International Scholars Journals

African Journal of Poultry Farming ISSN 2375-0863 Vol. 4 (1), pp. 103-112, January, 2016. Available online at www.internationalscholarsjournals.org © International Scholars Journals

Full Length Research Paper

Prospects and challenges of poultry farming in the Wa Municipality of the Upper West Region of Ghana

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Accepted 18 December, 2015

The poultry industry is known to be a major contributor to Ghana's economy through employment creation and the enhancement of nutrition and food security. In spite of these contributions, the poultry industry is faced with a number of problems that necessitate solution. The study was conducted in the Wa Municipality of the Upper West Region of Ghana, with the prospects and challenges of the local poultry industry as its main objective. Ten poultry farmers were engaged as research participants using both structured and semi-structured interviews. Interactions with the poultry farmers in the municipality revealed that, poultry and its products provide some acceptable form of protein to humans to combat mal-nutrition, create employment and also give income to these farmers. Marketing of eggs does not present any problem at all with cash flow to farmers during egg collection. There is also abundant labor and land for poultry farming. The study showed that apart from the poultry farms, farmers also engage in crop cultivation as well as livestock rearing like goats, sheep, pigs, cattle, domestic fowls and ducks. All the farmers provided a well-ventilated house for housing their poultry birds (intensive system). The main management practices carried out by the farmers are; the provision of feed, security, water, regular replacement of litters and vaccination against diseases. Problems encountered by the farmers include inadequate capital, expensive feed and equipment, incidence of diseases and poor weather conditions. Other constraints of the industry in the municipality include; expensive vaccine, expensive veterinary services, management of sick birds, low patronage of live birds due to few restaurants and hotels in the municipality. The study concludes that, government should implement more stringent measures so as to protect the local poultry industry from dying and also support poultry farmers through subsidies.

Key words: Poultry industry, prospects and challenges, Wa Municipality.

INTRODUCTION

Poultry and its products are of considerable significance to both humans and animals. They are the major source of food, income, employment as well as socio-cultural values (Naazie and Canacoo, 2007). During the past decade, poultry meat production recorded an increase of 43**%** on the average in developing regions, while in developed regions it was only 28.4 **%** (Daghir, 1995).The profitability of the poultry industry in the developed countries is linked to cheap and abundant feed ingredients. Thus commercial feeding programs that are designed to manipulate feed resources with the view of reducing feed cost would result in concomitant increase in profit, thereby making meat more affordable for low income consumers (Lilburn, 1988). Economic significance of poultry varies considerably from meat and eggs to income or foreign exchange (Jordan and Pattison, 1996). So much enthusiasm has been generated in the production and consumption of poultry meat and egg that has led to increase in demand for poultry meat and its products (Colecraft et al., 2007). It has a short generation interval

