Consumption of indigenous chicken in Metekel Zone of BeniShangul Gumuz Region, Ethiopia

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Abstract

A survey was conducted to understand poultry (meat and egg) consumption in Metekel zone of BeniShangul Gumuz Region of Ethiopia. A total of 119 respondents were interviewed from four districts. About 62 per cent of the respondents were from the rural areas. Sources of chicken for the respondents are market (34.4%), own production (27.7%), neighbor (2.5%) and combination of sources (35.3%). About 53 and 66 per cent of respondents preferred eggs and meat, respectively, based on breeds. About 55 per cent of respondents prefer meat from indigenous chicken. Only about 13 per cent of the respondents consume chicken meat at a frequency of more than once in a month and this is less than the frequency of consumption of beef and goat meat. Average annual chicken consumption per household is 8.5 (SD=3.48) chicken while average egg consumption per month was slightly higher than 10 eggs. Age, plumage colour and size of chicken were main factors in the choice of live chicken during purchasing while size and egg shell colour are important criteria for choice of eggs. Multiple response queries on preference for parts of chicken carcass indicated that 93.3% have preference for drumstick and 54.6 per cent for wing and gizzard. Consumption of neck, head, blood, digits and intestine is reported by 86.5, 58, 22, less than 2, and 14 per cent of the respondents, respectively. About 85 and 63 per cent of respondents are willing to continue consumption of chicken meat and egg, respectively, even if the price increases. The information in this study, along with information on marketing aspect of poultry in the area, can serve as input in designing poultry development and improvement in the area.

Keywords: - meat, egg, indigenous chicken, consumption, preference, plumage color
Short Running title: Consumption of Indigenous Chicken

Introduction

Backyard poultry production is an important activity in most parts of Ethiopia (Worku et al., 2012) particularly where crop-livestock mixed agriculture is common. About 96.5 per cent of chicken in the country are indigenous. Under improved management condition the productivity of the indigenous chicken is low as compared to exotic chicken (Halima, 2007). Improvement of the indigenous chicken and their management is important to raise production from the indigenous chicken adapted to the low input system of management. Information on backyard chicken production system is required to design appropriate interventions to raise productivity and improve the livelihood of producers. The backyard type of chicken production is dominantly of subsistence type. Transition to market oriented chicken production can benefit from adequate knowledge on aspects of consumption of chicken and their products. In addition, the local chicken sector constitutes a significant contribution to human livelihood by being affordable sources of animal protein and contributes significantly to food security of poor households (Reta, 2009). Therefore, information on the consumption aspect of the backyard type of production from both the production and the market side need to be obtained so that along with other biological, environmental and management related information, it will be used to design ways of improving the efficiency of the system and the producers 'benefit.

Metekel zone of BeniShangul Gumuz National Regional State in Ethiopia is among the areas where the majority of chicken kept under backyard system of production are indigenous (Solomon et al., 2013). Consumption and sale of these chickens make sizeable contribution to the livelihood of the people in some areas of the zone. In Ethiopia it is reported that the number of children which are under weight is more than 30% while stunted children account for about 50% (FAO, 2013). Due to low development of agriculture the situation in BeniShangul Gumuz is likely to be worse than the national figure. Interventions to raise production and productivity of chicken in this area can contribute to improvement of the situation in relation to child malnutrition and livelihood. Therefore, this study was part of a wider study to understand the genetic resource, chicken management and other related aspects and deals with the consumption aspect of indigenous chicken. The objective was to understand the level and pattern of consumption of indigenous chicken in Metekel Zone of BeniShangul Gumuz National Regional state.

