

REPUBLIC OF KENYA



MAKUENI COUNTY



**NATIONAL AGRICULTURAL AND RURAL INCLUSIVE GROWTH PROJECT
MAKUENI COUNTY COORDINATION UNIT**

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REPORT ON PERFORMANCE OF CHICKEN ENTERPRISES

**NATIONAL AGRICULTURAL AND RURAL INCLUSIVE GROWTH PROJECT
(NARIGP)**

MAKUENI COUNTY

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RE: REPORT ON PERFORMANCE OF PRODUCTIVITY OF CHICKEN IN SUPPORTED CHICKEN COMMON INTEREST GROUPS

1. INTRODUCTION

NARIGP is a five-year project that started in 2017/18 and ends in 30 June 2022/23 FY. The Project Development Objective (PDO) is “*To increase agricultural productivity and profitability of targeted rural communities in selected Counties, and in the event of an Eligible Crisis or Emergency, to provide immediate and effective response*”. The project is implemented in 20 wards across the 6 Sub counties where 4 value chains namely chicken, mango, green grams and tomatoes are promoted. Under chicken value chain a total of 254 Chicken CIGs have been funded with the aim of improving chicken productivity and subsequently incomes of farmers. An assessment was carried out to ascertain the productivity of chicken for these CIGs

1.1 Objective of the assessment

- 1. Identify data needs in Chicken value chain**
- 2. Capture and organize the data collected by enumerators**
- 3. Analyze the various productivity indicators for chicken value chain**
- 4. Document the chicken productivity trends**
- 5. Make conclusions and recommendations for possible interventions by the department**

2. METHODOLOGY OF ASSESSMENT

Data gaps were identified by using secondary data and information from county development documents including the County Statistical Abstract (CSA), County Integrated Development Plan (CIDP) and the NARIGP Project Appraisal Document (PAD). Data was collected at group and individual farmer level to assess the productivity of chicken in supported Common Interest Groups / Vulnerable and Marginalized Groups (CIG/VMGs). Enumerators were provided with data collection tools (attached) outlining the specific indicators for data collection.

The data was collected and analyzed by County Technical Department (CDT) specialists using excel sheets to generate data trends, graphs and charts.

1.3 Assessment Team

1. John Munene – Chicken Value Chain/ Livestock Directorate
2. James Ogago – Chicken Value Chain
3. Eunice Muema – FAO
4. Stephen Kiseve – M&E/ NARIGP
5. Pennina Mwangangi – M&E/ ASDSP

3. FINDINGS OF THE ASSESSMENT

3.1 Data gaps and needs in the Chicken Value chain

The Makueni County Integrated Development Plan (2018-2022) strategy for poultry development targeted an increase in the number of indigenous poultry reared by 120,000. This indicated that there was a gap in terms of number of chicken produced in the County. The NARIGP Project Appraisal Document (PAD) confirms that inadequate use of Technologies, Innovations and Management Practices (TIMPS) by farmers contributed to low productivity in the chicken value chain. There is therefore need for promotion of Hybrid chicken breeds, improved feeding, intensification of production. In 2018, the community facilitated by the ward technical teams undertook Participatory Integrated Community Development (PICD) PICD processes on the indigenous chicken value chain in the 20 target wards. Thereafter, 6 sub county technical teams conducted an in-depth value chain analysis and aggregated the data which revealed that the Indigenous Chicken is the most important livestock economic enterprise in the 20 NARIGP wards involving 88,361 farmers. The findings further revealed that each farmer keeps a flock of about 25 chicken against a potential of 60. The birds fetch about Ksh 350 per kg dressed weight whereas the market can offer Ksh 600 for the same. Under traditional production systems, from a flock of 25 unimproved chicken a farmer can have an income of Ksh 8,313 whereas with improvements on husbandry practices, marketing and value addition initiatives, a flock of 25 chicken can bring in an income of KSh 67,158 annually. An increase from 25 local birds to 60 improved chicken under improved husbandry practices can bring in an income of Ksh 301, 500 annually. However the farmers are not able to bridge the gap between the current production levels and the potential due to low production caused by poor breeds and breeding, poor housing, high incidences to diseases and pests, high cost of inputs, poor access to markets and inadequate value addition initiatives. It was also observed that farmers were poor in record keeping and needed to be assisted with simple data collection tools at farm level.

