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ORIGINAL ARTICLE

Village poultry consumption and marketing in relation to gender, religious festivals and market access

H. A. Aklilu · C. J. M. Almekinders · H. M. J. Udo · A. J. Van der Zijpp

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Abstract This study aimed to examine village poultry consumption and marketing in Ethiopia in relation to gender, socio-cultural events and market access. The main objects of the research were producers, poultry markets, producer-sellers, and intermediary sellers in three locations representing different levels of market access in Tigray. About 3000 farm records were collected over a period of 12 months from 131 producers to obtain quantitative data on sales and consumption. Ninety-three semi-structured interviews with 58 producer-sellers and 35 intermediaries and 12 group discussions with these market actors were conducted to explore organization, price dynamics and socio-cultural aspects of poultry marketing. In total, 928 producer-sellers and 225 intermediaries were monitored monthly to examine participation by gender in poultry marketing. Better market access was associated with a shorter market chain and higher prices for the producers. Female-headed households had smaller poultry sales and consumption per household but sale and consumption per family member were 25% and 66% higher, respectively, than in male-headed households. While women dominated in the producer-sellers group, intermediaries were mainly men. Religious festivals periodically shifted local demand and prices of poultry. To improve the benefit of poultry keeping, poverty-stricken households may profit from better market access through better market information, infrastructure, market group formation and careful planning to match the dynamics in demand.

Keywords Ethiopia · Gender · Market access · Religious festivals · Village poultry

H. A. Aklilu
Department of Animal, Range and Wild Life Sciences, Mekelle University, Mekelle, Ethiopia

H. A. Aklilu · C. J. M. Almekinders
Technology and Agrarian Development Group, Department of Social Sciences, Wageningen University, Wageningen, The Netherlands

H. A. Aklilu (✉) · H. M. J. Udo · A. J. Van der Zijpp
Animal Production Systems Group, WIAS – Wageningen University, PO Box 338, 6700 AH, Wageningen, The Netherlands
e-mail: akililu64@yahoo.com, aklilu.hailemichael@wur.nl

Introduction

In developing countries such as Ethiopia, village poultry represent a significant component of the rural household livelihood as a source of income and nutrition, and as gifts to strengthen social relationships (Guèye, 1998; Sonaiya *et al*., 1999; Whyte, 2002). Research to improve village poultry production tends to focus on technical aspects of poultry keeping in the belief that these constitute the principal

constraints. It is, however, increasingly recognized that marketing opportunities are crucial to capitalizing on improved technologies by generating cash income. Often, farmers are not attracted by new technology, even when it appears to be better than their current practices, owing to market limitations (Diao and Hazell, 2004). Smallholder households are not only producers but also consumers. Understanding of the household consumption and marketing patterns and the relation between these two is therefore relevant basic information for development of household poultry production. Household consumption is related to food security and nutrition. On the other hand, marketing of poultry products is one of the few opportunities for poor rural households to generate cash income. Understanding of marketing structure and functioning is a prerequisite for developing market opportunities for rural households and can be used to inform policy makers and development workers in considering the commercial and institutional environment in which village poultry keepers have to operate (Hellin *et al*., 2005). Access to markets is considered an important factor in marketing opportunities. Market access affects the price of the product and transaction costs and is influenced by infrastructure and information. Generally, for poorer households and with increased distance to the market, market access is low (Holloway and Ehui, 2002).

Many studies have shown that village poultry production is the domain of women (Bravo-Baumann, 2000; Devendra and Chantalakhana 2002). In sub-Saharan Africa, 85% of all households keep poultry, with women owning 70% of the poultry (Guèye, 1998; Branckaert and Guèye, 1999). Village poultry are used as a tool in promoting gender equality and women's development (Guèye, 2000). The role of gender not only in production but also in consumption and marketing is important to effectively increase benefits from poultry keeping for poor female-headed households (Rushton and Ngongi, 2002).

Socio-cultural factors are likely to influence poultry consumption and marketing and flock management, as shown by the situations with other livestock (Solomon *et al*., 2003; Budiastra *et al*., 2006). In Ethiopia religious events significantly affect the consumption of animal products. The country has the most numerous and longest fasting periods in the Christian world. For common people, there are 110–150 fasting days per year and for priests, monks, other people connected with the church, and for old people, the total can reach up to 220 days (Knutsson and Selinus, 1970). Fasting involves abstention from eating meat, eggs, milk and butter.

The objective of this study was to understand variation in household consumption and marketing, and the possible relation between them in three areas with different market access in Tigray, Ethiopia. Tigray is a region with a long tradition of poultry keeping. It is also one of the poorest regions in Ethiopia and protein deficiencies cause high mortality and retarded growth in children (BOANR, 1999). The study considered types of markets and market actors, fluctuations in demand and supply and related price dynamics in relation to gender and socio-cultural events.

