

Health Constraints, Treatment and Marketing System of Indigenous Chicken in South West and South Part of Ethiopia

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Abstract: The study was conducted to identify health constraints for village poultry production in South West Showa Zone of South West part of Ethiopia and in Gurage Zone of South part of Ethiopia. The study covered 295 households. A survey with structured questionnaires were used to collect all the relevant data, using a multi-stage sampling method. The results of the study showed that disease, exoparasite and cough were the main health constraints and Newcastle Disease was identified as a major and economically important health constraint that hinders the expansion of village chicken production in the study area. In this study 58.9% of respondents reported that unstable price is the most important factor influencing the marketing of chicken and eggs. Disease outbreak (9.6%), poor infrastructure (6.0%) and seasonal demand (0.7%) were considered other problems influencing the marketing of chicken and eggs in the study area. The study also revealed that 74.7% of the respondents were females (Mothers) who were responsible for selling the chicken and eggs in the study area and the income derived from the sale of chickens and eggs is also used by female (76%). On average 60.1% respondents in the study area reported that they have used extension services in their poultry production. While 39.9% respondents did not use any extension service. These results indicated that still quite a good proportion of poultry farmers are not aware about the extension services available in the field of rural poultry production. Therefore, there is a need to design and implement a research programme to improve the indigenous chickens in order to advance poultry production and productivity in the study area.

Key words: Village Chicken • Constraints • Disease • Newcastle • Marketing • Ethiopia

INTRODUCTION

In Ethiopia chickens are the most widespread where almost every rural family owns chickens, which contribute greatly to supply of eggs and meat [1-4]. At national level in Ethiopia, 99% of the total 56.5 million, estimated chickens are contributed by village poultry production while only 1% is from intensive exotic breed maintained under intensive management system [5]. Despite low productivity, this prevailing production system was known to possess desirable characters such as heat tolerant, resistant to some diseases, good egg and meat flavor, hard eggshells and high dressing percentage [6]. They do have also fast generation interval as they are prolific, easy to rear and their output could generally be expanded more easily and rapidly than that of other livestock [7].

Although there are studies conducted, in general, on characterization of poultry production system in some

places of the country by some researchers [4, 8-11] clear information is lacking regarding the major constraints and marketing system of village poultry production in South west and South part of Ethiopia. Therefore, the objectives of the current study were to collect base line information on health constraints, treatment and marketing systems of village poultry production in South west and South part of Ethiopia.

MATERIALS AND METHODS

The study was conducted in Oromia Region of South west Showa zone and in South Nations and Nationalities people region of Gurage zone. In South west Showa zone two districts namely Dawo and seden Sodo and in Gurage zone two districts namely Mehale Amba and Mehurena Aklile were selected based on purposive multi Stage sampling method. A reconnaissance rapid field survey was done before the main survey, to map out the

distribution and concentration of local chicken and three kebeles (Farmers associations) from each districts and twenty five households from each kebeles (Farmer associations) and totally 295 households keeping indigenous chicken selected from the four districts and interviewed using structured questionnaire. Accordingly, data on health constraints, treatment and marketing system of the production system were collected.

Data Analysis: The data collected were analyzed using descriptive statistics and compared as percentages using statistical package for social science [12].

RESULTS AND DISCUSSION

Major Health Constraints: The major health constraints in the study area were Newcastle Disease, exoparasite and cough. Among the constraints the major constraints mentioned by the farmers were diseases. Newcastle Disease (NCD) (Locally called “Fengil”) was identified as a major and economically important health constraint that hinders the expansion of village chicken production in the study area.

The observed chicken diseases revealed that 100, 95.8, 94.7 and 100% of the respondents in Dawo, Seden Sodo, Mehale Amba and Mehurena Aklile districts, respectively, experienced chicken disease problems while 0.0, 4.2, 5.3 and 0.0 % respondents, respectively in the above four districts did not observed any disease problem in their poultry birds (Table 1).