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compared to other livestock (Obi and Sonaiya, 1995). Income from poultry is spread throughout the year (Gillespie, 1983). Poultry manure is becoming more important with the increase in poultry production under the deep litter system (Sinnadurai, 1992). Even though residue from deep litter system contains only about 20**%** poultry manure; this nevertheless forms a useful soil additive particularly in heavy soil (William et al., 1991). Karbo and Bruce (2000) reported that poultry provides ready cash for investment. Poultry provides additional income to the general resources of the poor farmers especially women (Gueye, 2005). Meat and eggs from poultry serve as ready source of food for most households. Poultry meat and eggs provide a preferred form of animal protein for most people (Aboe et al., 2006). Poultry products which are cheaper and more acceptable source of animal protein have decreased the purchase of red meat which is more costly and beyond the purchasing power of the average citizens (Appiah, 1993). Thus poultry production can be one of the surest ways of addressing the problem of protein malnutrition which happens to be one of the most destructive disease affecting children (Aboe et al., 2006). Poultry does not only serve as food security item, but also provides ready cash for investment for all age groups (Karbo and Bruce, 2000). In most rural households, poultry is a quick and reliable source of income for meeting household needs. For example poultry serves as savings readily available to buy food stuffs for humans, to purchase feeds and even to pay taxes (Idi, 1994). A report by Assoku (2000) indicates that out of the estimated livestock population in Ghana in 1974-84, poultry has the highest number but the lowest annual growth of 3.8 percent. This situation was due to numerous problems affecting the expansion and profitability of the poultry industry. Increase in price of drugs in Ghana is due to removal of subsidies (Appiah, 1993) and lack of skilled manpower for middle management position (Daghir, 1995). In 2002, the share of local poultry in the total consumption of poultry in Ghana had reduced to just about 10 percent (SEND-Ghana, 2008). It is estimated that, today, the share of domestic poultry industry in the total amount of poultry consumed in Ghana is as low as 5 percent (SEND-Ghana, 2008). The source of the drastic decline in the local industry share on the market for poultry is traced to the trade liberalization policy which allows the unlimited importation of highly subsidized poultry products from Europe and elsewhere into the Ghanaian market (SEND-Ghana, 2008). Ghana imported 26,000 tons of chicken mostly from European Union in 2002. The figure almost doubled to 40,000 tones two years later in 2004. It is estimated that over 400,000 small-scale farmers have been forced to close their enterprises because they cannot compete with the heavily subsidized imports from Europe and elsewhere (SEND-Ghana, 2008). The Population and Housing Census estimated the number of birds in Ghana to be 14,000,000 (GSS 2010). An earlier census conducted seven years earlier in 1996 put the number of bird at 14,600,000. Clearly, the poultry industry is gradually but surely grinding to a halt if the trade liberalization policy is not reversed (SEND-Ghana, 2008). To them the decline in output in the poultry industry has had negative rippling effects on maize farmers, soy beans farmers and on the sectors that have linkages with the poultry sector. High temperatures coupled with high humidity which impose stress on the bird leading to reduced performance (Raece and Lott, 1982) and disease occurrence (Coccidiosis, Newcastle, Gumboro, Fowl fox etc.) which may be caused by poor sanitation (Turkson, 2003) have negative effects on the industry. The decline in Ghana's poultry industry is due to the imports of poultry products and downturn of the Ghanaian economy in the 1980's which affected the availability of feed ingredients and even worsen situation after the decade (Aning, 2006). The decline in commercial production in most regions of developing countries over the period 2001-2005 is as a result of frequent Gumboro disease outbreaks (Otsyina et al., 2005). On poultry meat and egg supply in Ghana, there has been an increase in imports from a peak of 12.26(1000 tones) and 0.10 (1000 tones) respectively to 48.0 (1000 tones) and 0.14 (1000 tones) from 2001 to 2004 (FAO, 2005). The price of day old chicks increased steeply in 2001 to 2005 from 75 to 122**%**. Similarly, the prices of all categories of poultry feed rose from 96.4 to 106.7**%**, the increases in feed cost generally reflected in the market price of maize (Adei and Asante, 2012). Ghana now accounts for as much as 30 percent of all poultry products imported into the West African Sub-region from European Union (EU) (Awuni, 2002). One other major constraint of poultry production in the tropical areas is the unavailability of adequate supply of grains (example maize) and protein sources (example fish meal) necessary for the formation of feed (Daghir, 1995). Feed alone accounts for 60-65**%** of poultry production cost (Koney, 1993), while Akinwuni et al. (1979) reported feed cost to be about 80 percent as variable cost in broiler production. The current rate of bank interest on loan is still too high for the small –scale producer though the micro-economic indicators are promising (Karbo and Avomyo, 2006). The dumping of cheap poultry products on the market from trade liberalization is a source of worry to local producers as well as health concerns on the consumer population (Karbo and Avomyo, 2006).

Study area

Wa Municipality is located at the southern part of the Upper West **R**egion of Ghana. It is bordered to the north by Nadowli District and to the East by Wa West, to the West by Wa East district and to the south by Wa East and West districts. It is located between latitude 1°40N to 2°45S and longitude 9°32W to 10°20W. It covers a total land area of approximately 234.74m² (Wa Municipal

Assembly, 2010).