Materials and Methods

Description of the study area:

The study was conducted in Guba, Dibate, Wembera districts and Gilgel Beles town (Mandura istrict) of Metekel zone of BeniShangul Gumuz National Regional State. About 80% of the zone is characterized by having sub-humid and humid tropical climate (Solomon et al., 2013). The choice of the districts was purposive with consideration to accessibility and representation of the

different agro-ecologies in the zone. Accordingly Guba district represents lowland setting, while Dibate and Wembera represent mid-altitude and highland areas of the zone, respectively. Gilgel Beles is the zonal capital and due to the presence of large urban population in the town it was assumed that major poultry consumption would take place in this town. Two rural and one urban villages were sampled from each district purposively by considering accessibility and inclusion of diverse communities (indigenous and settlers). In Gilgel Beles town two localities were selected randomly. Interviewees were selected purposively considering accessibility.

Data collection

Data were collected using a questionnaire. A total of 119 consumers (Table 1) were interviewed using the questionnaire. In the questionnaire, *inter alia*, information on description of the respondent, characterizing the religious and ethnic background, income level, family size, pattern and level of poultry and poultry products consumption have been included. The questionnaires were composed of both close and open ended questions and were improved after field pre-test. Enumerators were recruited among development agents in each locality and were provided with theoretical and practical training on managing the questionnaire.

Data analysis and interpretation

Responses for all close ended questions were coded and entered into Statistical Package for Social Sciences (SPSS, version 17) software, while open ended questions were listed to determine the types of category of responses, then coded and entered into the same software. Analysis of data was also done using the descriptive statistics procedure of SPSS along with chi-square analysis.

Results and Discussion

A total of 119 consumers were interviewed with disproportionately larger samples taken from the three districts (to have proportional representation for the area and population) than the one town included in the study. Both urban (non-agricultural) and rural samples were taken (Table 1). The distribution of consumers with respect to their location showed that 61.3, 37.8 and 0.8 per cent live in rural, urban and in both (having homes in rural and urban) areas respectively. In the study area it is expected that the income level of urban dwellers to be better than rural dwellers and this may have a bearing on level, type and pattern of food consumption.

Description of the respondents

Followers of Orthodox Christian, Muslim, other Christian denominations and traditional beliefs constituted about 65.5, 18.5, 14.3 and 1.7 per cent of the respondents (Table 2), respectively. The

consumption, demand and supply situation and price pattern of poultry in Ethiopia is highly related to fasting and feasting periods of the various religious beliefs (Aklilu, 2007; Fisseha and Tadelle, 2010). Therefore understanding the distributions along the religious beliefs of the consumers is important in interpretation of the results in relation to periodic patterns of poultry consumption.

Table 1. Distribution of respondents participating in the survey in relation to location

Site	Consumer location			Total
	Rural	Urban	Both	
Guba district	24	12	0	36
Gilgel Beles town	0	12	0	12
Wembera district	25	10	1	36
Dibate district	24	11	0	35
Total	73	45	1	119
Per cent	61.3	37.8	0.8	100

Table 2. Distribution of respondents in relation to religious affiliation

Site	Religion				Total	Pearson Chi-square Test
	Orthodox Christian	Muslim	Other Christians	Traditional beliefs		
Guba district	15	18	3	0	36	57.683***
Gilgel Beles town	11	1	0	0	12	
Wembera district	34	0	2	0	36	
Dibate district	18	3	12	2	35	
Total	78	22	17	2	119	
Per cent	65.5	18.5	14.3	1.7	100	

*** Significant at P<0.001

There is significant difference among districts in terms of religion of respondents where Guba has a balanced Muslim and Christian respondents while Gilgel Beles and Wembera are highly skewed towards followers of Orthodox Christianity. In Dibate Christians are highly dominant with relatively balanced proportion between Orthodox and the other Christian denominations. In areas where the Orthodox Christians are the majority, because of the annual vegan fasting observed by the followers during various periods (which totals more than half of the calendar year) it is highly likely that decrease in demand to occur (Fisseha and Tadelle, 2010). During

other periods the demand increases, and production and marketing aspects need to consider this periodical change to design or adjust production and marketing accordingly. As an option planning for increased demand during festivals and improving storage of eggs have been suggested (Aklilu, 2007) and are worth considering in the areas covered by this study.