In the study districts 100, 95.8, 94.7 and 67.6% of the respondents with overall mean of 89.5% indicated that Newcastle Disease was the most prevalent and

economically important disease that devastates village chicken production. This is in agreement with Desalew *et al.* [13] who reported diseases were the first major problem, where NCD was number one constraint of village chicken productivity in Ada’a and Lume districts of Oromya region. Similarly 97.5, 100 and 62.9% of the respondents in Bure, Fogera and Dale districts, respectively, confirmed that occasional and serious disease outbreak results in complete devastation of the flock when occurred [14]. Halima [11] also reported that the major cause of death in local chicken in Northwest Amhara is seasonal outbreak of diseases, specifically Newcastle Disease. More over respondents also confirmed that the prevalence of Newcastle Disease (NCD) and chicken mortality are higher at the start of the main rainy season, mainly from April to June. They also reported that although NCD affects chicken of different age, sex and ecotypes indiscriminately, layers and brooding hens being the most vulnerable and affected groups.

Accesses to veterinary services are limited in all the study areas and on an average only 8.1% of the respondents get advisory services (Table 1). Limited veterinary services for village chickens were also reported by Moges *et al.* [15] and Mengesha and Tsega [16] in different parts of Ethiopia. Traditional (Ethno-veterinary) treatment is used by the majority of chicken owners (92.0, 63.9, 77.3 and 58.1% respondents in Dawo, Seden Sodo, Mehale Amba and Mehurena Aklile respectively with an overall average of 73% of the respondents in the study area) against NCD and other killer diseases while 18.9% respondents do not use any treatment against any disease. None of the farmers in the study area had any

Table 1: Chicken disease prevalence and control measures

Parameter (%)	Study Districts				Over all mean
	Dawo(N=75)	Seden Sodo(N=72)	Mehale Amba(N=75)	Mehurena Aklile (N=73)	
Occurrence of disease					
Yes	100.0	95.8	94.7	100.0	97.6
No	0.0	4.2	5.3	0.0	2.4
Main disease					
Newcastle Disease	100.0	95.8	94.7	67.6	89.5
Exoparasite	0.0	0.0	0.0	25.7	6.4
Cough	0.0	0.0	0.0	6.8	1.7
None	0.0	4.2	5.3	0.0	2.4
Treatment					
Traditional treatment	92.0	63.9	77.3	58.1	73.0
No treatment	8.0	36.1	22.7	9.5	18.9
Consult vet	0.0	0.0	0.0	32.4	8.1

Table 2: Marketing of chicken and eggs in the four study districts

Parameter (%)	Study Districts				Over all mean
	Dawo(N=75)	Seden Sodo(N=72)	Mehale Amba(N=75)	Mehurena Aklile (N=73)	
Factors influence marketing					
Unstable price	88.0	50.7	40.0	56.9	58.9
Seasonal demand	0.0	0.0	1.4	1.4	0.7
Poor infrastructure	8.0	13.3	2.7	0.0	6.0
No problem	0.0	20.3	30.3	40.3	22.7
Disease outbreak	4.0	17.3	25.7	1.4	9.6
Who sells					
Father	0.0	0.0	10.8	5.6	4.1
Mother	90.7	65.3	67.6	75.0	74.7
Children	4.0	22.7	5.4	12.5	11.1
Mother and children	5.3	12.0	16.2	6.9	10.1
User of the income					
Father	0.0	1.3	2.7	5.6	2.4
Mother	82.7	73.3	73.0	75.0	76.0
Children	16.0	13.3	4.1	18.1	12.8
Mother and children	1.3	12.0	20.3	1.4	8.8

experience of getting their chicken vaccinated against diseases. Similarly, the level of awareness about getting treatment to sick chicken is low. And they never took sick chicken to veterinary offices for veterinary treatment. Lacks of awareness about availability of the service, lack of attention to village chicken and poor service are some of the reasons.

Marketing of Indigenous Chicken and Eggs in the Study Area: Regarding marketing of eggs and live birds 58.9% the respondents in the study area reported that unstable price is the most important factor influencing the marketing of chicken and eggs. Disease outbreak (9.6%), poor infrastructure (6.0%) and seasonal demand (0.7%) were considered other problems influencing the marketing of chicken and eggs in the study area (Table 2). Similar observations have also been reported by Halima [11] and Meseret [17]. These researchers have reported that price of eggs was directly related to the supply and demand as well as the orthodox Christian fasting months and the price of live chickens is affected by seasonal demand (Holidays and fasting seasons), lack of infrastructure, plumage colour, size, age, sex, market site and the health status of the birds. A study in Nigeria also reported that the price of live birds of indigenous chicken is often lower during the periodical outbreak of Newcastle and other chicken diseases [18].