Materials and methods

The study areas

The study took place in Tigray region, northern Ethiopia, between latitudes 12°15′ and 14°57′ N and longitudes 36°27′ E and 39°59′ E. Three *Woreda*s (districts) were selected, using a stratified sampling based on levels of access to a major market in the region. In this study, the combination of distance to the market, condition of roads, availability of transport services, and market information was considered as a measure of market access. Enderta is located within walking distance (5–35 minutes) from Mekelle. Thus, farmers in this *Woreda* use the several markets in Mekelle throughout the week. The other two *Woreda*s are several hours' walking from the regional market and have only weekly markets in their villages. Enderta is closer to Mekelle and is connected via a better-asphalted road than Alaje. Because of the distance and the road condition, the availability of transport services from Alaje and to Mekelle is low. The three studied *Woreda*s, Enderta, Hintalo and Alaje, were categorized as having high, medium and low access to markets, respectively (Fig. 1). Villages in each *Woreda* were randomly selected, from which sample participant households were drawn.

In these study sites, 30% of the households were female-headed; the others were male-headed. The high percentage of female-heads of household is due to widowhood, divorce and permanent male migration (Meehan, 2004; BOANR, 1999). For the study, 68

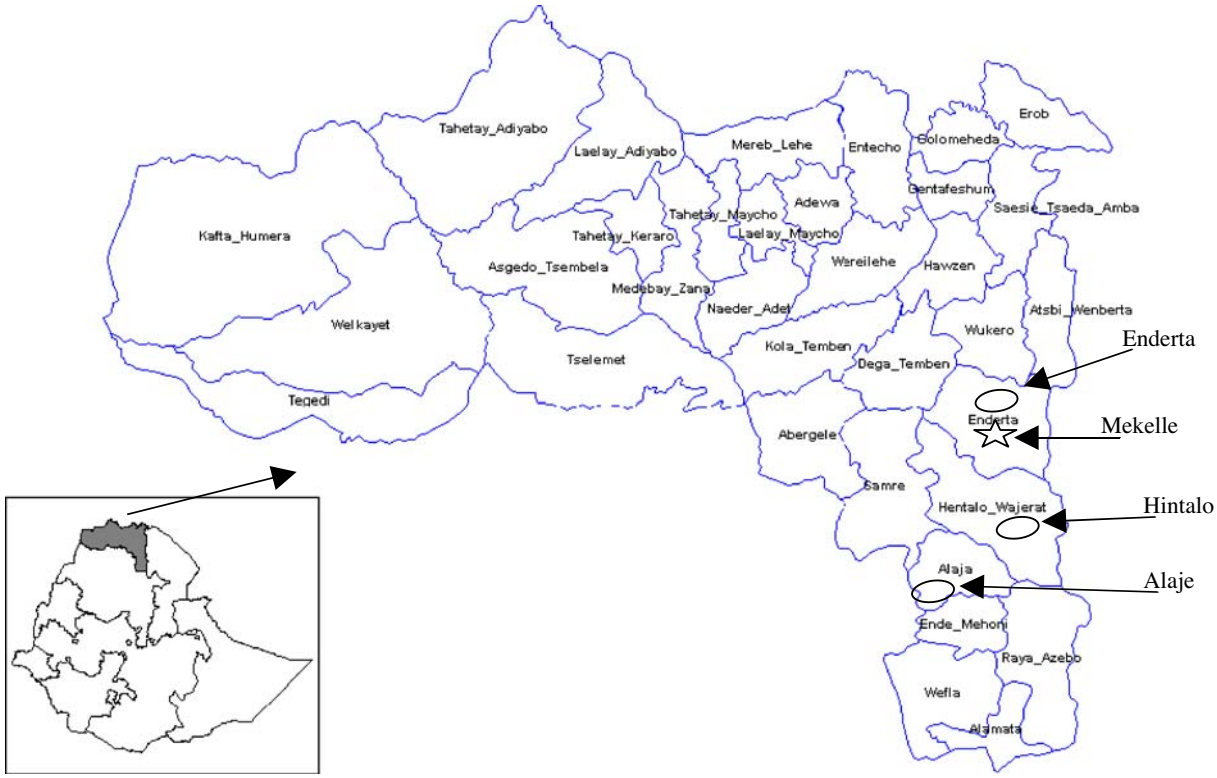

Fig. 1 Map of Tigray, the study area, situated in the north of Ethiopia

female-headed and 63 male-headed households were selected.

Orthodox Christianity is the major religion in the study areas. In this religion, five major festivals are celebrated every year: St John's day, also Ethiopian New Year (September 11), Ethiopian Christmas (January 5), Ethiopian Epiphany (January 19), Ethiopian Easter (varying dates in April), and St Mary's day (August 23). Each of these religious festival days is preceded by a fasting period of a few days to several months. During the fasting period, household members abstain from consuming all kinds of animal products.

Farm recording

About 3000 farm records were collected from 131 households between September 2003 and August 2004 to explore how religious events affect poultry dynamics. This provided quantitative data on sales and consumption of birds and eggs. The farm records were kept in Tigrigna (local language) by farmers using written formats, stones, and memory in collaboration with research assistants. The farm records were translated from Tigrigna into English during the data collection process.