The municipality is positioned in the savannah height between 160 and 300m above sea level. The municipality is drained by two main seasonal streams: the single 'Bakpong' and its tributaries to the south and the 'Billi' and its tributaries to the north; since the streams are seasonal, water is always scarce in dry season. This hinders agricultural development, industrial activities and calls for the provision of dams and dugouts. The municipality lies in the guinea savannah grassland. The common trees are: Shea trees, Dawadawa, Kapok, Nim tree, Baobab, Cashew and Mango. The vegetation is however hampered by human activities such as: charcoal burning, constructions, farming practices etc. The municipality also has two marked seasons: the wet and the dry season. The wet season occurs between May and September, recording mean- annual rainfall between 80 to 140mm. the pattern generally encourages run-off rather than soil moisture retention thereby causing drought which affects crops growth and yield. Wa-Municipality has a total population of 145, 065 according to the 2010 Population and Housing Census (GSS 2010). About 95% of the people in the study area belong to mainly one lineage, the Mole- Dagbani. The different ethnic groups in the study area include the Wala, Sissala, Dagaaba, and some other minor groups, from southern parts of Ghana. Economic activities of the Municipality are dominated by agriculture (70 to 80 percent of the population) followed by petty trading and industry. Other key sectors include: transport, tourism, and non-formal sector activities. About 43% of the total population are into cereal and crop farming, producing crops such as cereals, grains, yams, groundnut, and beans etc as staples crops. Soybeans, groundnuts and Barbara beans are produced as cash crops. The major animals reared in the Municipality include cattle, goats, sheep, fowls, ducks, turkeys and pigs (in non-Muslim suburbs). And about 37% of the population are livestock farmers. The farmers also use mainly traditional methods, like the use of hoe and cutlass with low animal traction. Farm sizes are generally small due to inadequate access to land, credit and uncertainty of already market distortions. The animals are also left on free range with attendant losses due to thieves and diseases. Farming activities are worse off in the Municipality due the poor linkage between the agriculture and the industrial sectors.

DATA COLLECTION AND ANALYSIS

Data were gathered through primary and secondary sources of data collection. Primary data employed a completion of questionnaires (structured and semi-structured interviews). Simple random sampling was also used as a sampling method for egg sellers and consumers. Purposive sampling techniques were as well employed in the selection of poultry farmers and key informants from the Ministry of Food and Agriculture and in the local poultry industry. A total of 10 farms were visited in the study area and 50 questionnaires were administered for both egg and meat sellers and consumers. The questionnaires helped to know the range of prospects, the problems/challenges, the type of birds, suggested solutions and the extent to which these products help to develop the people from a collective perspective of consumers, farmers and experts. Secondary data were also gathered from existing facts and figures, the Ministry of Food and Agriculture, Regional Office about the prospects and challenges that the local poultry industry experiences. They were used to validate data collected from the farmers and other research participants to triangulate the primary data. The research made use of focus group discussions held with poultry farmers, sellers and consumers in small groups ranging between 6-12 people with the interest of obtaining the information needed for this research work. Key informant interviews were also employed to gather data from people who were knowledgeable on specific issues such as rearing and selling poultry birds and its products. Among some of the key informants were the President and the Secretary of the Local Poultry Farmers Association in the Wa Municipality, Agriculture and Veterinary Officers and some officials from the Ministry of Food and Agriculture. Data collected from the focus groups were triangulated with the data from the key informants. Researcher's observation was done to validate information from the respondents. Participant and non-participant observations were employed in the study to collect data on the prospects and challenges of the local poultry industry. Questionnaires were also designed and administered to collect data from the respondents on their sector. Both open-ended and closed-ended questionnaires were administered to the research participants. Descriptive statistics was also employed in the analysis and presentation of the data gathered.

Table 1. Some other job engagements.

Others	No of respondents	%
Poultry only	2	20
Agriculture (crop production)	3	30
Professional employment	5	50

RESULTS AND DISCUSSION

Alternative economic activities of poultry farmers

From Table 1, it was noted that most of the respondents were engaged in other economic activities aside poultry production. It was revealed that 20 percent were solely engaged in poultry production, 30% in crop farming and 50 % in other economic activities. In line with Sinnadurai (1992) and Awuni (2002) organic manure is becoming more important with the increases in poultry production under the deep litter system; and poultry is known to be good producers of organic manure, which enhances crop production. This is in view of the fact that 30% of the farmers in the crop production interviewed admitted that, they experienced high crop yields due to the application of the organic manure from the poultry industry. Sometimes, other farmers come for the litter to spread on their farms to enrich the nutrients level and aid soil formation. The involvement of other farmers in other professions implies that they are likely to finance their farms in terms of feed, drugs and medications from the income they obtain. In addition, they also supplement their pay through

Table 2. Egg production and the range of eggs produced daily.

Range of eggs (No of crates)	Egg producers (%)
50	50
101-500	10

Table 3. Egg producers and the season they experience increased egg production.

Season	Egg production (%)
Rainy	80
Dry	10
Do not know	10

the income they obtained from the poultry.

Is also worth noting that, poultry farming is a major source of income and employment since all 100 percent poultry farmers agreed that poultry is more lucrative than the other economic activities they were involved in.