The study of Table 2 also revealed that 74.7% of the respondents were females (Mothers) who were responsible for selling the chicken and eggs in the study

area and the income derived from the sale of chickens and eggs is also used by female (76%) to purchase consumable food items, for school fees, grain milling services, purchasing of improved seeds of maize, wheat and other expenses. This was in agreement with the reports of Halima [11], Moges *et al.* [14] and Meseret [17]. Even though there is limited veterinary service in the study area 32.4% of the respondents in Mehurena Aklile district reported that they consult veterinary person in treating there sick birds and this might be due to good extension service provision and roll of extension agents as source of information as indicated on Table 3. This table showed that 48, 59.7, 46.7 and 86.5 % respondents in Dawo, Mehale Ambe, Mehurena Aklile and Seden Sodo districts, respectively reported that they have used extension services in their poultry production. While 52, 43.3, 53.3 and 13.5% respondents in four districts respectively did not use any extension service. These results indicated that still quite a good proportion of poultry farmers are not aware about the extension services available in the field of rural poultry production. Though some farmers are not aware about the extension service in the study area respondents (86.5%) in Mehurena Aklile district reported that they have got good extension service and this might be since this district is a newly established district most of the households are located near to the road so the extension agent move frequently to the farmers house (As 78.3% of the respondents in this district reported) and the overall mean indicated that 91.5% of the respondents reported that extension agents are the main source of information.

Table 3: Provision of extension services, place of meeting and awareness about chicken production in the study area

	Study Districts					
Parameter (%)	Dawo(N=75)	Seden Sodo(N=72)	Mehale Amba(N=75)	Mehurena Aklile (N=73)	Over all mean	
Provision of extension service						
Yes	48	59.7	46.7	86.5	60.1	
no	52	40.3	53.3	13.5	39.9	
Place of meeting						
Extension office	15.2	75.7	11.4	3.3	23.6	
Farmers house	33.3	10.8	51.4	78.3	48.5	
By chance	0.0	2.7	5.7	0.0	1.8	
Association meeting	39.4	2.7	20.0	13.3	17.6	
Demonstration site	12.1	8.1	11.4	5.0	8.5	
Awareness for improved breed and management						
yes	93.3	76.4	74.7	91.9	84.1	
no	6.7	23.6	25.3	8.1	15.8	
Source of information						
Extension agent	90.9	86.5	86.6	96.7	91.5	
*Others	9.1	13.5	11.4	3.3	8.5	
Interest of expansion						
yes	94.7	100.0	97.3	100.0	98.0	
no	5.3	0.0	2.7	0.0	2.0	

*Others include neighbors, relatives, radio

In terms of place of contact with extension agents, the most common meeting place is farmers' homes (48.5%), followed by extension agent's office (23.6%), association meetings (17.6%) demonstration sites (8.5%) and by chance (1.8%). About 84.1 % of the farmers obtained chicken related information and 95.1% of the sources of information were agricultural extension agents and the rest sources (8.5%) were neighbors, relatives, market and radio. In the study area almost all farmers (98%) had an interest of expanding their poultry production. This was in agreement with a report from Northwest Ethiopia by Halima [11]. However, the proportion of farmers (60.1%) used extension services in this study was higher than a report by Halima [11] who reported 52.5% of farmers using extension services. This is may be due to a result of appointing of a number of development agents from newly opened agricultural universities and this indicates that the attention is being given by the government for the farmers.

CONCLUSIONS

In general, the present study identified diseases as a major health constraint. Therefore, the result revealed that there is strong need for appropriate intervention in diseases control to reduce mortality and improve productivity of birds. Control of diseases could be achieved through improvement in veterinary and advisory

services. Since several traditional (Ethno veterinary) medicines are being used in the study area against disease (NCD), studies under controlled conditions are needed to determine the efficacy and veterinary properties of these medications. As most of village chicken production activity is managed by women, provision of successive trainings on modern chicken husbandry practices to women would be essential for the improvement of chicken production and productivity. And also organize the producers effectively into producer cooperatives and to acquire the skills required to effectively market their products, thus achieving a greater share of the final product price.

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