Marketing study

A marketing survey was conducted to identify the gender of producer-sellers and intermediaries. This served a first characterization of the participants involved in the poultry chain. Producers-sellers are defined as producers who sell their produce directly to consumers or to intermediaries in the market. Intermediaries are traders who form the link between producers and other traders or consumers. A total of 58 and 35 interviews, respectively, using semi-structured questionnaires and 12 group discussions, were carried with 3–6 of these marketing actors out to explore the poultry marketing system in the three *Woreda*s. This provided information on organization, price dynamics and social aspects of poultry marketing. Data were collected monthly in the markets by six research assistants. This yielded a total of 928

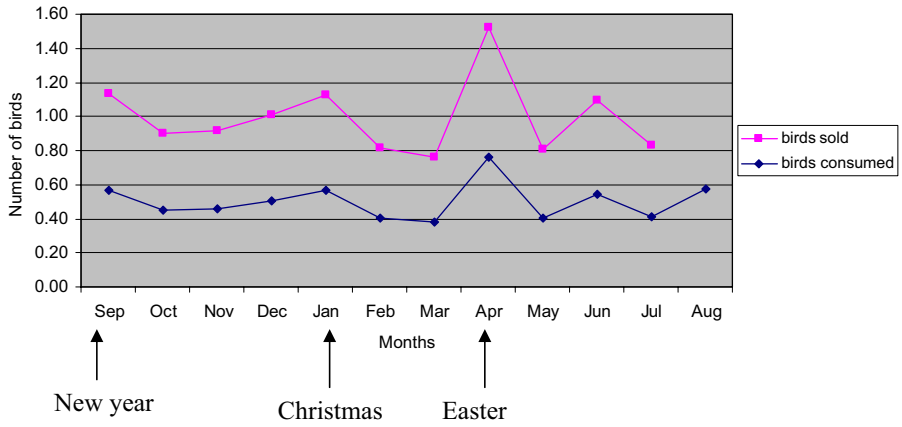

Fig. 2 Average numbers of birds sold and consumed per household per month in the year 2003–2004 in the study areas

observations from producer sellers and 225 from intermediaries.

Data analysis

Scale variables from farm recording and market surveys were entered and managed in Microsoft Excel and analysed with SPSS (2002). *F*-test was applied to test differences between means of relevant parameters using the GLM procedure of SPSS 11.5. For frequency variables, chi-squared was applied to test dependency of row and column factors. Trend lines were used to visualize seasonal dynamics of marketing and consumption variables. Qualitative data from interviews and discussions were transcribed from field diaries in Tigrigna, translated into English and stored electronically. Sorting and organizing related information served to generate the qualitative description.

Results

Household sales and consumptions

Monthly fluctuations in poultry household consumptions and sales

There were fluctuations across the months of the year in sales as well as in consumption of both birds and eggs (Figs. 2 and 3). The highest bird sales and consumption overlapped with the major social and religious festivals of the year. These are Ethiopian new year (September 11), Ethiopian Christmas (January 5), Ethiopian Epiphany (January 19), Ethiopian Easter (April), and St. Mary's day (August).

The periods of low bird sales and consumption coincided with the pre-Easter fasting period which lasts about two months, from February through March. The other low sales and consumption period

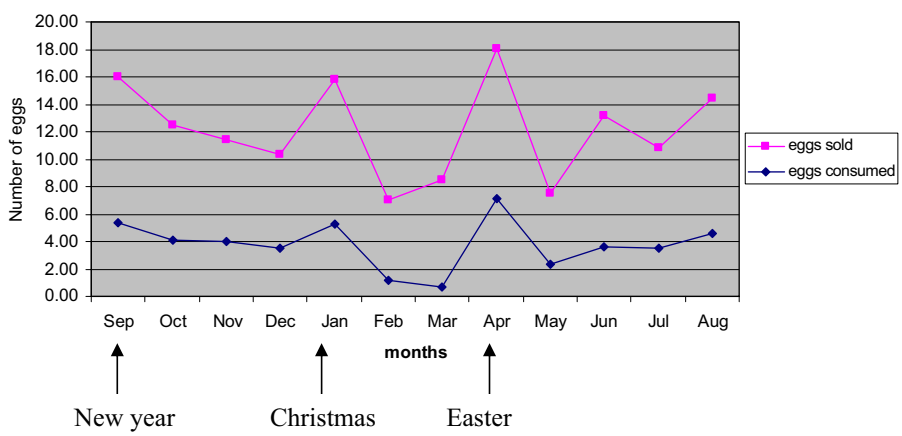

Fig. 3 Average numbers of eggs consumed and sold per household per month during 2003–2004

was during the pre-Christmas fasting period. Similarly, egg sales and consumption followed the same pattern as that of bird sales and consumption (Fig. 3).

In addition to the fasting periods, most strict orthodox Christian households, especially in the rural areas, abstain from eating animal products on most Wednesdays and Fridays except for a few months after Easter. In many cases, sick people, children and pregnant women are exempted from fasting.