3.2 Captured and organized data collected by enumerators

Data was collected by enumerators using a data form (attached) and organized as shown below;

CHICKEN PRODUCTIVITY DATA COLLECTED

Ward	Value Chain	Group name	Farmer name	a)No of productive hens	b)No of eggs produced	c)No of eggs sold	d)Ave price per egg (Kshs)	e)No of live mature birds sold	f)Ave price per mature live birds (Kshs)	g)No of chicks produced	h)No of chicks sold	i)Ave price per chick (Kshs)
Tulimani	Chicken	Kyanzovi Self Help Group	Alfred Mbilu	5.00	30.00	0.00	10.00	0.00	800.00	6.00	10.00	250.00
Tulimani	Chicken	Kyanzovi Self Help Group	Esther Ndunge	15.00	30.00	10.00	20.00	3.00	800.00	10.00	0.00	250.00
Tulimani	Chicken	Kyanzovi Self Help Group	Felix Mwanzia	10.00	20.00	5.00	10.00	4.00	600.00	10.00	0.00	200.00
Tulimani	Chicken	Kyanzovi Self Help Group	Fidelis Kala	18.00	60.00	46.00	10.00	6.00	750.00	13.00	3.00	250.00
Tulimani	Chicken	Kyanzovi Self Help Group	Joel Nduvali	19.00	40.00	0.00		10.00	1,000.00	10.00	4.00	200.00
Tulimani	Chicken	Kyanzovi Self Help Group	Musyoka Nduvali	30.00	60.00	20.00	20.00	13.00	800.00	20.00	0.00	250.00
Tulimani	Chicken	Lika nima kwamwona shg	Beatrice wambua	10.00	20.00	10.00	20.00	0.00		0.00	0.00	
Tulimani	Chicken	Lika nima kwamwona shg	Daniel mutin'ga	11.00	11.00	0.00	10.00	0.00	600.00	10.00	0.00	
Tulimani	Chicken	Lika nima kwamwona shg	Dorcus mutindi	4.00	4.00	0.00		2.00	700.00	8.00	0.00	
Tulimani	Chicken	Lika nima kwamwona shg	Elizabeth silla	5.00	5.00	0.00		0.00		7.00	0.00	

Tulimani	Chicken	Lika nima kwamwona shg	Faith munyeke	2.00	2.00	0.00		0.00		5.00	0.00	
Tulimani	Chicken	Lika nima kwamwona shg	Francisah mwangangi	4.00	4.00	0.00		0.00		15.00	0.00	
Tulimani	Chicken	Lika nima kwamwona shg	Susan muthama	6.00	0.00	0.00		3.00	800.00	4.00	0.00	
Tulimani	Chicken	Lika nima kwamwona shg	Theresiah koka	8.00	5.00	0.00		0.00		0.00	0.00	
Tulimani	Chicken	Mbukilye Ngukilye Kamua SHG	Damaris Kalewa Francis	4.00	91.00	0.00	10.00	7.00	600.00	43.00	0.00	250.00
Tulimani	Chicken	Mbukilye Ngukilye Kamua SHG	Esther Mbane muema	28.00	15.00	28.00	10.00	0.00	600.00	10.00	0.00	250.00
Tulimani	Chicken	Mbukilye Ngukilye Kamua SHG	Esther Mutiso Muli	10.00	50.00	10.00	10.00	2.00	600.00	15.00	0.00	250.00
Tulimani	Chicken	Mbukilye Ngukilye Kamua SHG	Eunice Mbithe Muli	8.00	35.00	20.00	10.00	0.00	600.00	0.00	0.00	250.00
Tulimani	Chicken	Mbukilye Ngukilye Kamua SHG	Eunice Mbula Kioko	9.00	40.00	0.00	20.00	30.00	600.00	0.00	0.00	250.00
Tulimani	Chicken	Mbukilye Ngukilye Kamua SHG	Florida Nthoki Muia	104.00	1,650.00	1,600.00	10.00	10.00	600.00	0.00	0.00	250.00
Tulimani	Chicken	Mbukilye Ngukilye Kamua SHG	Joseph Mutua Mwanza	6.00	6.00	6.00	10.00	2.00	600.00	6.00	0.00	250.00