Employment issues

On employment, most of the poultry farmers interviewed were observed to said that they have hire labors laborers on their poultry farms while others together with their family spend part of their daily schedules on the farms without a hired labor. A Few other farmers interviewed said that they are having permanent laborers on their farms. To make up for the inadequate data on the permanent labor employed, we quote the interviewees extensively in this aspect. The following quotations are sample views of the management of some visited farms about the employment trend: A farmer had this to say during a focus group discussion:

"We are very busy during festive periods. At this time there is high demand for live birds. We therefore employ the services of more labor to meet the needs of our customers. Production levels therefore reduces after these festive periods and we turn to concentrate on layers for production of eggs as this ensures permanent cash flow to us, particularly during hamattan when the weather is cold. Many people take tea and so the demand for egg is high. This is why we rely more on hired labor. But for both the hired and permanent labor, they are hoping not to be poor because it is attractive. They get meat, eggs and money when engaged" (Believe Action Farm Manager).

"*The low and fall in unemployment is due to the fluctuations in the demand for meat and eggs. You will make loss if you pay them without demand" (Dangal Farm Manger)*.

The views expressed by the farm managers capture the trend on employment in the poultry industry in the study area. SEND-Ghana (2008) in their annual report commented that the commercial poultry farms employ and pay workers based on the demand for poultry products and their margin of profitsin northern Ghana. Most workers in the sector have lost their jobs due mainly to low production and demand.

Egg and meat producers

Demographic characteristics of egg and meat producers

The egg and meat producers as used in this survey, refers to farmers who rear conventional poultry birds used for commercial production of meat or eggs. The work piece also reveals that male constitute 100 percent of eggs and meat producers with females taking 70 percent of distributions of these products and consump-tion in the municipality. The research revealed that 100% of eggs and meat producers have at least secondary education while 84% of egg and meat sellers and con-sumers have at least basic primary education. From the survey, neither of the producers had only basic education nor was in the non-formal category. The observation therefore indicates that all the producers belong to a high literacy group. Responses from the research participants indicate high literate poultry producers compared to poultry sellers who are mostly illiterates

Daily egg production

The percentage proportion of eggs producers in the study area is shown in Table 2. It shows that 50 % of egg producers in the Municipality produce less than or up to 50 crates of eggs daily, 40% produces 51 to 100 crates daily, and 10 % produces 101 to 500 daily.

Effects of season of egg laying and glut

Table 3 shows egg producers and the season they experience increased egg production. 80 percent of the producers reported that their birds perform well during the rainy season. 10% indicated that their birds perform well during early dry season. While, 10% attributed performance to good poultry feeding. Majority of the egg producers therefore consider the rainy season as the most favorable period for egg laying. This is due to high feed intake, which invariably results in increased egg production. They again admitted that this period is their glut period as the highest egg yields is experienced. They attributed the glut to a slight fall in demand for eggs particularly the period June to August where herrings,

Table 4. Main problems/challenges mentioned and ranked by the farmers interviewed.

Ranking	Problems/Challenges						
	K	D	W	F	L	L2	W2
K	-	K	K	K	K	K	K
D	K	-	D	F	D	D	W2
W	K	W	-	F	W	W	W2
F	K	F	F	-	F	F	F
L	K	D	W	F	-	L	W2
L2	K	D	W	F	L	-	W2
W2	K	D	W	F	W2	W2	-

Positions Keys: K=12; K= Capital; D=6; D= Disease; W=6; F= Feeding; F=10; L=Land; L=2; L2= Labor; L2=0; W= Watering; W2=6; W2= Weather.

Table 5. Sources of capital for poultry production by farmers.

Sources of Finance	Number of Producers
Bank loan	-
Personal	80
Relatives	20

locally referred to as “Amane” becomes relatively cheaper than eggs on the market. Most people therefore purchase herrings instead of eggs leading to glut of egg in the study area. MOFA/DFID (2002) made a similar observation in their report that during the rainy season in Ghana, most consumers resort to the use of when it is in abundance leading to glut of eggs. Hence, the performance of the birds in egg laying during that period and consumers shift slightly from the purchase of eggs to fish, coupled with low temperature and high feed intake are the main cause of glut of eggs in the municipality.

Iyayi and Tawo (2002) observed in their studies that feeding of raw mucuna beans reduced feed intake with consequent effect on egg production and egg size in contrast to feeding birds with autoclaving or roasted mucuna that reduces the level of anti-nutritional factors, thereby resulting in better performance of birds. The observation is also in line with Raece and Lott (1982) who wrote that high temperature coupled with high humidity which imposes stress on the birds leads to a reduced performance.