With respect to ethnic distribution about 33.9, 24.6, 22, 10.2, 6.7 and 2.5 per cent of the respondents belong to Gumuz, Shinasha, Amhara, Oromo, Agew and Tigre ethnic group (Table 3). Gumuz and Shinasha are indigenous people in the area and it is befitting that the sample size from this ethnic groups was high. The ethnic distribution of the sampled respondents is found to be different from the sample used in poultry production system study in the same zone by Solomon et al. (2013) where sample from the Amhara ethnic group was the highest.

Table 3. Ethnic distribution of the respondents across sites

Site	Ethnic group of the respondent						Total	Chi-square test
	Gumuz	Shinasha	Agew	Amhara	Tigre	Oromo		
Guba district	18	3	2	8	2	3	36	73.725***
Gilgel Beles town	0	2	4	6	0	0	12	
Wembera district	1	21	1	6	1	6	36	
Dibate district	21	3	1	6	0	3	34	
Total	40	29	8	26	3	12	118	
Per cent	33.9	24.6	6.7	22	2.5	10.2	100	

*** Significant at P<0.001

Due to suspicion that the information they provide might be used for taxation purpose (development agents involved as enumerators, at times are involved in facilitating collection of tax), reliable information on income was difficult to obtain even if attempt was made to persuade respondents by explaining about the objective of the study. Guba was the only district where information on income was obtained on about 61 per cent of the sample. In Guba district about 55 per cent of the households have a monthly income of birr 1200 (≈65 USD) or less, while about 36 and 9 per cent have incomes of 1200 to 3000 and higher, respectively.

The average household size in the study area was found to be about 7 with a range of 3 to 9 across sites. The largest average household size was observed in Guba while the lowest was in Gilgel Beles town. The number of observation for Gilgel Beles town was very small and the average household size need to be taken with caution. Almost all households have 1 to more than 4 children less than 14 years of age. About 50% of the households have 1 to more than 4 children of age 14 or above. Poultry (meat and egg) is among the most important sources contributing to balanced nutrition to children and the consumption level and pattern in this study need also to be looked at in that light. The average household size is more than reported national average

household size of 4.6 persons (CSA, 2012) and 4.06 persons in the same area (Solomon et al., 2013) but comparable to 6.0 and 6.9 persons for Jarso and Dale districts (Eskinder,2012) and 6.2 persons for Bure district in Ethiopia (Fisseha et al., 2010).

The number of male headed households accounted for about 91 per cent of the respondent households. Obviously this is the reflection of the rarity of female headed households in all of the areas unless the household is headed by a widow or divorcée. The proportion of female headed households in the current study is higher than proportions obtained in other parts of the country (Awol, 2010). The low proportion of the female headed households doesn t reflect the differential involvement of gender in chicken consumption or ownership. As elsewhere in the country (e.g. Aklilu, 2007), in almost all households, it is mostly women who are responsible for poultry production, consumption and sell.

About 17% of respondents were illiterate while the others have educational background ranging from first grade to higher than grade twelve. Information on disaggregated consumption of indigenous chicken across education level is not generated from this study. Occupation wise the respondents are mainly engaged in framing (53.5%), while traders, school children and respondents with other employments (civil servants, private employees etc.) account for 53.5, 20.8, 4 and 21.8 per cent.

The source of chicken for the respondent households varies and about 34, 28, 3 and 35 per cent of the respondents obtain chicken from market, own production or market, from their neighbors or from a combination of sources, respectively. Similarly about 23 per cent of use for home consumption has been reported in other parts of the country (Mulugeta and Tebekew, 2013).