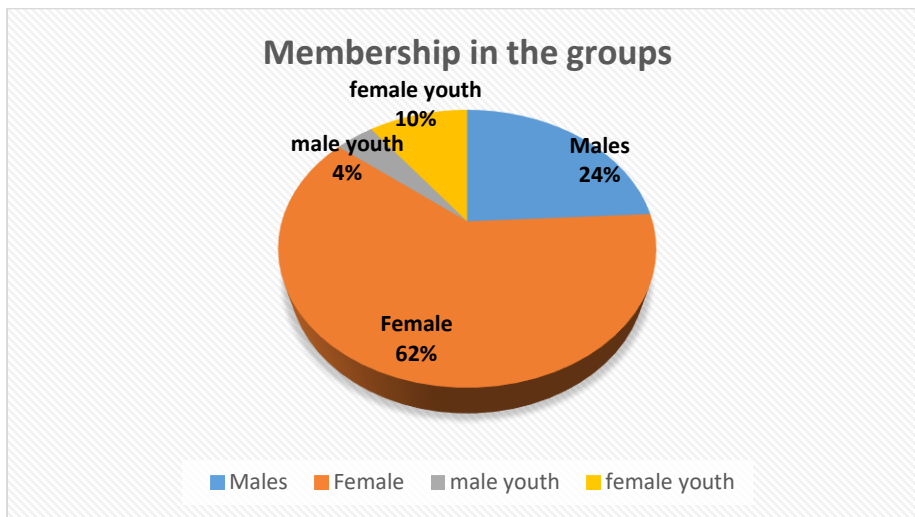
Tulimani	Chicken	Muselele women group	Margaret n kyalo	13.00	30.00	20.00	10.00	3.00	500.00	8.00	0.00	200.00
Tulimani	Chicken	Muselele women group	Dancun kioko	35.00	60.00					28.00	0.00	
Tulimani	Chicken	Muselele women group	Esther katungwa kaisya	67.00	100.00	84.00	10.00	97.00	500.00	7.00	0.00	200.00
Tulimani	Chicken	Muselele women group	Gladys mwongeli mule	12.00	30.00	20.00	10.00	0.00	500.00	12.00	0.00	250.00
Tulimani	Chicken	Muselele women group	Joram m ndothya	17.00	20.00	0.00	10.00	0.00		0.00	0.00	200.00
Tulimani	Chicken	Muselele women group	Josephine m musyoka	15.00	30.00	10.00	10.00	0.00	600.00	12.00	0.00	250.00
Tulimani	Chicken	Muselele women group	Mirram mutiso	0.00	0.00	0.00		0.00	600.00	0.00	0.00	250.00
Tulimani	Chicken	Muselele women group	Pauline m mbalya	23.00	45.00		10.00	7.00		0.00	0.00	200.00
Tulimani	Chicken	Tulimani poultry keeping SHG	Gabriel makumbi	5.00	5.00	0.00				10.00	0.00	
Tulimani	Chicken	Tulimani poultry keeping SHG	Ann wambua	3.00	0.00	0.00		20.00	500.00	0.00	0.00	
Tulimani	Chicken	Tulimani poultry keeping SHG	Anthony maua	6.00	6.00	0.00		25.00	500.00	50.00	15.00	200.00
Tulimani	Chicken	Tulimani poultry keeping SHG	Charles kalii	1.00	1.00	0.00		0.00		18.00	0.00	
Tulimani	Chicken	Tulimani poultry keeping SHG	Joseph makau	3.00	1.00	0.00		8.00	500.00	16.00	16.00	250.00

Kiteta Kisau	Chicken	ACHIEVERS S.H.G	SABETH NDUKU NZIOKA	1.00	10.00	0.00		3.00	500.00	4.00	0.00	
Kiteta Kisau	Chicken	ACHIEVERS S.H.G	SAMSON MUTUA MULI	6.00	20.00	0.00		1.00	500.00	4.00	0.00	
Kiteta Kisau	Chicken	ACHIEVERS S.H.G	THECLA NDANU MUJA	1.00	10.00	0.00		8.00	500.00	12.00	0.00	
Kiteta Kisau	Chicken	ACHIEVERS S.H.G	TITUS MULI NDOLO	3.00	14.00	0.00		0.00		3.00	0.00	
Kiteta Kisau	Chicken	ACHIEVERS S.H.G	VERONICA MBULA MANYI	3.00	30.00	0.00		7.00	500.00	12.00	0.00	
Kiteta Kisau	Chicken	Kimwe caterers shg	Emily kunuka	100.00	68.00	55.00	15.00	22.00	550.00	46.00	0.00	
Kiteta Kisau	Chicken	NEEMA SELF HELP GROUP	BENJAMIN MUIINDE MUTIE	20.00	200.00	150.00	10.00	75.00	600.00	40.00	0.00	
Kiteta Kisau	Chicken	NEEMA SELF HELP GROUP	ESTHER MULEWA MBITHI	16.00	21.00	0.00		0.00		5.00	0.00	
Kiteta Kisau	Chicken	NEEMA SELF HELP GROUP	FRANCISCAH MUTHIKWA NTHIWA	12.00	60.00	30.00	10.00	62.00	600.00	130.00	50.00	200.00

