

Evaluation of Production Performance of The Broiler Chicken Industry in West District Zanzibar.

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Abstract: The objective of the study was to evaluate performance of the broiler chicken industry in West District Zanzibar. By using structured questionnaire as primary data source and secondary data was collected from the records and reports in the office of District livestock officer and local leaders of the village. A total of 48 respondents were included from 3 wards, where 16 respondents from each wards were involved. For every 16 farmers to be interviewed from each wards, 6 was the farmers who used to keep broiler but stopped and 10 was those currently farmers keeping broiler. Data was analyzed by Software Package for Statistical Science (SPSS).

The study showed that broiler production was done by male (70.8%). An increased in number of broiler exposed in the market over the year was noted and it is becoming more commercialized with improved management standards.

Most of the producers were small scale producers with an average number of birds exposed per year varied from 300 to 600 broilers. The findings reveal that number of small scale producers was dropping while the number of imported chicken was increasing, this due to stiff competition for market resulted from economic liberalization which favored imported chicken whose prices were incredibly low. The study discovered that most farmers were used commercial feed which were expensive to most farmers, so the government through extension services should provide knowledge of formulate the feeds to the farmers, so as to decrease the feeds cost.

Keywords: Broiler, market status, poultry industry

INTRODUCTION

Poultry industry in Tanzania is partitioned into customary and business generation system. Indigenous chickens are the main types found in the traditional system and comprises over 70% of the national flock, supplying the vast majority of the poultry meat and eggs consumed in provincial territories and about 20% in urban regions. The traditional production system is performed by pretty much every country family. Then again commercial poultry production is rehearsed in urban and peri-urban regions and profitability levels are moderately.

Majority of commercial poultry farms are found in Dar es Salaam, Coast, Arusha and Kilimanjaro regions. Tanzania has about 60 million poultry [1]. Production of day old Chicks are carried out in hatcheries most of which are located in Dar es Salaam and Coast regions. A total of 28.7 million Day Old Chicks were produced in 2006/07 compared to 26.8 million produced in FY 2005/2006 [1].

In Zanzibar, Poultry industry represents 98% of the complete poultry keeping and comprises primarily of chicken and a little extent of ducks, broiler production was concentrated in West, Central and North 'B' districts which accounts for 87 % of the total broilers population [2]. It is a significant source of income and protein for some families[3]. Development of Poultry industry is one of the neediness decrease procedures of the Progressive Administration of Zanzibar [4].

Elements obliging advancement of the poultry business are predominance of diseases such as Newcastle disease, lacking specialized technical support services, low hereditary capability of the nearby breed and feeble rancher organizations and feed [5].

The poultry business in Tanzania is not well developed. Although chicken production on a commercial scale began during the 1960s, it has had negligible effect financially and healthfully. The commercial sector has performed inadequately as a result of the costly and low quality business feeds, ailments, veterinary costs, inconsistent stock of day-old chicks, and constrained credit facilities. As a result, commercial chicken meat and eggs are costly and therefore utilization is low [6].

1.2 Problem statement and justification

Poultry industry is important for food security and poverty alleviation in developing countries [7]. Development of poultry industry is one of the poverty reduction strategies of the Revolutionary Government of Zanzibar [4]. However Poultry industry in Tanzania is divided into conventional and commercial production system.

According to National Sample Census of Agriculture 2007/2008, many households in Zanzibar were engaged in chicken keeping especially the indigenous of about 86.4 %, 12.1 % were layers and 1.5 % were broilers. The number of improved chicken in the smallholder sector is relatively small. The number of layers increased from 35,712 in 1992/1993 to 130,034 in 2007/2008 an increase of 264 %, while the number of broilers decreased from 41,904 to 16,459 a decrease of 60.7 %, so

most of broiler chicken imported from outside. This indicates that there are some factors appear to be affecting the broiler production in Zanzibar.

