12 Increase supply of inputs. There is need to increase the supply of inputs so that farmers are able to institute modern husbandry practices as required. Interventions would include:

7.1.12.1 Farmers to form clubs/associations and buy inputs in bulk in order to save costs

7.1.12.2 Establishment of livestock development funds for loans to livestock farmers

7.1.12.3 Strengthening of livestock associations to be avenues for bargaining for farmers and seeking assistance for supply of inputs

7.1.13 Promote and create awareness on raising of unconventional species:

7.1.13.1 Farmers should be encouraged to keep unconventional livestock species. There is need to promote importance and use of guinea fowls, rabbits and doves/pigeons.

7.1.13.2 Deliberate promotional campaigns through organoleptic tests should be conducted in rural areas on these species of livestock

7.1.14 Disease control

7.1.14.1 Ticks

7.1.14.1.1 Dipping must be resumed

7.1.14.1.2 Farmers must be adequately prepared and trained to manage the running of dip tanks including charging for each animal dipped

7.1.14.1.3 Dip tanks should be routinely maintained to prevent flooding, as was the case in

Chikwawa during wet season.

7.1.14.1.4 Form separate dip tank committees under the Livestock Associations or Clubs to manage dip tanks.

7.1.14.1.5 Farmers should be made to understand the value of dipping and improve their willingness to contribute to dipping.

7.1.14.1.6 Farmers should be involved in the purchase of acaricides and veterinary medicines by farmers through drug revolving funds

7.1.14.2 New Castle Disease

7.1.14.2.1 Promote vaccination campaigns

7.1.14.2.2 Make vaccines readily available

7.1.14.2.3 Farmers should be willing to vaccinate poultry with emphasis on chickens and guinea fowls.

7.1.14.2.4 Establish farmer clubs / farmer groups with specific species or activity e.g. Newcastle Disease (Chitopa) Clubs. These clubs should spearhead campaigns against New Castle Disease.

7.1.14.3 Supply of veterinary drugs and vaccines

7.1.14.3.1 Establish sustainable schemes such as drug revolving funds operated by farmers themselves.

7.1.14.3.2 There is need for better control and management of schemes to ensure quality of medicines at a reasonable price. These include dips, non-emergency disease vaccines etc

7.1.15 Control of livestock theft

7.1.15.1 Production and use of authentic ownership certificates

7.1.15.2 Establish local abattoirs or slaughter houses. This arrangement would reduce movement of animals to other parts such as Blantyre from Shire Valley hence reduce theft. This would allow easy monitoring and follow up of animal s when

lost or stolen

7.1.16 Establish sources of seed stock: With inadequate supply of stock there is need to increase sources of stock by:

7.1.16.1 Encouraging investments in hatcheries for supply of day old chicks

7.1.16.2 For Black Australorp chickens, the following measures can be implemented:

7.1.16.3 Sale of fertilised BA eggs to farmers with brooding hens

7.1.16.4 Promote home-based multiplication of BA eggs through use of foster indigenous hens to sit on BA eggs

7.1.16.5 Sale birds younger than 6 weeks to reduce cost of the birds for farmers to afford

7.1.17 Establish stud breeders of exotic breeds to supply to farmers e.g. Boer goats

7.1.17.1 Where animals cannot be imported, use artificial insemination (AI) to come up with crossbreeds especially in dairy cattle should be encouraged. Use of AI and crossbreeding should also be encouraged for beef cattle that has hitherto been neglected, especially in the Shire Valley.

7.1.18 For guinea fowls, it is recommended that when hatching guinea fowls eggs, not all chicken eggs should be removed from the mother broody hen.

7.1.18.1 Design small-scale incubators for incubation of guinea fowl and Black Australorp eggs. This will allow increased production and supply of these birds.

7.1.19 Conduct routine livestock surveys/censuses

7.1.19.1 Livestock census should be done routinely in order to have a good picture of livestock numbers representing the whole country

7.1.19.2 Livestock populations should include those from large scale farmers to give a true picture of the livestock situation in the country.

7.1.19.3 For poultry, it is recommended that PIAM should be requested to provide statistics of current status of the poultry industry.

7.1.19.4 Strict measures should be undertaken to control slaughter of breedable and pregnant animals.

7.1.20 Need for improved animal welfare and change of mindset

7.1.20.1 Improving the nutrition and health of livestock in rural areas would provide many positive benefits for animal welfare.

7.1.20.2 There is need to improve conditions of animals in terms of feeding and housing and disease prevention

7.1.20.3 Farmers should also start thinking of keeping animals as a business not just for subsistence

7.1.20.4 Farmers should consider livestock as part of any future food security activities because of their important role in food security and sustainable livelihoods or as safety nets

References

MOAI, 1999, National Livestock Development Master Plan, Final Report, Department of Animal Health and Industry, Ministry of Agriculture and Irrigation,. Lilongwe. Malawi