3.3 Chicken productivity patterns, trends and attributes of the processed data and information

3.3.1 Group Membership

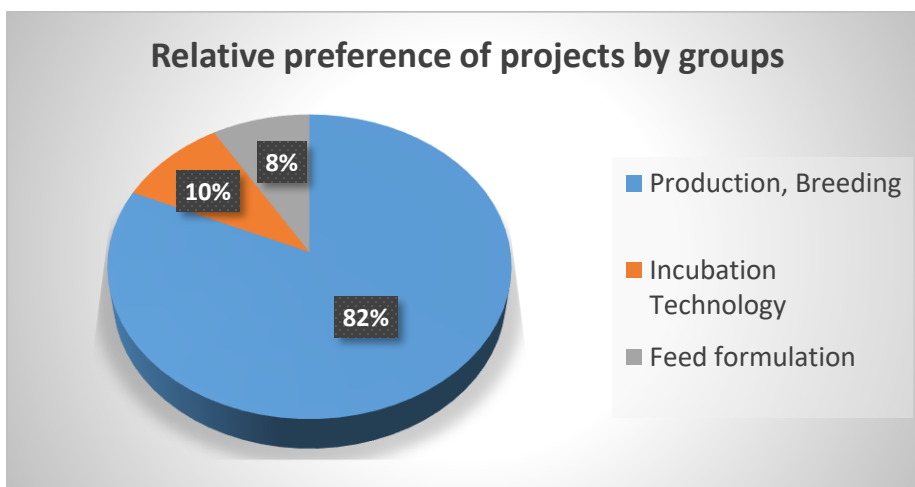
The target chicken CIGs groups are drawn from 10 wards. There are 88 groups with a total membership of 2,993 of whom 722 are men, 1,845 female, 119 male youth and 807 female youth as illustrated below:



Chicken projects contribute significantly in empowerment of women. A 62% inclusion of females is a good indicator of effective targeting. Nonetheless male and female youth involvement ought to be improved. Data for special interest groups should be captured in future.

3.3.2 Choice of projects by the CIGs

The proposals made by CIGs coalesced around three key interventions namely feed formulation, artificial egg incubation and production (rearing, breed improvement)



For sustainability most farmers must engaged at the production level whereas a few groups provide rearing chicks and feeds. The opportunity offered by the chick and feed making CIGs should be enhanced by linking them with the rearing groups.

3.3.3 Chicken Housing

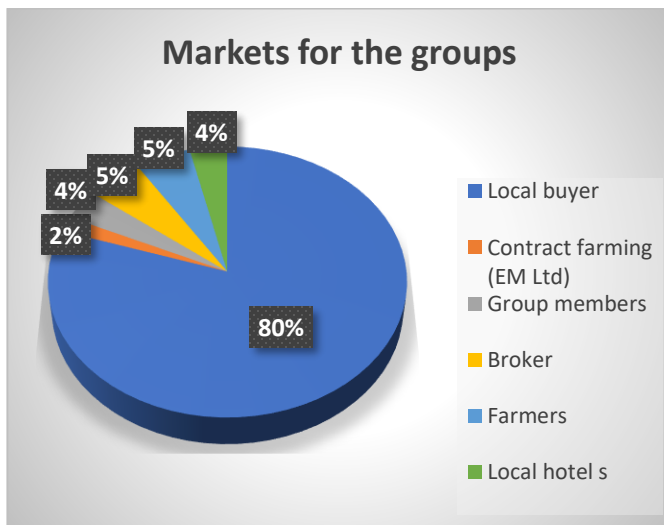
The data indicates that out of the 82 groups with chicken houses, 80 (98%) are rated as good while only 2 are in a poor state. This is an excellent achievement as good poultry houses form a key basis for efficient implementation of critical chicken management practices. Well-designed model chicken houses spread out in 80 sites in the 10 wards will enhance adoption of appropriate housing technologies. To enable more farmers adopt suitable housing structures, various designs utilizing the wide choice of locally available materials should be promoted.