Also Research exertion to broilers production and its components which influencing broiler production has been in progress in Tanzania. A survey of past research works demonstrates that the examination to a great extent focused on the biological parts of broiler production, for example, supplementary feeding, diseases and breeding, also they based on local chicken [8]. Therefore this research will provide the information on these factors which affecting broiler industry and to make the broiler keepers in Zanzibar more awareness on how keep well broiler which result in improving broiler production.

1.3 Objective

1.3.1 General objective

To evaluate performance of the broiler chicken industry in West District Zanzibar.

1.3.2 Specific objective

To identify the constraints of broiler production facing in the study area To assess management practice broiler in the study area

To assess market of status of broiler chicken in the study areas

2.0 MATERIALS AND METHODS

2.1 Methodology

2.1.1 Description of study area

The study was carried out in three wards in West district in Zanzibar. This study was covered 3 broiler keepers ward namely; Fuoni, Kizimbani and Mbuzini. The district was located at Latitude: $-6^{\circ}10'0.01''$ and Longitude: $39^{\circ}15'0''$. The areas were selected since they had had more broiler keepers. According to National Sample Census of Agriculture 2007/2008, total of household keep chicken in Zanzibar are 80,069. Most of the layers and broilers were kept mainly in the West district. West districts had the highest concentration of broilers with contributions of 30.9 % and 57.2 % respectively.

2.1.2 Sampling

A random sampling method was employed to select the sample of farmers from study area, 48 farmer were randomly selected from 3 wards based on past experience of chicken keeping, possession of chicken and readiness to participate in the study, such that 16 farmers from each ward. For every 16 farmers to be interviewed from each wards, 6 was the farmers who used to keep broiler but stopped and 10 was those currently farmers keeping broiler.

2.1.3 Data collection

Primary data the study were employed structured questionnaire as instrument of collecting primary data. A kind of questionnaire has been chosen due to reasons that, it was relatively free from several type of errors, relatively easy to administer and contains only questions of interest to the research, thus no time and money to be spend on tangential questions Secondary data was collected from the records and reports in the office of District livestock officer and local leaders of the village. Other information was collected from internet, through journals and books to investigate various issues in relation to the research problem.

2.1.4 Data Analysis

The primary data collected from questionnaires was analyzed by using Software Package for Statistical Science (SPSS). The method was chosen because it was suitable to measure the relationship more easily. Following descriptive statistics were computed frequency and percentages.

3.0 RESULTS AND DISCUSSION

3.1 General Information of respondent

Information about respondent is shown in table 3.1

Table 3.1 General information of respondent

Response	Frequency	Percent (%)
Age		
20-30	6	12.5
30-40	17	35.4
40-50	13	27.1
50-60	12	25.0
Total	48	100.0

Sex		
male	34	70.8
female	14	29.2
Total	48	100.0
level of education		
informal	4	8.3
primary	15	31.2
secondary	26	54.2
higher	3	6.2
Total	48	100.0
Occupation		
civil servant	4	8.3
business man	11	22.9
farmer	33	68.8
Total	48	100.0
Experience in chicken keeping		
below 1 year	3	10.0
2-5 years	18	60.0
above 5 years	9	30.0
Total	30	100.0
main source of your capitals		
personal serving	19	63.3
salaries	1	3.3
selling other stock	1	3.3
association	9	30.0
Total	30	100.0
Flock size		
100-200	11	36.7
300-600	19	63.3

Table 3.1 show information of broiler keeper in West District Zanzibar, majorities of respondents were male (70.8%) and aged between 30 and 40 years (35.4%), with the majority of them being farmer (68.8%). It was observed that most of respondent had secondary education (54.2%) followed by primary education (31.2%), the main income activity of respondent was personal serving (63.3%). Also it was observed that most farmers had experienced of about 2 to 5 years (60%) and number of birds kept varied from 300 to 600 (63.3%).