Accumulated sales and consumption

Table 1 presents bird and egg sale and consumption in female-headed and male-headed households in the period between September 2003 and August 2004. In female-headed households bird and egg sales and consumption per household were lower than in male-headed households, but the figures per family member were higher in female-headed households. The can be explained by the smaller family size of female-headed households compared to male-headed households. Significant differences between the locations were observed in bird and eggs sales per household and per family member ($p<0.05$) with the largest sales of birds and eggs in Enderta, the location closest to Mekelle.

Poultry marketing system

Marketing structure

In the study area, the marketing system involves a series of producer-sellers and intermediaries. Figure 4 presents the marketing structure in the three locations with three levels of market access. Live birds and eggs are either sold directly to consumers or sold to intermediaries for retail in the larger towns and cities. Although each location has its own local market (neighbours and village markets) where transactions take place, marketed produce finally flows to urban consumers, particularly in the regional capital Mekelle. In all locations, producers were also consumers. Home consumption can be understood as one of the market outlets. Thus, producing households have a double role in the market chain and have to balance competing demands from household consumption and the buyers in the market place.

The length of the marketing chain varied between locations. Alaje, at walking distance of 1–2 days from Mekelle, has the longest chain involving secondary and tertiary intermediaries before products are delivered to the city consumers. In this area, village markets are weekly on a fixed day. The majority of

Table 1 Number of birds and eggs sold and consumed over 12 months in male- and female-headed households in locations representing low, medium and high market access in Tigray in 2003–2004

Parameter	Alaje		Hintalo		Enderta		*p*
	Female	Male	Female	Male	Female	Male	
No of households	26	25	25	26	17	12	
Average family size per household	3.6	5.0	4.2	5.4	4.1	6.7	
Average flock size per household	6.4	7.9	8.0	9.2	9.1	11.7	*
Consumption							
Birds consumed per household	3.5±3.3	4.0±3.7	3.4±3.1[a]	3.0±2.5[b]	4.1±3.8[a]	3.9±3.6[b]	
Birds consumed per family member	0.8±0.4[a]	0.6±0.8[b]	0.7±0.8[a]	0.6±0.6[b]	1.2±1.5[a]	0.7±0.9[b]	*
Eggs consumed per household	34.1±31.2	35.5±29.6	42.1±35.1	46.5±33.4	51.8±47.4	64.7±52.2	
Eggs consumed per family member	9.5±8.7	7.1±5.9	10.0±8.4	8.6±6.2	12.6±11.6	9.7±7.8	
Marketing							
Birds sold per household	3.9±4.3[a]	4.4±4.1[b]	6.3±6.8[a]	6.8±5.5[b]	6.6±8.9[a]	8.2±7.7[b]	*
Birds sold per family member	0.7±0.4[a]	0.6±1.2[b]	1.7±1.6[a]	1.2±3.7[b]	2.1±1.3[a]	1.5±1.5[b]	*
Eggs sold per household	75.3±34.8	78.3±45.2	92.8±56.6[a]	102.6±58.8[b]	114.3±59.8[a]	142.7±68.3[b]	*
Eggs sold per family member	20.9±9.7	15.7±9.0	22.1±13.5	19.0±10.9	27.9±14.6	21.3±10.2	*

Different superscripts denote significant differences between columns and asterisks indicate significant differences between locations ($p<0.05$).

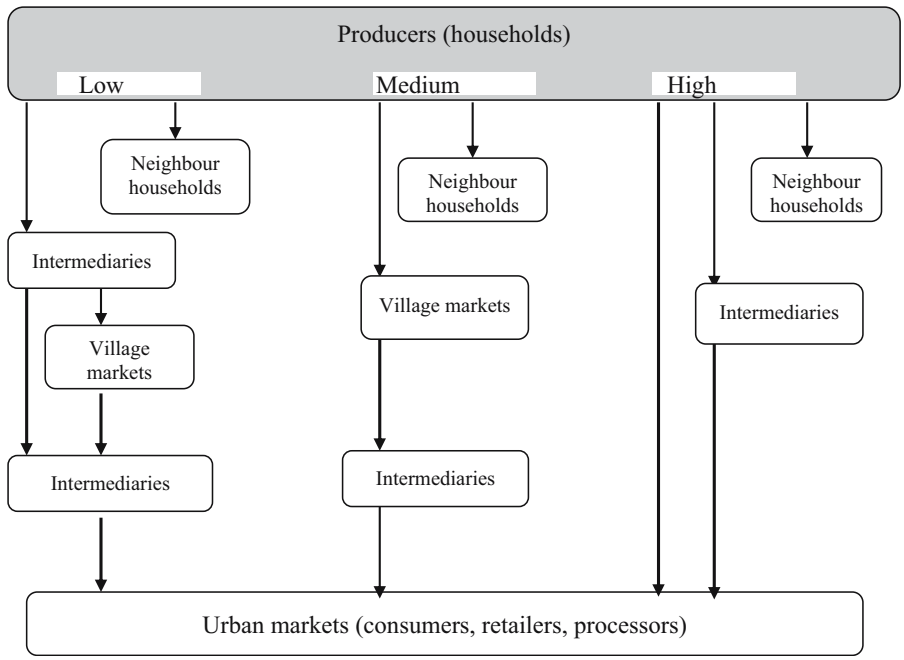

Fig. 4 Poultry marketing channels in locations representing low, medium and high market access in Tigray

transactions within the villages are mainly from farmer to farmer and may not involve cash. For example, among neighbours, chickens are sometimes bartered for larger animals such as sheep and goats. The poultry-sharing arrangement (Aklilu *et al*., submitted) can be considered as another form of informal marketing in these areas. Although the main purpose of selling is to obtain income, fellow farmers who need a hen or cock for production may purchase from or share with a neighbour.

