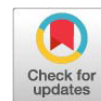


Research Article



Mapping of Direct Stakeholders in the Livestock Markets of Ouagadougou, Burkina Faso

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Abstract | In Burkina Faso, livestock is the second most important sub-sector of agriculture after crop production, contributing significantly to the national GDP and supporting over 80% of households. Live animal trade dominates livestock trading and plays a central role in regional commerce. Livestock markets constitute key hubs for trade, information exchange, and income generation, particularly in Ouagadougou, the country's main consumption and trading center. To characterize stakeholders, a total of eighty (80) actors were involved in a survey conducted across three livestock markets in Ouagadougou. Most respondents were male (81.20%), reflecting the gender imbalance commonly observed in livestock marketing activities. More than 3/4 of the respondents had over twenty-five years of experience. Livestock sellers represented the dominant group (63.75%), followed by brokers (23.75%) and buyers (12.50%), illustrating the key stakeholder categories in market operations. Among actors, significant proportion of respondents (41.25%) had no formal schooling, while 40% had primary education and 18.75% secondary education. Respondents were engaged in both small and large livestock trading, mainly sourcing animals from rural areas of Burkina Faso and neighboring countries (68.75%). Concerning animal health, more than 80% of respondents were unaware of the period of disease occurrence, while 18.75% cited March to June as the period of high risk. All respondents confirmed that livestock markets are organized spaces for animal trading but reported the absence of veterinary services and formal waste management systems, resulting in uncontrolled waste disposal.

Keywords | Livestock market, Respondents, Sellers, Brokers, Buyers, Ouagadougou

Received | October 14, 2025; **Accepted** | January 09, 2026; **Published** | February 11, 2026

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Citation | Mano K, Silga RP, Ouedraogo I, Ouadba SLR (2026). Mapping of direct stakeholders in the livestock markets of Ouagadougou, Burkina Faso. J. Anim. Health Prod. 14(1): 365-371.

DOI | <https://dx.doi.org/10.17582/journal.jahp/2026/14.1.365.371>

ISSN (Online) | 2308-2801



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INTRODUCTION

Livestock rearing is a crucial economic and social sector in West Africa. It provides a wide range of benefits, including income generation, savings and transport; ensuring food security and cultural services (FAO, 2019; Zoma-Traoré *et al.*, 2020; Valerio, 2020; Dimon *et al.*, 2025).

The favorable conditions such as semi-arid, subhumid climate and non-forested area, offer great potential for animal resources including many cattle, sheep, goats, and poultry (Kamuanga *et al.*, 2008).

In Burkina Faso, livestock farming is, after crops, the second most important activity in the primary sector.

Economically, it is the second largest contributor to agricultural value added after cotton (Ouedraogo *et al.*, 2023) accounting for about 10 to 20 percent of the country's Gross Domestic Product (GDP) (FAO, 2018) with more than 80% of households deriving all or part of their income from it (MARAH, 2021).

Like other countries in West Africa, live animals are one of the leading categories of regional trade of local products in Burkina Faso (Guibert *et al.*, 2009). Livestock production, marketing and trade generate income not only for producers but also for many other actors in the value chain, such as traders, transporters, resellers and tax services (Ayantunde *et al.*, 2020). Livestock markets are the essential links within these actors. They serve as places of trade, information exchange, and access to various services. They play a vital role in the economy by serving as hubs for animal trade, income generation, and food supply (Valerio, 2020). In the capital Ouagadougou the largest center of consumption and exchange of the country, these markets are strategic points where breeders and traders from four corners, transporters, and service providers interact daily (MRA et MAHRH, 2007). Despite their economic and social importance, livestock markets are often under-documented in terms of their internal organization and the various actors involved. A clear understanding of the key stakeholders, their roles, and interactions is essential for improving market efficiency, policy planning, and resource allocation. This study aims to identify and map the direct stakeholders involved in the livestock markets of Ouagadougou, to understand their roles, interactions, and influence within the livestock marketing system.

MATERIALS AND METHODS

STUDY SITES

Surveys were conducted at urban livestock markets in Ouagadougou. Three livestock markets such as Tanghin Livestock Market, Tampouy Livestock Market and Ouaga-Inter Livestock Market belonging to three different districts were surveyed from May to August 2022 (Figure 1). These markets, dedicated to the sale of sheep, goats, cattle as well as non-common animals like donkeys and horses. They are key meeting points for livestock producers from the region and the country (Vall *et al.*, 2021).