3.3.4 Production and sale of eggs

Only 4 groups sold any eggs. Three of the groups sold at Ksh 10-13 a piece whereas one group that reared chicken for 2 cycles recorded a price of Ksh 6 apiece. The reason for this low selling price ought to be investigated further. Data can also be collected to gauge household consumption patterns especially in households with children under 5. Groups should be supported to produce eggs where possible to supplement their income.

3.3.5 Trade in chicken

The main reason the market oriented and production groups engage in the chicken value chain is to generate income through sale of chicken. Strong markets that offer good prices and absorb all chicken provided for sale promote sustainable growth of the value chains. The key market players are local buyers or brokers, local hotels, farmers and one company that offered contract farming services. The prices offered varied widely from Ksh 538 to ksh 670 per bird as illustrated below:



Local buyers: This category could also include brokers and are a backbone of the marketing system. The local buyer usually sells to another traders who transports chicken

to sellers in Nairobi and other markets. They move 80% of the chicken but offer the lowest prices at about Ksh 460 per bird. The kienyeji chicken market lacks proper organization and predictability. It is difficult to make efficient production plans based on their demand. Nonetheless while the kienyeji market undergoes streamlining, farmers should work out the profit margins they realize from these buyers and determine flock sizes that can bring in good profits. Ways of bypassing or reducing the number of middlemen (brokers) can be explored. The data available mentions the Nairobi market alone but it is important to identify the destination markets for other traders.

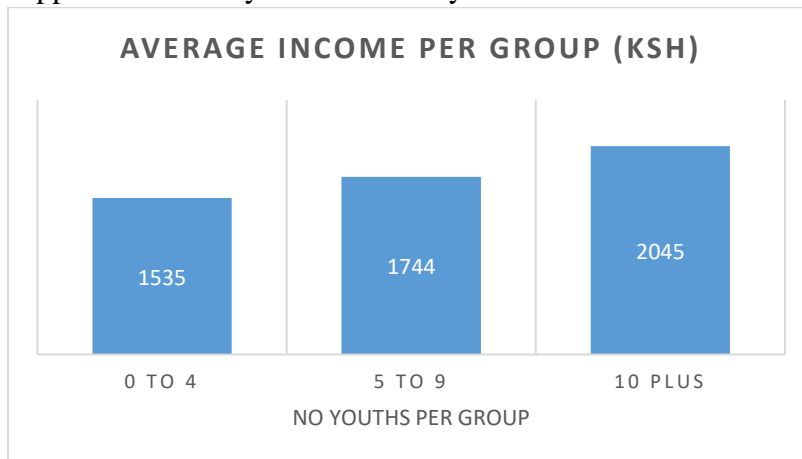
Farmers offer the highest prices but they take in only 5% of the birds presumably as breeding stock. The few farmers/CIGs that rear the breeding stock need deliberate support to ensure they supply quality breeding stock.

3.3.6 Contract Farming.

This was achieved through engagement with Eastmeats Ltd. The results were mixed. The prices were slightly more competitive compared to most brokers but they were able to contract only 2% of the CIGs. Contract farming however needs to be promoted more since forecasts (Source)** indicate a rising demand for kienyeji chicken and the kind of markets Eastmeat Ltd and other contract firms access will be critical. .

a. Demographics and group productivity

It is expected that inclusion of youths in groups will result in greater achievement of group objectives. One measure of this would be to assess the financial performance of groups against the proportion of youths in groups. An analysis of the available data clearly supports this theory. The data analysis is as illustrated below:



For groups with 10 youths and above, the earnings per member averaged Ksh 2,045 whereas those with 0-4 youths earned ksh 1,535 per member.

A further analysis within the groups with 0-4 youths shows that groups (25) with zero youth membership earned about Ksh 1,630 per member whereas those groups (17) with 1-4

youths averaged Ksh 1,045. This calls for further research. It could point out dynamics to the extent to which youths participate in the group activities.

b. Comparative earnings by project type

Groups exist to support members to access various services. For example a feed formulation group benefit a member directly by availing high quality feeds at an affordable price. This can be difficult to quantify. The member can also benefit from dividends accruing from group operations; which can be estimated from total sales made. An incubator CIG can also benefit by accessing chicks or through income from operations of the machine. A chicken production/rearing group benefits by knowledge that enables them improve management of their individual flocks back at home in addition to a share of the returns from the chicken jointly kept by the group.

The analysis below highlights which of the three projects gives the highest return to members at the level of the joint CIG business.

4. INSIGHTS FROM THE DATA AND KNOWLEDGE INTELLIGENCE IN ADDRESSING CRITICAL PROBLEMS TO INFORM POLICY AND RESOURCE ALLOCATION.