About 53 and 66 per cent of the respondents have preference for eggs and meat, respectively, based on breeds (Table 4) but about 22 per cent do not get their choice mainly because of unavailability. There is no one single dominant reason for the choice of egg or meat based on the breed of chicken and reasons range from taste, attractiveness, availability, ability to stay longer to being better nutritious than the other. About 62 per cent of the respondents indicated that they prefer indigenous chicken while 11 per cent preferred the exotic ones. The remaining 27% of the respondents have no specific preference. Similar preference based on breed has been reported by Aklilu (2007) by consumers in Tigray region.

Table 4. Presence of preference for egg and meat based on chicken breed

Site	Presence of preference					
	Egg			Meat		
	Yes	No	Total	Yes	No	Total
Guba district	11	25	36	18	15	33
GilgelBeles town	9	3	12	11	1	12
Wembera district	15	21	36	17	18	35
Dibate district	28	7	35	30	5	35
Total	63	56	119	76	39	115
Per cent	52.9	47.1	100	66.1	33.9	100

The source of consumed egg is mainly from own production and market (Table 5). Similarly, Fisseha and Tadelle (2010) have reported that in Bure district home consumption of chicken to be the major use. Very small quantity is sourced from neighbors. Among respondent households own production has accounted for 47.5 per cent while 34.7 per cent depend on market as source of egg they may consume. In terms of preference for egg about 33 per cent prefer egg from indigenous chicken while about 20 per cent prefer egg from exotic chicken. Over 47 per cent of the respondents prefer both and do not make discrimination between eggs from indigenous and exotic chicken (Table 6).

Table 5. Sources of egg for the respondent households

Site	Source of egg				
	Market	Own production and/or market	Neighbor	Combination of sources	Total
Guba district	8	16	1	10	35
Gilgel Beles town	10	0	0	2	12
Wembera district	12	23	0	1	36
Dibate district	11	17	0	7	35
Total	41	56	1	20	118
Per cent	34.7	47.5	0.8	16.9	100

Table 6. Respondents preference for egg and chicken meat from exotic or indigenous chicken

Site	Preferred breed of chicken							
	Egg				Meat			
	Local	Exotic	Both	Total	Local	Exotic	Both	Total
Guba District	10	1	25	36	16	2	15	33
Gilgelbeles town	3	6	3	12	10	1	1	12
Wembera district	12	3	21	36	16	1	18	35
Dibate district	14	13	7	34	21	9	5	35
Total	39	23	56	118	63	13	39	115
Per cent	33.1	19.5	47.4	100	54.8	11.3	33.9	100

Respondents' chicken meat preference shows that about 55 per cent prefer meat from local chicken while about 11 per cent have preference for meat from exotic chicken. About 34 per cent have no special preference and use meat from both local and exotic chicken (Table 6).

Seventy-eight per cent of respondents get what they prefer while 22 per cent do not. Unavailability is the most common reason for not getting what respondents prefer followed by high price of the product.

Table 7. Distribution of respondents with regard to place of consumption of chicken meat

Site	Place of consumption							
	Meat				Egg			
	Home	Home and cultural ceremonies	Home and other places	Total	Home	Home and cultural ceremonies	Home and other places	Total
Guba district	25	5	6	36	24	3	3	30
Gilgel Beles	9	2	1	12	11	1	0	12
Wembera district	25	6	5	36	22	4	8	34
Dibate district	9	16	10	35	16	10	9	35
Total	68	29	22	119	73	18	20	111
Per cent	57.1	24.4	18.5	100	65.8	16.2	18.0	100

About 57 per cent of the respondents consume chicken meat only in their homes while about 43 percent consume either at home or during cultural ceremonies and at home and other places (hotels) (Table 7). With respect to place of consumption of eggs the majority (about 66 per cent) consume only at home while the remaining 34 per cent consume at home and where socio-cultural ceremonies are being conducted or other places including hotels (Table 7).