3.2 Marketing aspects

Table 3.2 marketing

Response	Frequency	Percent (%)
Sell chicken to		
middle men	18	60.0
formal markets	3	10.0
neighbors/street vendors	5	16.7
hotels/restaurants	4	13.3
Total	30	100.0
Price per chicken		
4000-5000	1	3.3
5000-6000	28	93.3
6000-7000	1	3.3
Total	30	100.0
Marketing problem in broiler chicken		
Problem of customer, Perdue and	8	26.7

disease problem		
Perdue, higher feed price and problem of customer	17	56.7
Lack of capital, Perdue and higher feed price	2	6.7
Customer problem, lack of skills and disease problem	3	10.0
Total	30	100.0
Possible solution suggested		
Farmer should provide knowledge of entrepreneurship	11	36.7
Government should reduce importation of chicken	19	63.3
Total	30	100.0

The result in table 3.2 above shows that of most farmers sold their chicken to middlemen (60%). The price of chicken ranged between 5,000 to 6,000/= per chicken (93.3%), it was observe that most market problem of broiler chicken were Perdue, high feed price and customer problem (56.7%). The possible solutions that were suggested by farmer to overcome the problem was government should reduce high importation of chicken (63.3%).

3.3 Feeds and feeding

Table 3.3 feeds and feeding

Response	Frequency	Percent (%)
Type of feeds used		
commercial feeds	30	100.0
Price per bag		
30000-40000	4	13.3
40000-50000	26	86.7
Total	30	100.0
From which company		
falcon	26	86.7
bmK animal feed	1	3.3
bin shuwair chick mix	3	10.0
Total	30	100.0
View to reduce feed cost		
government should invest animal feed industry	15	50.0
farmer should provide technique to formulate feed	12	40.0
-	3	10.0
Total	30	100.0

Table 3.3 provides information of feeds and feeding of broiler chicken. It was observe that most poultry farmers use commercial formulated feeds (100%). The price of commercial feeds ranged between 40,000 to 50,000/= per bag (86.7%) and most farmer showed preferences on Falcon feed company (86.7%). The result shows over 50% said that government should invest in animal feeds process industries.

3.4 Housing of Chicken

Table 3.4 Housing of Chicken

Response	Frequency	Percent (%)
Type of housing system		
litter system	30	100.0
Space per bird		
2metre for 50 birds	5	16.7
4metre for 100 birds	13	43.3
6metre for 200 birds	9	30.0
8metre for 300-400 birds	3	10.0
Total	30	100.0
Hours of light per day		
24hr for young and 12hr for adult	23	76.7
24-23hr for young and 12-8hr		
Total	7	23.3
	30	100.0
Source of light		
electric bulb	20	66.7
candle	9	30.0
candle and charcoal	1	3.3
Total	30	100.0
Roof type		
corrugated iron sheet	16	53.3
thatch grass	14	46.7
Total	30	100.0

Table 3.4 provides information of house and housing of broiler chicken. It was observe that most poultry farmers used litter system as a type of housing system (100%). The space required per birds that observed in study area was 6metre for 200 birds (30%), and most farmers used electric bulb as a source of light (66.7%) the routine was 24hr for young and 12hr for adult chicken. On the other hand farmers in the study area used corrugated iron sheet as a roof type in the housing of chicken than thatch grass.

3.5 Disease and disease control

Table 3.5 Disease and disease control

Response	Frequency	Percent (%)
Name of diseases affect most chicken		
Influenza and Coccidiosis	16	53.3
Influenza and Newcastle	4	13.3
Coccidiosis and Newcastle	8	26.7
Coccidiosis	2	6.7
Total	30	100.0
Who treat these birds		
Private veterinarian	10	33.3
Farmer	20	66.7
Total	30	100.0

The result in table 3.5 above show that most of diseases that affect chicken in the study area were Avian influenza and Coccidiosis (53.3%), and the farmers were the one who treated the chicken (66.7%).