Some farmers give their chickens to children to sell at the village market or to the roadside traders, who in turn sell to other traders who are often found at important crossroads and well-known spots on main truck roads. There is a high level of secondary (and even tertiary) marketing in these locations. At the other extreme, Enderta, the area representing high market access, has the shortest chain where most producers directly deliver their birds and eggs either to urban consumers or to road-side poultry buyers at relatively good prices. Thus, direct selling, from producers to consumers, is highest in the locations close to Mekelle. During the weekly major market day, producers can directly find a large number of buying consumers. On other days of the week, producers also sell their poultry to stationed traders in the urban markets. Often, there are designated locations where movable chicken stalls are erected. In addition to the nearby villages, suppliers to such markets can be traders who buy from secondary markets, place chickens on taxi racks and take them to

Table 2 Participation of children, women and men in poultry marketing in three locations representing low, medium and high market access in Tigray in 2003–2004

	Alaje	Hintalo	Enderta
Composition of producer-sellers			
Number of observations (*N*)	312	292	324
Children (%)	24	26	22
Women (%)	58	44	40
Men (%)	18	30	38
Composition of intermediaries			
Number of observations (*N*)	72	63	90
Children (%)	21	23	24
Women (%)	22	17	12
Men (%)	57	60	64

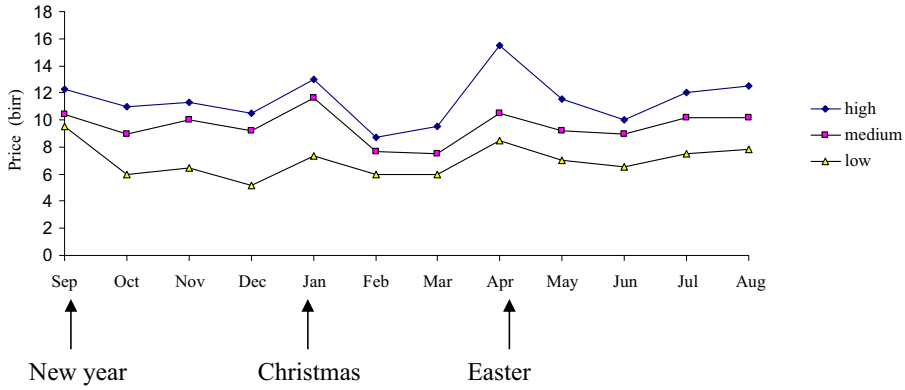

Fig. 5 Prices of cockerels (birr/bird) in low, medium and high market access areas over the period September 2003–August 2004

towns from remote village locations like Alaje. Buyers at urban markets are hotels, restaurants and affluent city dwellers. Ordinary urban dwellers also buy poultry occasionally, mainly during festivities.

Gender participation in poultry marketing

Table 2 presents the participation of children, women and men in poultry marketing in three locations in Tigray in 2003–2004. In general, data show that all gender categories of producing households are involved in direct selling. In all locations, women make up the majority (40–58%) of the producers who sell at local markets. Men's participation in marketing increases with better market access. The larger markets in towns are male-dominated. During group discussions, participants disclosed that women are more likely to control the spending of the money from sales when they sell their poultry themselves than when men do the selling. They said that women who get cash from poultry sales certainly spend it on family needs. The participation of gender categories in secondary poultry marketing shows a different picture. Men make up the major portion of secondary sellers in all locations. The proportion of women and children in secondary selling was lower than in primary selling. The proportion of men involved in poultry marketing tended to increase with increasing market access.

Market prices of poultry products

Price variation across months

Prices of poultry varied between months of the year at all the locations. Figure 5 presents the trends of average prices of cockerels over 12 months in the year 2003–2004. Cockerels are the main birds sold. In conformity with the trends in sales and consumption, price of birds increased in the high-sale periods like Easter (April) and Christmas (December–January). Periods of low prices also coincided with times of low sales, e.g.

Table 3 Average prices (in birr) of local birds in three locations representing low, medium and high market access in Tigray during 2003–2004 (1USD=8.67 birr)

Parameter	Means±standard deviations of price per bird or per egg[1]		
	Low	Medium	High
Cockerel	6.8^{a}±2.3 (168)	10.6^{b}±1.8 (226)	14.3^{c}±3.2 (267)
Pullet	7.3^{a}±2.4 (251)	10.2^{b}±2.4 (303)	11.3^{c}±1.8 (225)
Hen	9.4^{a}±2.4 (407)	11.8^{b}±1.84 (213)	13.0^{c}±3.8 (374)
Cock	9.5^{a}±3.3 (243)	12.2^{b}±2.8 (188)	15.7^{c}±3.1 (257)
Table eggs	0.3^{a}±0.1 (416)	0.3^{a}±0.5 (518)	0.4^{b}±0.1 (234)
Hatching eggs	0.3^{a}±0.1 (27)	0.3^{b}±0.07 (52)	0.4^{c}±0.2 (40)

Means with different superscripts are significantly different between columns at $p<0.05$.