The frequency at which respondents purchase chicken for consumption ranges from daily up to only during annual festivals. About 40 per cent of the respondents consume chicken once per month and only about 13 per cent consume more frequently than once per month. About 46 per cent consume less frequently than once per month or only during festivals. Comparison with consumption of meat from other sources (beef and small ruminants) has shown that consumption of chicken meat is quite lower than meat from cattle and goats but higher than meat from sheep. Consumption of beef at a frequency of once or less per week is reported by about 24 per cent of the respondents, while about 53 per cent were consuming only during festivals or at frequency of less than once per month. Consumption of meat from goats is also better in that about 25 per cent consume goat more frequently than once per week. The majority (about 76 per cent) of respondents consume sheep meat only during festivals and less frequently than per month.

Almost all purchase of chicken meat by a household is in a form of live chicken, as opposed to purchase of beef which is in kilos or through traditional sharing arrangements. In the majority (about 61 per cent) of the cases goat and sheep meat is purchased in a form of live animals to be slaughtered per household or to be shared between households.

Table 8. Quantity of chicken purchased at once

	No. of chicken purchased					
Site	1	2	3	4	5 and above	Total
Guba district	23	5	3	4	1	36
Gilgel Beles town	2	3	0	2	2	9
Wembera district	22	3	1	2	6	34
Dibate district	15	11	1	4	2	33
Total	62	22	5	12	11	112
Per cent	55.4	19.6	4.5	10.7	9.8	100

Theaverage number of live chicken purchased at once by households is 2 chicken (Table 8). For beef about 42 and 47 per cent of purchased amount ranges from 0.5 to 3.0 kg 3.5 to 6 kg respectively (Table 10). The quantity of egg purchased varies from 1 to more than 13, the average being about 8 eggs (Table 9).

Table 9. The amount egg purchased by respondents at a time

Site	Number of eggs purchased at a time					Total
	1-3	4-6	7-9	10-12	13 and above	
Guba district	2	4	2	8	8	24
Gilgel Beles town	0	2	1	2	4	9
Wembera district	4	4	5	10	6	29
Dibate district	4	6	5	6	2	23
Total	10	16	13	26	20	85
Per cent	11.8	18.8	15.3	30.6	23.5	100

Table 10. The amount of beef purchased by respondents at a time

Site	Quantity of beef (Kg) purchased at once					
	0.5-3	3.5-6	6.5-9	10-12	13 and above	Total
Guba district	17	18	1	0	0	36
Gilgel Beles town	8	0	0	1	1	10
Wembera district	11	13	1	2	0	27
Dibate district	8	16	6	0	1	31
Total	44	47	8	3	2	104
Per cent	42.3	45.2	7.7	2.9	1.9	100

About 72 per cent of respondents have preference for chicken of a specific age. Other additional criteria for choice of chicken are plumage colour and size. The choice for chicken with certain plumage colour by consumers could be the reason for considering this trait as selection criteria by producers in some other areas of Ethiopia (Fisseha, 2009; Addisu et al., 2014) and also for price variation based on plumage color. Similarly importance of color in making choice of poultry has been reported for chicken in Fogera woreda (Bogale, 2008).

Unlike in other reports of Ethiopia (e.g. Abbey, 2004; Fisseha and Tadelle, 2010) comb type didn't appear as a major criterion for choice of chicken in the current study. For eggs about 87 per cent of respondents have preference for eggs of specific attributes (e.g. size, egg shell colour etc). In the majority (97%) of the cases the choice is mainly for large eggs with no significant difference between districts. Additional criterion is egg shell colour where about 65 per cent of consumers make choice based on egg shell colour.