Problems /challenges associated with the poultry Industry in Wa

Most of the farmers and egg sellers interviewed admitted that they are faced with problems or challenges in the poultry sector. Table 4 shows the 7 main problems/ challenges as mentioned and ranked by the farmers interviewed.

All of the poultry producers commented that capital and feeding were their major problems or challenges in the poultry industry. This is evident in the ranking in Table 4. From the above, it could be observed that diseases, weather conditions and availability of water were of an intermediate problem to the farmers. Whilst land and labor were considered the least of problems or challenges to them. It was largely observed that inadequate capital and feed tend to hinder the expansion and full capacity utilization for both meat and eggs production in study area.

Table 5 shows how the poultry farmers obtain money to finance their daily poultry activities ventures. 80% of the poultry producers finance their enterprise with their personal capital. 20% finance their ventures by obtaining family and friends support. None of the farmers admitted being financed by the banks or any sort of microfinance institution. This they attributed to inadequate collateral assets on their part and high interest rates between 30-45% charged by commercial banks and private microfinance institutions like SENAPIBA which they consider unfavorable. And also, the farmers bemoaned about the procedures involved in accessing loan, of which they considered very cumbersome. They were however ready to access loans from the banks only if the procedure and conditions of repayments are favorable, they commented. 10% of the farmers interviewed, however, indicated their unwillingness to take up a loan from the commercial banks due to the high interest rates. Indeed, most of the farmers focus participants commented over the cost of feeding and drugs as greater contributory factors hindering the sector’s poultry industry’s performance in the Region. The observation is in line with the saying that, the current rate of interest on bank loans which is high for small scale producers as observed by though, the microeconomic indicators are promising (Karbo and Avomyo, 2006).

Research participants agreed that government should set in to reduce the cost of vaccines to deal with diseases in the poultry sector. Lack of capital was also a major factor as farmers are unable to pay transportation cost of the day-old chicks from Kumasi and even to expand their farming activities production. These above observation findings agree with the sayings of Appiah (1993) that increase in prices of drugs poultry inputs in Ghana is due to removal of government subsidies. The high cost of poultry feed was partly attributed to the market prices of cost inadequate production of maize and soy beans which raises market prices. In contrast, Aning (2006) was of the view that the decline in Ghana’s poultry industry is due to the imports of poultry products and downturn of the Ghanaian economy which affected the availability of feed ingredient and even worsened the situation after the decade.

Diseases

With regards to diseases, Coccidiosis and Gumboro were

Table 6. Problems associated with feeding of birds.

Feeding problems	Egg producers (%)
Expensive feed	50
Inadequate feeding	30
Bad feed formulation	20

of major concern to the poultry farmers in the Municipality as commented by most of the key informants. Newcastle, Fowl Pox were also mentioned by a few farmers interviewed as a threat to their birds. Indeed, 100 % of the poultry producers attributed the high incidence of Coccidiosis to poor cultural practices. Participants also commented that genetic inheritance, longevity of cocks and poor hygienic conditions are also known to increase threat to their birds. Farmers participants commented that they seek veterinary services for their birds. This helps them to exercise considerable control over most of the diseases. It was reported that bird flu had not been recorded in the Municipality over the years though some consumers got scared of it; education of the consumers was adopted to do away with the fear of bird flu and bird related diseases

Feeding

The problem of feeding and the corresponding number of farmers who responded is shown in Table 6. From the table, virtually all the problems associated with feeding of birds were considered a major problem for them. Interestingly, 50% of the respondents considered birds feeding in Wa as very expensive, particularly with fish, soy beans and wheat. Inadequacy in supply to feed birds (30%) and bad feed formulation (20%). Due to the high cost of feed and the difficulty in measuring the right quantities for birds, 80% of producers buy their feeds from the south; only 20% reported that they prepare the feed themselves. Invariably, inadequate feeding definitely results in birds producing small-sized eggs and reduced quantity of eggs. The role of chicken feed in total cost and charges of the poultry industry in Ghana has been researched by Koney (1993) that, feed alone accounts for 60-65 % of poultry production cost indicating the potential for local industries to emerge in this sector.

Water

Access to water for birds was considered as an intermediary problem. This is due to the availability of water in the Municipality. It becomes a problem if the farm is located at the outskirt of the study area without immediate capital to construct a borehole for the supply of water. The cost of buying water from water tankers is costly; hence the use of auto mated drinker which makes the work of the laborers simpler.