4.1 Increase in Productivity Per Value Chain

- 210 Chicken houses were constructed for demonstrations
- A total of 65,976 breeding birds aged 1 day to 3 months were provided to groups.
- 4,482 farmers have raised 268,944 chicken valued at KSh 161,366,400
- Over 60% of the groups have recorded 2-4 cycles of production.
- Average number of birds/farmer has increased from 25 to 60 as a result of TIMPs adoption
- 46 incubators were provided
- Chicken productivity (No eggs produced/hen/month) increased from 11 to 15
- Average prices of birds increased from KSh 450 per chicken to KSh 600-750 per Chicken
- Income realised from sale of chicken is KSh 102,777,904 out of the target of KSh 172,800,000.00 as a result of linkage to markets.
- Sales were through traders, East Meat Co Ltd, brokers, other farmers and Makueni Indigenous Poultry Farmers' Cooperative (MIFPC).

4.2 Promotion and Adoption of Technology, Innovation and Management Practices (TIMPS)

Various Technology, Innovation and Management Practices (TIMPS) were promoted in each value chain and it was observed that farmers gave priority to particular TIMPS depending on their applicability and impact to productivity at farm level. The leading TIMPS per value chain as shown below.

Chicken TIMP	Priority
Disease Control Practices	1
Improved Housing systems	2
Feed formulation	3
Improved breeds	4
Aggregation marketing	5
Waste Management	6
ICT use	7
Hot Water Bottles	9
Improved Storage practices	10
Refrigeration	11
Serial Hatching	12
Fireless Cookers	13
Hay Boxes	14
Synchronized Hatching	15
Infrared Bulbs	16

Adoption of TIMPs

Provision of financial and extension support to the groups resulted in increases awareness and adoption of recommended Technology Innovation and Management practices (TIMPs) across the value chains. Of the targeted 24,433 beneficiaries, 20,724 (85%) adopted at least one Technology Innovation and Management practices (TIMP). Adoption of TIMPs varied across the value chains from one farmer to the other. Generally, adoption of TIMPS depended on the farmers active participation during trainings and actual implementation at farm level, ease of access to the TIMP including its affordability. Adoption of TIMPs was also affected by prevailing weather conditions.

The leading TIMPS adopted under the chicken value chain were Pest and disease control, improved housing systems and feed formulation in order of priority.

5 ANNEX : Data collection form

The Beneficiary Record Sheet (FORM F) -poultry

VALUE CHAIN/CIG INDIVIDUAL MEMBER’S PROGRESS RECORD SHEET:

SUBCOUNTY **Zone (Code & Name)**

VALUE CHAIN/ENTERPRISE.....

1. Name of the Farmer:	2. Age Group <input type="checkbox"/> (Age group category : (1=<18, 2=18-34, 3=35-51, 4=52-68, 5= >68)
M / F	4. Contact (mobile)
3. CWG Member No:	6. GPS coordinates
5. Name Zone/CWG	Ward

5. Annual Baseline performance BEFORE ‘NARIGP interventions:

6. Individual Vision on the Enterprise:

8. POULTRY Enterprise Progressive Quarterly Performance

Reporting quarter	Size of the enterprise (No. of Birds)	No of eggs	Quantity sold		Prices		Money Earned (Ksh)		Buyer	Remarks
			Birds	eggs	Birds	Eggs	Birds	Eggs		
Jan – March 2021										
April – June 2021										
July – Sept 2021										
Oct – Dec 2021										
Jan – March 2022										
April – June 2022										
July – Sept 2022										
Oct – Dec 2022										

Jan – March 2023										
April – June 2023										
Total										

Enterprise Earnings and SLM ACHIEVEMENTS Records

Enterprise Earnings and SLM ACHIEVEMENTS Records									
Name of Value Chain.....			Name of Enterprise.....				SLM.....		
Reporting Month/ Year	Earning from sale of products	Total Kshs	Terraces Constructed (m)	Cut off drain Dug (m)	Trash line Grass strip Laid (m)	No. forest Trees planted	No. fruit Trees planted	Composting (tons)	Others (Specify)
Jan – March 2021									
April – June 2021									
July – Sept 2021									
Oct – Dec 2021									
Jan – March 2022									
April – June 2022									
July – Sept 2022									
Oct – Dec 2022									
Jan – March 2023									
April – June 2023									
TOTALS									

Area under SLM.....

No. of training hours.....

Farmer: Name..... Phone.....

Signature.....