Preference for parts of chicken carcass was observed among the respondents. Of parts of chicken carcass drum stick (93.3%), side breast (*melalacha, 79.8%),* fore breast (*feresegna*, 80.1%), wing and gizzard (54.6%) are highly preferred. Higher preference for leg parts of chicken has been reported by Kyarisiima et al.(2011) for consumers in Uganda. Consumption of neck, head, blood, digits and intestine is reported by 86.5, 58, 22, less than 2, and 14 per cent of the respondents, respectively. About 55 per cent of respondents, in addition to chicken, consume other poultry species. In Guba and Dibate districts consumption of poultry other than chicken is more common as compared to in Wenbera district and Gilgel Beles town. The difference between districts approached ($p<0.07$) but didn't reach significant level. The most common poultry other than chicken is guinea fowl which is mostly obtained from the wild and semi-domesticated in some cases. The same holds true for consumption of eggs from poultry other than chicken with more than fifty per cent of the respondents consuming such eggs. Dibate district is where the largest consumption of eggs, mostly from guinea fowl, occurs.

Eighty-three per cent of the respondents indicated the presence of culture that encourages chicken consumption. There is no significant difference between districts in this regard (Table 11). Similarly Aklilu (2007) have reported the cultural importance of chicken consumption. The main cultural activities that favor consumption of chicken include festival feasts, feeding women after delivery, gift to relatives to be visited and spiritual purpose. Similar culture also favors the consumption of egg but with significant variation between districts (Table 11). Less than 3 per cent of the respondents indicated presence of culture that prejudices consumption of chicken meat but for egg the per cent was about 25 with significant ($P<0.01$) difference between districts (Table 12) and there is difference along the gender line. It is believed that egg consumption by married women will make them awkward with consequences such as causing them to break containers they fetch water with or to become ill, particularly if she eats egg while she is in her husband's house (consumption is possible when she visits her relatives). This is particularly common in Gumuz ethnic group.

Table 11. Presence of culture that favors consumption of chicken meat and egg

Site	Presence of culture favoring consumption of chicken							
	Egg				Meat			
	Yes	No	Total	Pearson χ^2	Yes	No	Total	Pearson χ^2
Guba District	16	19	35	10.226 *	29	7	36	1.073 NS
Gilgelbeles town	9	2	11		11	1	12	
Wembera district	26	9	35		29	7	36	
Dibate district	16	18	34		29	5	34	
Total	67	48	115		98	20	118	
Per cent	58.3	41.7	100		83.1	16.9	100	

NS P=0.784 *P<0.05

Table 12. Presence of culture that discourages consumption of chicken egg

Site	Presence of culture discouraging chicken egg consumption		Total	Pearson Chi-square
	Yes	No		
Guba district	9	27	36	15.198**
GilgelBeles town	0	11	11	
Wembera district	4	31	35	
Dibate district	16	19	35	
Total	29	88	117	

**=P<0.01

Chicken stew preparation is the most common type of chicken meat preparation followed by either frying or boiling. About 28 per cent prepare chicken only in a form of stew while 50 per cent prepare either as stew and fried or boiled. The difference between districts is significant ($p<0.01$). In about 3 per cent of the cases after making stew, boiling or frying it will be baked into bread after mixing with dough from cereal and traditionally named as *Doro dabo*.

In more than 80 per cent of the cases no preservation of chicken meat is practiced. Those who practice preservation mainly use cooling with smoking, drying, mixing with salt and lemon being exercised under rare cases and only for preservation for a few days. Storage of egg is commonly done in straw or in grain or in baskets (with or without straw). Use of cooling is practiced in less than nine per cent of the cases.

About 37 per cent of respondents keep chicken for food only, 23 per cent for food, cultural (spiritual), breeding and generating cash income. Similarly egg is produced for food only in 45

per cent of the cases and in the other cases egg is produced in addition to its food value for medicinal, cultural, cash income and breeding purpose.