3.6 The information for those farmers who stopped to keep broiler

Table 3.6 for those farmers who stopped to keep broiler

Response	Frequency	Percent (%)
When did you stop the business		
below 1 year		
1-2 years	6	33.3
3-4 years	8	44.4
above 4 years	1	5.6
Total	3	16.7
	18	100.0
Reasons for stopped to keep broiler		
Problem of customer, Perdue and disease problem	4	22.2
Perdue, higher feed price and problem of customer	7	38.9
Lack of capital, Perdue and higher feed price	2	11.1
Bad price of chicken, Perdue and higher feed price	5	27.8
Total	18	100.0
What other business are you doing now		
keep layers	12	66.7
other business	4	22.2
keep layers and other business	2	11.1
Total	18	100.0
Do you expect to engaged again in broiler keeping		
yes	7	38.9
no	11	61.1
Total	18	100

The result in table 3.6 above show that most of farmers stopped the business for about 1 to 2 years ago (44.4%), and the reason for stopping majorities of farmers said that because of Perdue, higher feed price and lack of permanent customers (38.9%). And most of them engaged in keeping layers (66.7%), also 61.1% farmer were not expected to engaged again in broiler keeping

3.7 DISCUSSION

3.7.1 General Information of respondent

Poultry industry is mainly in hand of male (Table 3.1), this implies that power to make decision was found to be vested in hands of men. Within households, resources allocation such as income, labour supervision, agricultural tools and implements ownership was found to be gender biased, with women often having less control over those benefits. Gender-based inequalities in control over resources influenced the ability of women farmers to access extension services of broiler productivity.

It can be said that aged and mature people are compelled to keep broiler as a source of income since they have more responsibilities like upbringing of their children. Furthermore mature people have a better chance of getting capital for

starting a poultry business either from savings or pension. This table also showed that all farmers surveyed had practice the business for more than one year which support the finding from [9] that poultry broiler can contribute certain percent in household income. The number of birds kept varied between 300-600 for most of respondent in the sampled population (Table 3.1). The main reasons of this could be availability of capital and markets, market for poultry and poultry product haven't well organized, the market available is mainly locally through hotels, supermarkets and wedding ceremonies

3.7.2 Marketing aspects

Majorities of farmer sold their chicken to middlemen (Table 3.2), middlemen are a specialized group of traders with established contacts and often employ others as they go to the keeping areas to look for chickens direct to big market, the same farmer would still pay for transaction costs which the middlemen pay for [10]. According [11] setting the market price at a level which consumer will be prepared to pay and which will maximize income. Also urbanization is a result of reduced price of agriculture commodities in rural areas [12].

The most market problem showed in study areas are lack of permanent customer, high feed price and Perdue. Most of farmer weren't s sell their chicken for the right time, chicken should be sold after 35 days but it now stays up to 90 days awaiting buyers and this affects its value and quality. This due to uneven distribution and low purchasing power.

Low purchasing power results in low domestic demand for poultry products. The pattern of the consumption of poultry products is predisposed by income levels but more importantly by consumer tastes and preferences. Furthermost the poultry products are consumed in urban areas [13]. Perdue are imported chicken mainly from Brazil and United states, small scale poultry farming due to increasingly imports of these chicken causes thousands of farmers lose income and lay off workers while such poultry products bare the country to diseases, experts have said. Poultry farmers in urban territories are most influenced on the grounds that they rear exotic chicken and that places them in direct challenge with producers in North and South America. In Zanzibar, a few ranchers have quit for the day in the wake of monstrous, modest chicken imports. Zanzibar poultry ranchers state they can't contend with chicken imports, particularly from Brazil whose costs are amazingly low. However, the Zanzibar minister for Livestock and Fisheries said that deficient production of chicken has incited Zanzibar to depend intensely on chicken imported from abroad.