DATA COLLECTION AND ANALYSIS

The sampling was conducted from May to August 2022. Each market was visited once a week between 6 am and 10 am. A one-on-one interview was conducted in each market; actors were randomly selected and interviewed. The asked questions were related to personal data (sex, education level, main activity, age); animal types and provenance; health status of the animals (period of infection, animal drugs

administration, vet services disponibility) and markets management (infrastructure status, animal housing method and holding time, waste storage practices and management methods). These interviews involved various stakeholders, including herders, traders, and collectors. The aim was to gather information on the origin of the animals, their health status, the method and duration of holding, as well as waste management practices. The collected data were subsequently analyzed to identify commercial dynamics and sanitary conditions related to livestock marketing. Graphs were constructed using Excel and R4.4.1 (R Core Team, 2024).

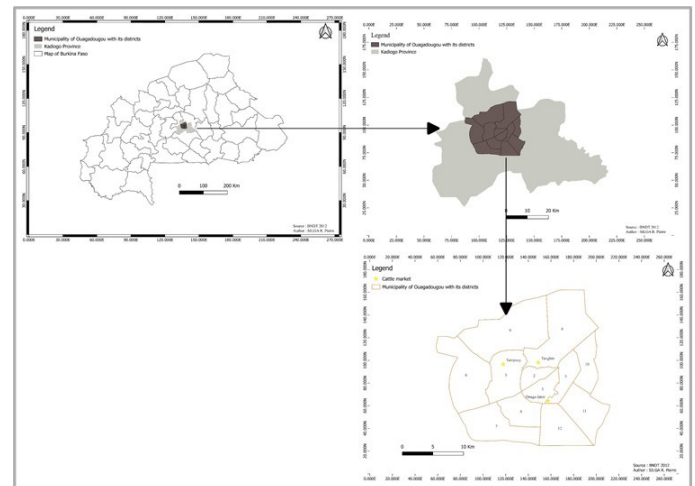


Figure 1: Map of sampling sites.

RESULTS

SOCIODEMOGRAPHIC CHARACTERISTICS OF THE RESPONDENTS

A total of 80 respondents were involved in the survey. Ouaga-Inter livestock market had the highest number of respondents with 32 actors, followed by Tanghin livestock market with 28 respondents and Tampouy livestock market had the least number with 20 respondents. Of the respondents, 81.20% were males and 18.80% were females (Figure 2), reflecting the gender distribution within the surveyed population.

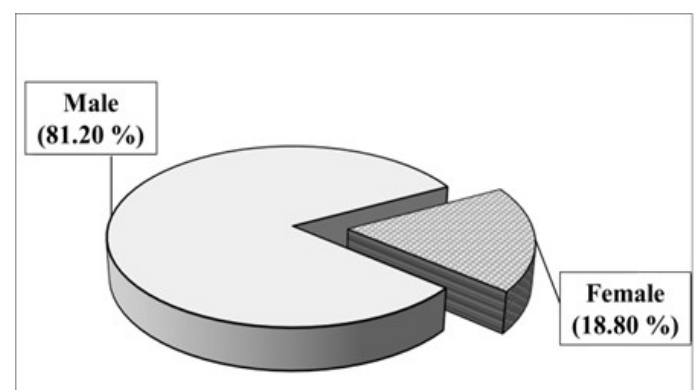


Figure 2: Repartition of respondents according to their sex.

EXPERIENCE IN THE PROFESSION AND OCCUPATION OF RESPONDENTS

The respondents involvement in livestock marketing ranged from 10 to 55 years, with a median of 31 years. Many respondents (76.25%) had more than a quarter of a century of experience. Regarding occupation in the livestock markets, most respondents were livestock sellers (63.75%), followed by brokers (23.75%) and buyers (12.50%) (Figure 3). This distribution reflects the key stakeholders involved in the commercialization and management of livestock in the study area.