Numbers in parentheses denote the numbers of observations.

the pre-Easter fasting period (February). Throughout the period, prices remained highest in the areas with better access and lowest in the remote areas.

Prices of birds and eggs in different markets

Table 3 indicates how prices of birds and eggs varied between the three locations. For all parameters, prices significantly increased with increasing market access ($p<0.05$). The price of fertile eggs is higher than that of table eggs. Live birds and eggs for consumption are sold in markets, but fertile eggs are sold at the farm gate and not in markets. Sale of fertile eggs is usually pre-arranged between the buyer and seller (producer) for timely collection and proper pre-incubation storage. Intermediaries are not involved in hatching-egg marketing.

Long term trends in prices

Producers and intermediaries were asked individually and in groups to share their experience of changes in prices of birds and eggs over the previous ten years. Respondents stated that prices of birds and eggs had doubled or even tripled over those ten years (Table 4). For example, the price of cocks had increased from 5 birr ten years before to 10–15 birr, even in remote locations like Alaje. Respondents explained that the driving factors included the increase in number of consumers such as government employees and the development of restaurants and hotels in small villages. The introduction of chicken onto menus in local restaurants is a new phenomenon. A general increase in numbers of urban dwellers in the study areas also increased demand. Dramatic increase in price of sheep, goats and cattle and the need for 'animal sacrifice' during social festivities had additionally contributed to the increased demand for poultry. The sellers also indicated a shift from small ruminants to poultry for consumption. There is no need for storing poultry meat, unlike beef and sheep and goat meat. Live chicken has become the most common gift item when visiting sick people.

Table 4 Response percentages of market actors on retrospective price changes and consumer preferences for poultry in Tigray, Ethiopia

	Producer-sellers	Intermediaries
Number of respondents (*N*)	58	35
Level of increase in poultry prices over 10 years (%)		
Only slight	16	9
Onefold increase	78	86
Twofold increase	12	5
Reason for increase in prices (%)[a]		
Increased urban consumers	62	77
Increased poultry traders	33	49
Increased use of live chickens as a gift	28	68
Inclusion of chicken and eggs in menus of local restaurants	38	63
Higher price of sheep and goats	72	80
Higher use of poultry for school fees	95	80
Decrease in use of beef	84	77
Consumer preference during purchasing chickens for consumption (%)[a]		
Feather colour	98	94
Sex	72	77
Age	66	69
Comb structure	84	86
Breed	97	74
Feathered necks	98	54
Source of birds (confined or free-range system)	76	91
Egg colour	45	94
Egg size	90	75
Fertility	88	86
Egg shape	28	25

[a] Percentages do not add up to 100% as respondents mentioned two or more reasons or factors related to price trends or consumer preference.

Buyers' preferences

The market actors mentioned socio-cultural factors that influence the prices of individual birds in markets (Table 4). Consumers prefer brown birds, and pay higher prices for them. Black colour is believed to bring bad fortune. White birds are considered agents of transmission of (human) disease between households. Type of comb is also considered: double-combed birds are preferred. Exotic birds such as White Leghorn, apart from being white, are not selected for consumption because they are single-combed. Buyers also look at the age of birds when they buy them for different purposes. For consumption, growers are generally preferred for their lean meat, whereas adult birds are demanded for breeding purposes. Experienced buyers, especially traders, estimate the age by looking at the roughness of the legs of the birds. Birds with rough legs are considered old and fetch lower prices. Birds with feathered necks are preferred over those with naked necks. Free-ranging and local birds are taken to have tastier meat than confined and exotic breeds. As for eggs, consumers prefer brown, bigger, infertile and regular-shaped eggs.

Discussion

Household consumption and marketing

Most research efforts on village poultry tend to focus on production aspects (Rushton and Ngongi, 2002). This study has explored what rural households decide to do with their poultry after they produce them. In the literature on subsistence and semi-subsistence agriculture in developing countries, household consumption is considered the primary production goal and it is assumed that surpluses are marketed (Aboe *et al*., 2006). However, the decisions of households regarding the use of poultry products (Table 1) indicate that consumption is not the priority objective in poultry-keeping households and only partly meets the protein needs of the household. The general level of consumption of poultry by family members was very low. On average, a family member consumed 0.6–1.2 birds and 6.8–17.1 eggs in a year. Considering that carcass weight of cocks, hens, cockerels and pullets, respectively, is 0.9, 0.6, 0.5 and 0.4 kg (Kondombo, 2005), a family member consumes only about a 0.5 kg of poultry meat per year, which is very low even for the African situation. Estimates from other countries such as Egypt and South Africa are 8.7 and 26.3 kg (FAS, 2001). The number of birds and eggs sold was higher than the number of those consumed. When a household has only a single bird, it is more likely that they will decide to sell it than to consume it (Table 4). The cash from sales is presumably used to buy household needs, including food (Kyvsgaard *et al*., 1999; Kondombo, 2005).