3.7.3 Feeds and feeding

Majorities of farmer used commercial feeds, commercial poultry feeds available were expensive to most farmers (Table 3.3). The main reasons are poor harvest and increase in demand which result to competition of feeds for human and livestock especially maize as main source of energy in human, rabbits and pigs. Similar findings reported by [14] and [8], further the increase in price of feeds result change on inclusion level of each ingredient. Farmers prefer feeds from Falcon feed company (Table 3.3) and this type of feed were highly available in most retail shops the reason farmers to prefer Falcon feed could be that, Falcon feed is highly available in most retail shops than other feed company includes BMK animal feed and Bin Shuwair chick mix. Ingredients used in diet formulation in different feed company might be the same but vary in inclusion level and quality.

3.7.4 Disease and disease control

Most of diseases which were found in the study areas were avian influenza and Coccidiosis, this due to many farmers in the study areas weren't used biosecurity method of control of disease, but they only used the vaccination regime and treatment. However according to [15], the most effective way to control poultry disease is vaccination, though this is the best method it can be difficult due to lack of storage facilities for vaccines. Some vaccines are also expensive such that some farmers fail to afford the right dose. Control by good management such as proper feeding of the birds, good housing and use of chicks from proper managed parent stock are of vital important.

3.7.5 The information for those farmers who stopped to keep broiler

Most of farmers stopped to keep broiler for about 1 to 2 years this because of increased of broiler imported from different country especially in Brazil for about 4 years ago, and many of their customers preferred imported (Perdue) chickens than home chicken, this because of cheapest of Perdue chickens. Additional these farmer stopped to keep broiler and they were engaged in keeping layers chicken. This because of state of layers being profitable for producing egg and meat, and also the market demand for egg is available in study areas mostly during religious and wedding ceremony for making different product. However there was importation of egg but the rate is low compare to that of broiler chicken.

Majorities of farmers stopped to keep broiler because of lack of permanent customer, high feed price and Perdue. Most of farmer weren't s sell their chicken at right time, chicken should be sold after 35 days but it now stays up to 90 days awaiting buyers and this affects its value and quality. This due to uneven distribution and low purchasing power. Low purchasing power results in low domestic demand for poultry products. The pattern of the consumption of poultry products is influenced by income levels but more importantly by consumer tastes and preferences. Most of the poultry products are consumed in urban areas [13]. Perdue are imported chicken particularly from Brazil and United states, small scale poultry farming due to increasingly imports of these chicken causes a great many farmers lose income and lay off laborers while

such poultry items open the nation to infections, specialists have said. Poultry farmers in urban areas are most affected due to the fact they rear exotic poultry and that places them in direct competition with producers in North and South America. In Zanzibar, numerous farmers have closed up shop in the wake of massive, low-priced chicken imports. Zanzibar poultry farmers say they can't compete with chicken imports, in particular from Brazil whose expenses are extraordinarily low. However, the Zanzibar minister for Livestock and Fisheries said that lacking production of chicken has provoked Zanzibar to depend intensely on chicken imported from abroad.

4.0 CONCLUSIONS AND RECOMMENDATIONS

4.1 Conclusions

Poultry industry is dominated by small scale producer keeping between 300-600 birds, the production performance of broiler in the areas was declined, this situation caused by many factors but there were major which include feeds and high imported chicken.

Commercial poultry feeds are available at high price with inadequate nutrients for optimum productivity of birds especially protein source. Broiler markets studied aren't well organized or regulated unlike the major livestock marketing (cattle, goats etc). Broiler marketing is steadily on the rise, it is becoming more commercialized and most of it is going to be in the hands of few large scale producers, since most of the small scale producers and traders are being wiped out due to stiff competition.

4.2 Recommendations

There should be organized market channel for broiler and poultry processing industries should be established so that farmers can not incur cost of feeding birds when attained disposal age. Government should allow investors (Perdue Company) to establish broiler processing industry which can collect the broilers from the small holder farmer for processing and preserving, and selling them inside and outside the country (Zanzibar). Training farmers through extension services on poultry management practices especially feeding and economics of supplementation (Shamba darasa). Farmer should be provided the knowledge of entrepreneurship through extension services. Government should enforce feed standard in commercial ration so that farmer doesn't suffer at expense of feed vendors.

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