In terms of meat quality of chicken about 96 per cent prefer its tenderness while about 37 per cent look for juiciness in chicken meat. Respondents rate chicken meat second to small ruminant meat in terms of tenderness followed by beef. About 83 per cent of the respondents also look into fattiness in chicken meat while about 85% do look for flavor. In terms of fattiness respondents rank chicken meat next to small ruminant and beef while in terms of flavor chicken meat is rated first by the majority (about 55%) of respondents. About 86 per cent look for colour of meat while about 52 per cent look for aroma. Colour wise respondents ranked chicken meat next to beef and small ruminants. Aroma of chicken meat is ranked next to small ruminant meat. About 67 per cent of the respondents prefer colour of egg from indigenous chicken while 60 per cent also prefer yolk colour of egg from indigenous chicken. In terms of size 57 per cent of the respondents preferred egg from exotic chicken as compared to egg from indigenous chicken, guinea fowl or ducks.

Table 13. The reaction of respondents in Metekel zone to increase in chicken price

Site	continue to purchase chicken even if price increase		Total	Pearson Chi-square
	Yes	No		
Guba district	32	3	35	7.796^{NS}
Gilgel Beles town	7	4	11	
Wembera district	30	4	34	
Dibate district	28	6	34	
Total	97	17	114	

NS= P>0.05

About 85 per cent of respondents affirmed that they would continue buying chicken even if the price increases above the current level (Table 13). No significant difference was observed between districts. About 14, 39 and 39 per cent are willing to pay 50 to 75, 76-100 and 101 to 150 birr, respectively.

About 63 per cent are willing to continue to buy and consume egg even the price increases. Currently about 84 per cent are willing to pay 2 to 3 birr per egg. With regard to the proportion of income that goes for food purchase about 13.4, 34.8, and 36.6 per cent use one-fourth, one half and three quarter of their income, respectively, for food.

Average annual chicken meat consumption per household was about 8.5 (SD=3.48) chicken with no significant (P>0.05) difference between districts. Frequency of annual chicken meat consumption for both adult male and females was found to be similar. This level of consumption is higher than the level of consumption reported for three areas of Tigray in Northern Ethiopia (Aklilu, 2007).

Monthly household egg consumption ranges from 1 to more than 16 with average of more than 10 eggs (Table 14). Average monthly consumption of adult males and females is 8 (SD=9.24 for male SD=9.67 for female) eggs and there is high variation. This level of egg consumption is also higher than reported value for consumption in Tigray (Aklilu, 2007). In addition to differences arising from various causes the variation in consumption level could also be accounted for by the difference in time.

Table 14. Household egg consumption of respondents across the four districts

Site	Household monthly egg consumption				Total	Pearson Chi-square
	1-5	6-10	11-15	Greater or equal 16		
Guba district	4	11	6	10	31	17.369*
Gilgel Beles town	1	1	0	6	8	
Wembera district	7	10	7	9	33	
Dibate district	10	7	0	8	25	
Total	22	29	13	33	97	

*=p<0.05

Conclusion

Significant sources of poultry consumption in Metekel zone include market and production at home, implying that poultry (meat and egg) consumption can be improved through addressing aspects of the market and production. With about 87per cent of the respondents consuming chicken meat at a frequency of less than once in a month the current level of poultry consumption in the area appears to be low and behind consumption of goat meat and beef. Price wise chicken meat appears to be either cheaper or equivalent to beef and goat meat. Promotion of consumption of poultry needs to be given attention in the area. There is sizeable preference for meat and egg from indigenous chicken and this creates opportunity towards promotion of indigenous chicken through improved management and genetic improvement, hence contributing to their conservation and sustainable utilization. Sizeable proportion of the respondents indicated presence of culture which prevents consumption of egg particularly by women. In the area

covered by the current study the ease of availability of egg at household level appears to be better than other sources of quality protein. Given the importance of improved nutrition for women, awareness creation to change the cultural perception and improve consumption of egg by women, particularly in the Gumuz ethnic group deserves attention. Preference for various parts of chicken carcass has been identified in the current study along with use of almost all parts of a chicken carcass by sizeable number of respondents. Marketing system that may meet this need of the consumers (buying parts based on ones' own means and preference) need to be developed in the future. The information in this study, along with information on production system and marketing aspect of poultry in the area, should be used to undertake poultry development and improvement in the area.

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