Gender

Our study illustrates the importance of poultry for female-headed households. The poultry consumption and sale per family member were larger for female-headed households than for male-headed households by 25% and 66%, respectively. This is not an indication of well-being. The larger poultry consumption per family member in female-headed households is probably the result of lack of other sources of animal protein. Family poultry meat and eggs are estimated to contribute 20–30% of the total animal protein supply in low-income and food-deficit countries (Alam, 1997; Branckaert and Guèye, 1999). For female-headed households, the contribution must be much higher to meet protein requirements because they usually lack meat and milk from other livestock (Guèye, 2000). Ehui and colleagues (2000) found that in Ethiopia wealthy households are more likely to buy live sheep for festivals than the poor. Wealth and gender are linked since female-headed households form a larger part of the category of poor households than of that of rich households.

Market structure and prices

Despite the benefits of village poultry keeping for poor households, they face large market constraints. Access to markets, in this study highly determined by distance to the market, influences poultry marketing, which agrees with other reports (Holloway and Ehui, 2002). The three locations representing three levels of market access showed different marketing structure and prices of poultry products. With increasing market access, the marketing chain between producers and consumers was shorter, which was associated with higher prices for both live birds and eggs. It is clear that increased involvement of intermediaries

leads to reduced prices for the producer. We observed a price reduction of 68% for birds and 25% for eggs countriesin the low-market-access location compared to the high-market-access one. Lack of information for producers and relatively high profits for the intermediaries represent transaction costs that actually provide opportunities. These costs may be reduced through improving access to information and better infrastructure and organization of the poultry producers. However, costs of transport and credit and marketing risks should be carefully assessed.

Religious festival days are associated with increased poultry consumption and sales and fasting periods with decreased consumption. These patterns cause strong fluctuations in prices of poultry products. Prices increase at the onset of festivities and decrease in fasting periods. It is difficult to change this demand pattern as it is a matter of religion. The only option is to cope with the existing situation. If poultry production could be carefully planned and managed to match the fluctuating market demand, economic benefits might be higher. Ideally, households increase and reduce their flock according to prices. The fact that predictability of the price fluctuations is high, since they are based on socio-cultural events (Thomsen, 2005) is an advantage. However, in Ethiopia, the planning of production in relation to periods with demand may be difficult because of the many fasting periods and festivals. Farmers can select key festivals, for example New Year (in September) and Easter (in April), which are the most important festivals of high demand, and prepare to supply their flock in these periods. This requires relatively long storage of eggs before marketing. Farmers in the study area use local pottery materials which are cool and dry to store eggs without spoiling until they sell them. The planning is more challenging for the poor than for the wealthy as the poor have smaller flocks. More urgent needs make it more difficult for them to wait until peak demand periods.

It is mostly women who are responsible for poultry production and selling, and spending the income. Men come in when the benefit becomes larger and market access increases. The results of the group discussions show that when women are the sellers it is more likely that cash will be spent on family welfare; this may be less so in the case of men. Intermediaries are principally men. The higher participation of men as intermediaries can be associated with access to financial resources, ability to take risks and access to market information. Women are less likely to have these than men (Turner and Williams, 2002) Understanding gender differences related to these aspects in Tigray would contribute to identifying opportunities for women to increase participation and bargaining power in order to benefit more from the marketing. Examples from other countries show that such opportunities may exist. For example, in West Africa women are acknowledged entrepreneurs in the vegetable and fruit markets (Harsch, 2001). In Bangladesh and Kenya, the availability of inexpensive mobile phones has enabled producers in remote areas to seek markets, negotiate sales, and get better prices from traders or consumers (Upton, 2005).

Opportunities

The marketing channel might be shortened by forming farmers' groups that could organize direct sales of poultry to consumers (Budiastra *et al*., 2006). Membership of a marketing group increases equity and the bargaining power of farmers for getting better prices for their products through improved access to market information (D' Haese *et al*., 2003). This could also create more space for women from producing to participating in poultry marketing. However, initiatives to organize farmers to acquire better access to markets need a proper understanding of costs and benefits and of transaction costs such as those related to group organization, transportation, credit and marketing risks. So far few studies have been carried out that have convincingly shown the economic viability of farmer-organized marketing. An understanding of why the participation of men as producer-sellers and intermediaries increases with increased market access in the situation in this study would contribute to understanding the opportunities to improve market access and benefits for the most marginalized households. Tools such as market mapping could be used to help actors like members of market groups to understand their own marketing system and to access market information (Hellin *et al*., 2005). Formation of marketing groups could be beneficial for consumers as well through lowering prices as a result of buying directly from producers (Niamir-Fuller, 1994).

Forming a marketing group can be time-consuming and requires facilitation and organizational skills.