Weather

Prevailing weather condition in the study area was also another issue observed by research participants to be a hindrance poultry production. Most often, particularly in the dry season, temperatures in the area range between 40°C-43°C that affect poultry productivity as birds cannot thrive well in those high temperatures.

Labor

Availability of labor and land were not considered much as a problem as commented by most of the key informants interviewed. Producers focus group regarded labor as a minor problem because they indicated that there are lots of people without jobs in the study area. Research participants were of the view that getting people to work in the poultry farm is not a heavy task although they do not have the needed technical know-how as far as handling of birds maybe concerned. However, these laborers turn to acquire the skills gradually as they stay on the job.

Land

Land holding was also considered by research participants and farmers focus group, as an issue in study area. This is because land for the poultry industry is restricted by the local authorities; therefore the intention of expanding and creating more farms becomes very difficult. Despite the poor weather conditions in the study area as part of northern Ghana, Poultry farmers interviewed had employed several measures such as planting or leaving already grown trees around the vicinity of poultry farms just to reduce adverse heat

Meat production and marketing

Researchers' observation revealed that out of 10 poultry farms visited, only one farm at that time had approximately 1000 broiler birds. Reason for the farmers' low interest in keeping broiler birds was attributed to low demand for the live birds which are sold at a lower price, according to key informants interviewed for GHc15.00 and that of the old layer for GHc 8.00. Farmers focus participants revealed that even though the consumers prefer live birds to others, the price is relatively high compared to the imported chicken parts to the. Participants also attributed to the low demand of live birds to the inadequate restaurants and other food vendors in the

Table 7. Estimated market margins.

Value chain actor	Scenario	Market margin (GHC)	Difference	Mean
Farmer (Producers)		Farm gate production cost		
	1	15-12	3	5.00
	2	15-10	5	
	3	15-8	7	
Retailer (Mobile)		Retailer price-farm gate		
	1	20-15	5	7.66
	2	20-12	8	
	3	20-10	10	
Processor(Khebab)		Retail price-farm gate		
	1	25-20	5	
	2	25-15	10	10.00
	3	25-10	15	

study area. As commented by most of the key informants interviewed, sales of live birds is at peak during special period in the calendar and other festive occasion. Hence production of broilers, according to participants, is timed to meet such occasions.

Most of the poultry consumers interviewed admitted that they prefer the live birds produced in the Municipality even though they are more expensive compared to the prices at other Munipalities such as Bolgatanga and Bawku in the Upper East Region of Ghana. A consumer had this to say:

"We do not prefer the imported poultry to the domestic ones, but the issue is not what we prefer but what we can afford". "I like to consume the imported poultry products because I am used to it and it is cheaper for me". "We buy it because of the lower prices, its attractiveness, well packaged and we are assured of regular supply".

The reason for low production of live birds by local producers has been reported by SEND-Ghana that the source of the drastic decline in the local industry share in the market for poultry is traced to trade liberalization policy which allows for the unlimited importation of highly subsidized poultry products from Europe and elsewhere into the Ghanaian market.

The availability of cheap/subsidized poultry products from the European Union puts local producers at a disadvantage to compete in the Ghanaian market. Furthermore, the availability of cheap/subsidized imported poultry threatens Ghana's food security because the food may become unexpectedly unavailable. Therefore, it is important to explore the possibility of expanding the local poultry production, participants explained

It was observed that almost all of the poultry farms visited operated far below their capacity. This is in line with Obayelu (2006) who related the sales of live birds to imported birds and concluded that poultry farmers in sub-Saharan African produced under capacity.

Marketing integration for efficiency

Research participants revealed from the survey that there was no market integration of the broiler birds. Business with other enterprises, for example selling of drinks makes it more viable. Farmers in the broiler and cockerel birds' value chain do not have information on the profitability of the industry to other stakeholders in the chain.

Deciding on market margin

Most of the poultry producers interviewed were of the view that they got nothing from the sale of the birds and felt their profit came from only the eggs. This may be partly true for the low input. The data presented in Table 7 support the fact that the gain in the market margin currently favors the producer. However in terms of business turnover, the retailer and the processor are usually better off with the retailer earning per day GHC 7.66 on each bird sold and the processor earning GHC10.00 per day for each bird sold or processed, respectively from several suppliers.