Appendix 1: A List of Staff Met and their Positions and Organisation in each ADD

Name of Staff	Position
Shire Valley ADD	
Dr, E. M. Nkhulungo	Divisional Veterinary Officer
Mr. L. E. Kapalamula	Project Veterinary Officer, Nsanje
Mr. D. Kaonga	Project Veterinary Officer, Chikwawa
Mr. M. S. Yokoniya	Project Veterinary Officer, Ngabu
Mrs. Chitawo	Chikwawa
Mr. S. T. D. Panyatwa	Animal Husbandry Officer, Ngabu
Mr. M. A. K. Phiri	Chikwawa
Mr. Amos Mphamba	CADECOM, Chikwawa
Mr. Kuchelekana	Agricultural Facilitator, World Vision
Mr. Phiri	Staff Member, World Vision
Mr. Ng'onga	Staff Member, World Vision
Blantyre ADD	
Dr. M. C. Ng'oma	Animal Health Officer, BLADD
Mrs. P. C. Mayuni	Livestock Development Officer, Small Ruminants
F. G. Makondi	Livestock Development Officer, Beef
Mr. C. M. Likatho	Livestock Development Officer, Monogastric Officer
Mr. Jones Kambuku	Livestock Disease Control Officer
Mrs. Blessings Kachale	Area Development Manager , Mikolongwe Area Development Programme
Andrew Mzembe	Agricultural Coordinator, Malawi Smallholder Food Security Programme, WVI, Chiradzulu.
Mr Katholowamo	Facilitator
Mr Kawina	Facilitator
Machinga ADD	
Mr. Nyoni	Divisional Veterinary Officer
Mr. Vilili	Animal Husbandry Officer
Dr Bakili	Project Veterinary Officer, Zomba
Lilongwe ADD	
Dr James Chimera	Divisional Veterinary Officer
Mr. Michael Nkosi	Acting Chief Animal Health & Livestock Development Officer
Mr. Kantambe	
Salima ADD	
Mr P. A. N. Gondwe	
Mr. R.T.K. Litchowa	
Mr. G. A. M. Mwale	
Mr. G. Mtonda	
Mr. R. E. Lisausyo	
Mr L. D. Nkwala	
Mr. M. H. Kalingumbwa	
Karonga ADD	
Mr. W. C. K. Mtika	Chief Animal Health & Livestock Development Officer
Mr. D.P. Munthali	Livestock development Officer

J.P. Mwasinga	Senior Animal Health & Livestock Development Officer
Mr. L.S. Nyondo	District Animal Health & Livestock Development Officer
Mr Mkali	Project Officer, World Vision Malawi, Wovwe
Mzuzu ADD	
Mr L. E. Mhango	Livestock Development Officer
Ms Chipo Chinula	Livestock Development Officer (dairy)
Mr. P.M. Saini	Senior Animal Health & Livestock Development Officer
Mr A.J. Nkhata	Senior Animal Health Officer
Mr. C. N. J. Mkandawire	AI coordinator
Mr. Jeff Msosa	Project Officer, Land O' Lakes
Mr Moffat Kumwenda	Project manager, World Wide Sires
Mr S.T. Chirwa	Financial Controller, Mzuzu Dairy Farmers Association
Mr. D. Makoka	Assistant Manager, World Vision Malawi, Mzuzu
Kasungu ADD	
Mr. S. Chapa	Livestock Development Officer
Mr R.M. Phiri	Animal Health Officer
Mr E.R. Namusi	Senior Poultry Extension Officer

Appendix 2. A List of Farmers Met in each ADD

Name of Farmer	Position
Shire Valley	
Mr. Nyakuipa	Phokera farmer
Mr. D. Mavungile	Nsanje Livestock Association, Bangula
Mr. J. Khambi	Malemia
Mr. Y. B. Zuwangeti	Nsanje Livestock Association, Bangula
Mr. A. Suzumilo	Nsanje Livestock Association, Bangula
Mr. T. Nyamizinga	Chikwawa Livestock Association
Mr. Gongono	Makande Farmer, Ngabu
Mrs. Fatch	Bangula Farmer
Mr. Tsabetha	Ngabu
Mr. Alufandika Mkumanzu	Chaonanjiwa Farmer
BLADD	
Mr. A. Maziya	Pig and Poultry Farmer , Ngumbe
Mrs. S. Chisanje	Dairy Farmer, Chileka
Mrs. M. Naphiyo	Poultry Farmer, Mpemba
Mr. J. Kalinde	
Mr. Selemu	Blantyre City Milk Bulking Group

Mr R. Msambuzi	Local chicken and goat farmer. Lunzu
Mr. W. A. Khungwa	Chairman, Bvumbwe Milk Bulking Group (BMBG)
Mr. A. E. Chibaya	Secretary, BMBG
Ms. Chisiwo,	Committee member, BMBG
Ms. J. Shaibu	Committee member, BMBG
Mr. P. Kachipondo	Committee member, BMBG
Mr. C. Winiko	Committee member, BMBG
Mr. M. Kamfosi	Vice secretary, BMBG
Mr. B. Msosa	Vice chairman, BMBG
Mrs. W. Chelewani	Committee member, BMBG
MADD	
Mr. G. Nanka	
Ms. M. Magombo	
Ms. I. Kaponda	

BREEDING

- SEED STOCK PRODUCTION
- MULTIPLICATION – STUD BREEDERS
  - PRIMARY, SECONDARY, TERTIARY, ETC
- PRODUCERS

MANAGEMENT

- FEEDS & FEEDING
  - Formulation & Quality Control
  - Local Feed Development
  - Pasture & Range
- HEALTH & DISEASE CONTROL
  - Prevention & Control

PROCESSING & MARKETING

- INPUT SUPPLIES
- PRIVATE SECTOR INVOLVEMENT

SUPPORT SERVICES

- EXTENSION
- TRAINING
- MARKET INFRASTRUCTURE
- TRANSPORT
- REGULATION

MONITORING & EVALUATION

- ALL SUBSECTORS
- MONTITORING & EVALUATION PROCEDURES
- RESEARCH & INVESTIGATIONS

ROLE PLAYERS

- GOVERNMENT
- PRIVATE SECTOR
  - FINANCE INSTITUTIONS
  - INVESTORS
- UNIVERSITY & OTHER INSTITUTIONS