These can be brought in by outside agencies such as NGOs and through capacity-building of interested farmers. Female-headed households, for whom poultry keeping constitutes the major source of livelihood, are probably willing to spend time on organizing poultry marketing. For the better-off farmers, poultry keeping is only a secondary activity and they are less likely to invest time in such activities, though they may be interesting partners for poorer female-headed households in mobilizing resources and bulking up produce. The poultry-sharing arrangements (Aklilu *et al*., submitted) may present an interesting entry point to pursue such ideas.

The study has shown that, at the household level, family consumption and marketing of eggs and birds are competing demands on poultry production. In addition, the pattern of peaks in market demand and prices coincides with the peaks in home consumption of the producers. The difficulty of matching the different production interests in bird and egg production needs to be taken into account when addressing improved poultry production for rural households. Access to markets, strongly associated with distance to markets and resourcefulness of households, represents a constraint in capturing higher benefits from poultry marketing. Organizing farmers to increase bargaining power and shortening the marketing chain offers interesting opportunities, but needs better understanding of the different transaction costs involved. Since the most resource-poor households include many female-headed households, this is an area of research and development that merits ample attention. Finally, the findings support the call for more integrated analysis and technology design, taking into consideration the multiple actors in the production and marketing chain.

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Consommation de la volaille du village et marketing en relation au sexe, aux fêtes religieuses et à l'accès au marché

Résumé – Cette étude s'est posée comme objectif l'examen de la consommation de la volaille par le village et sa commercialisation en Éthiopie en relation au sexe, aux événements culturels et à l'accès au marché. Les principaux objectifs de la recherche ont été les producteurs, les marchés de la volaille, les vendeurs-producteurs et les vendeurs intermédiaires dans trois localisations représentant différents niveaux d'accès aux marchés à Tigray. Il a été recueilli environ 3000 dossiers de fermes sur une période de 12 mois auprès de 131 producteurs pour obtenir des données quantitatives sur les ventes et la consommation. Il a été mené quatre-vingt trois entretiens semi-structurés auprès de 58 producteurs-vendeurs et de 35 intermédiaires et de 12 groupes de discussion avec ces protagonistes du marché pour explorer l'organisation, la dynamique des prix et les aspects socio-culturels de la commercialisation de la volaille. Au total, 928 producteurs-vendeurs et 255 intermédiaires ont été suivis tous les mois pour examiner la participation du sexe au marketing de la volaille. Un meilleur accès aux marchés a été associé à une chaîne plus courte aux marchés et à des prix plus élevés pour les producteurs. Les ménages dirigés par une femme ont enregistré des ventes de volaille et une consommation plus petite par ménage mais les ventes et la consommation par membre de la famille ont été de 25% et de 66% plus élevées, respectivement, que dans les ménages dirigés par un homme. Tandis que les femmes dominaient dans le groupe des producteurs-vendeurs, les intermédiaires étaient principalement des hommes. Les fêtes religieuses changeaient périodiquement la demande locale et les prix de la volaille. Pour améliorer le bénéfice de l'élevage de volaille, les ménages pauvres dans le dénuement pourraient profiter d'un meilleur accès aux marchés par de meilleures informations sur les marchés, une meilleure infrastructure, une meilleure formation des groupes de commercialisation et une planification soignée afin de répondre à la dynamique de la demande.

Consumo de aves de corral de pueblo y comercialización en relación con el género, las festividades religiosas y el acceso al mercado

Resumen – Este estudio tuvo como objetivo examinar el consumo de aves de corral de pueblo y su comercialización en Etiopía en relación con el género, los eventos socio-culturales y el acceso al mercado. Los principales objetos de investigación fueron los productores, los mercados de aves de corral, los productores-vendedores, y los vendedores intermediarios en tres localizaciones que representan niveles diferentes de acceso al mercado en Tigray. Se recogieron aproximadamente 3000 registros de granjas provenientes de 131 productores, en un periodo de 12 meses, para obtener datos cuantitativos sobre las ventas y el consumo. Se llevaron a cabo noventa y tres entrevistas semi-estructuradas con 58 productores-vendedores y 35 intermediarios, y 12 discusiones de grupo con estos agentes de mercado para explorar la organización, las dinámicas de los precios y los aspectos socio-culturales de la comercialización de las aves de corral. En total, se monitorizaron mensualmente a 928 productores-vendedores y 225 intermediarios para examinar la participación del género masculino o femenino en

la comercialización de las aves. Un mejor acceso al mercado se asoció a una cadena de mercado más corta y a unos precios más altos para los productores. Aquellos hogares llevados por mujeres tenían una menor venta de aves y consumo por vivienda, pero la venta y el consumo por miembro familiar fueron un 25% y 66% más alto, respectivamente, que en los hogares llevados por hombres. Las mujeres dominaban en el grupo de productores-vendedores, mientras que los intermediarios eran principalmente hombres. Los festivales religiosos variaban periódicamente la demanda local y los precios de las aves de corral. Para mejorar los beneficios del mantenimiento de aves de corral, los hogares más pobres podrán sacar provecho del mejor acceso al mercado a través de una mejor información de mercado, infraestructura, formación de grupos de mercado y cuidadosa planificación para ajustarse a las dinámicas de la demanda.