Egg storage, breakage and marketing

Information gathered from the Ministry of Food and Agriculture revealed that most of the retailers store their eggs in well ventilated rooms. The temperature in the room is usually around room temperature, which is determined by the season. Almost all the farmers' focus group participants (90%) mentioned that, the dry season

Table 8. Problems with egg handling and marketing.

Egg problem	Egg production (%)
Spoilage	30
Breakage	10
Low sale	10
Unable to meet demand	40
Low egg price	10

(February-July) was the period when they experience high egg spoilage. The spoilage was thus attributed to the non-availability of cold store facilities to the egg producers. Against this background, it is necessary that proper storage facilities be provided to preserve eggs which would enhance the table egg industry in the municipality. Apart from these concerns, it was generally admitted by farmers and egg sellers' participants within the municipality that there is good market for eggs in the study area and that during egg collection, there is cash flow and their pockets are usually attractive.

Majority of the producers interviewed said they are unable to meet demands in the Municipality particularly during the wet seasons. This usually leads to the loss of wholesalers and retailers as indicated in Table 8

Egg breakages, low sales and low egg price were considered minor problems in the Municipality. Delays in picking eggs as well as poor handling of eggs during transportation, according to participants, were the major factors considered for egg breakages. This is in line with Nuel (1980) who related good quality eggs with proper handling

All egg producers interviewed indicated that they had no problems with the marketing of their eggs. The only requirement was awareness creation of its availability. Indeed, they admitted demand is usually high with importation from other localities such as Kumasi, Techiman and Sunyani as supplement.

Sources of day-old chicks

Information gathered from the Ministry of Food and Agriculture revealed the unavailability of hatchery in the study area hence day-old chicks are usually obtained from Sunyani, Techiman and Kumasi, especially from Asamoah, Yamoah and Akate farms. Almost all the farmers interviewed said the cost of transporting day-old chicks from those sources is high and the risk of losing most them. Sometimes, the problems even get worsened when the transporting vehicle developed fault.

Resource allocation and infrastructural development in the poultry industry

In an interaction with the Animal Science Department of Ministry of Food and Agriculture Wa, it was revealed that government during the year2007/2008 gave out some vaccines to farmers on subsidies. However, only little consideration was given to the poultry sector within the municipality. He attributed it to inadequate funds from the central government. Again, it was revealed that there is no Veterinary College and Animal Research Institute for caring for birds and training of people in the study area. This was also attributed to lack of funds. According to Alhassan (1994), the funding of agriculture research in Ghana is woefully inadequate. Alhassan (1994, 2001) says that despite the fact that the poultry sector is the most developed and commonest among the domestic animal production industry in the country, there is no policy for revamping the industry on the village chicken and specifically on guinea fowls. Livestock policy until 1965 concentrated on animal disease control. It was in the 1990s under the Medium Term Agricultural Development Plan (MTADP, 1991-2000) that 5% of government budget for Agriculture was earmarked for the poultry industry.

Record keeping

According to the research participants and other secondary data sources, all poultry farmers within the Municipality had at least Secondary School Education; there was no single farm with proper record keeping. For this reason, farms visited during interviews and observation could not tell the exact number of birds that had died at what dates and the probable causes. Most farms visited could not tell the cost difference between the prepared feed and already mixed feed from other sources in Kumasi. Most of the farmers were just of the view that the cost of preparing it was high, hence, they did rather buy the already mixed feed. Indeed proper records would have kept them on track to know which option to take at what time. Visits to the farms revealed that most of the poultry farmers could not tell the average number of eggs laid during the laying period.

Advantages of the poultry industry

Research participants gave different opinions of the advantages of poultry keeping. The most mentioned included the following:

1. Poultry produce manure for increase crop yield which will be used to feed them (farmers).
2. Poultry provides the required protein content as a substitute to red meat.
3. Poultry do not destroy agricultural land through overgrazing as in the case of cattle.
4. Poultry will not go to destroy somebody's farm.
5. Poultry produce with a short interval, unlike cattle

which takes longer period to multiply.

It was also noted that commercial poultry production takes place largely in and around the municipality where the markets exist. The municipality is rapidly urbanizing with its population soaring up partly due to migration and high birth rate. As a result of this development, it is expected that poultry meat and egg demand, especially the latter will continue to increase with an increasing rate especially in the near future. Increased peri-urban poultry production has been identified as a means to meeting the anticipated increased demands and also creating wealth (SEND-Ghana, 2008). It is important to note however, that meat (both livestock and poultry) contributes only 40 percent of the national animal protein supply, with the rest coming from fish (FASDEP, 2002). In the light of rapidly depleting fish stocks in Ghana's territorial waters, and the undeveloped aquaculture industry, there is a great need for expanded poultry production, not only for nutritional security, but also for job creation, especially in the rural areas of the municipality and the country at large.

Major findings

1. Inability on the part of poultry farmers to access credit from financial institutions has led to a difficulty in expanding their farm size. It was revealed that poultry farmers in the municipality depended on personal finances and funds from relatives to finance their farm ventures. None of the farmers interviewed ever went for loan from the banks because of the high interest rates they charge.
2. Women are mostly not involved in poultry farming in the municipality. This is due to the fact that startup capital is often difficult to obtain, unlike other economic and non-risky ventures where loans are often available (for example trading and crop cultivation).
3. Difficulty in obtaining day-old chicks and chicken feed has led to the collapse of many poultry farms in the region in recent past. There has not been any case of bird flu outbreak in the municipality and the region at large.
4. The work piece highlighted lack of commitment from the government. It was clear from the findings that the major concern of the farmers was the lukewarm attitude of government towards the industry. Over the past decade, there has not been any deliberate government policy to revamp the industry. Local farmers are left to openly compete with the heavily subsidized imported chicken products from Europe and elsewhere.

Conclusion

The study had shown that local poultry farmers in the study area face numerous challenges such as inadequate capital, expensive feed, disease infestation, inadequate market for their products (meat and eggs) and bad weather conditions. Poultry farmers rely on the hatcheries from other sources for day-old chicks, since there are no hatcheries in the study area. High rate of egg spoilage and breakages also affect egg sellers particularly during hot seasons and packages for transportation.

The high demand for eggs in the Municipality gives an indication that there are a lot of prospects for both egg producers and sellers; therefore, the need for egg producers to take advantages of vaccination programmes to avoid diseases such as Coccidiosis, Infectious Bursal Disease, Newcastle and Fowl Pox Infestations. Marketing of eggs does not pose any problem except during the dry season when farmers need to adopt measures to help in proper egg storage. Poultry farming in the Wa municipality can therefore be seen as a venture, which meets the goals and aspirations of the government of Ghana in urging many Ghanaians to take up the challenge of establishing their own private businesses. The birds are kept wholly indoors, on deep litter systems. There are often complaints from these operators about the quality of poultry feed and day-oldchicks obtained from suppliers. Their operations are very susceptible to price changes in feed ingredients as they are unable to stock large quantities of feed. Despite these challenges, the poultry industry has a lot of prospects for the future and hence adequate measures must be put in place to harness these prospects/potentials of the industry by the farmers themselves and the local authorities. The poultry industry must be given the necessary attentions from the Ministry of Food and Agriculture as it has the potential of reducing protein deficiency within the Municipality and the country at large. Suffice to say that the work piece generally agrees with literature on the prospects and challenges of the poultry industry especially, with the assertion of Karbo and Bruce (2000), that poultry does not only serve as food security item, but also provides ready cash for investment for all age groups. And also on the challenges, confirms the findings of SEND-Ghana (2008), that the source of the drastic decline in the local industry share on the market for poultry is traced to the trade liberalization policy which allows the unlimited importation of highly subsidized poultry products from Europe and elsewhere into the Ghanaian market. In the light of the above development, the research work in general terms, has achieved its overall objective of examining the benefits and challenges that confront the local poultry industry in the Wa municipality.

RECOMMENDATIONS

Based on the research findings the following are recommended to the expansion of the poultry industry in the study area:

1. There is the need to create and expand already existing facilities to train more veterinary technical officers, so as to bring about cost effective ways of boosting the poultry industry.
2. Provision of hatcheries in the study area to take care of the difficulties poultry farmers faced in the acquisition of day-old chicks from other sources.
3. Formation of a poultry farmers association would help address most of the challenges faced by poultry farmers in the study area.
4. There is also the need to increase the budgetary allocation to the agricultural sector and to regulate the importation of animal produce into the country.
5. Maize, soy beans, fish and wheat farmers must be given the necessary attention, since their productivity levels have a direct relation with the poultry industry.
6. Subsidies should be made available for poultry equipment and drugs.

ACKNOWLEDGEMENT

Special thanks and appreciation to students of the University for Development Studies, who helped in data collection and analysis of the research findings. I am most grateful to their invaluable contributions; without them this paper would not have been produced

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