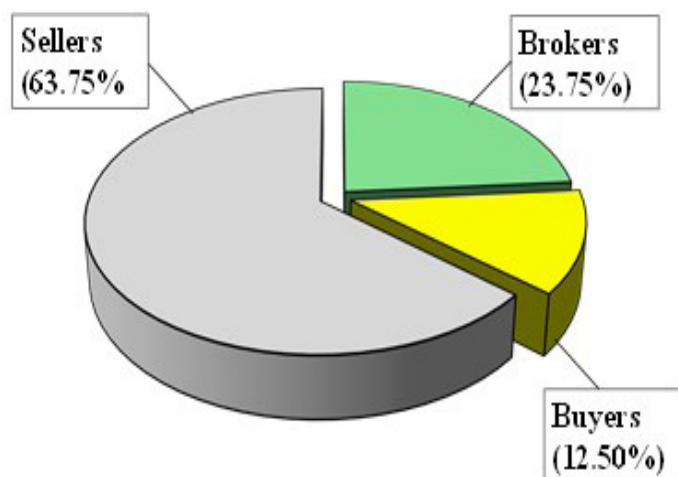


Figure 3: Distribution of respondents according to their profession.

EDUCATIONAL BACKGROUND

In terms of educational attainment, 41.25% of the total respondents had no formal education (including 26.32% of brokers, 40% of buyers and 46.06% of sellers); 40% had completed primary education (52.63% of brokers, 30% of buyers and 37.25% of sellers), and 18.75% had secondary education (21.05% of brokers, 30% of buyers and 15.69% of sellers) (Figure 4).

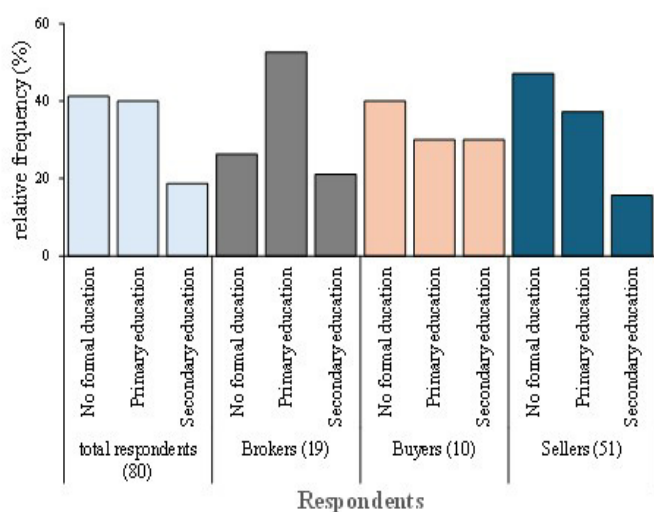


Figure 4: Educational background of actors surveyed.

TYPES OF LIVESTOCK AND SOURCES OF SUPPLY

The respondents are interested in both small and large livestock. The primary sources of animals are rural areas of Burkina Faso and neighboring countries (68.75%). However, 12.5% of the respondents trade in animals from neighboring countries only and other 12.5% obtain their animals from rural areas only. While 5% of respondents carry out their livestock trading exclusively in Ouagadougou and one of the respondents' animals came from rural areas, neighboring countries and Ouagadougou (Figure 5).

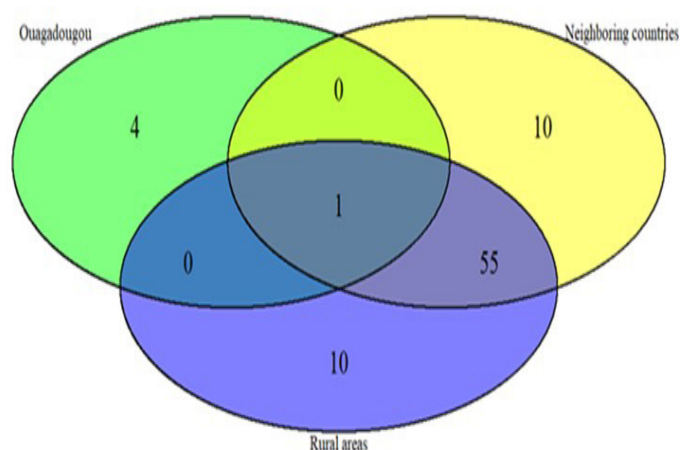


Figure 5: Livestock sources of supply.

In all the livestock markets, respondents reported that animals were housed in open enclosures made of wood or bricks. These structures lack adequate shelter and animals are exposed to sun, wind, and rain. Moreover, during festive periods, the number of animals generally increases in the markets, the demand for enclosures rises, leading to the occupation of spaces around the markets usually without any secure structures. Animals were either housed together (mixed) (small and big animals) or kept in separate enclosures depending on spaces.

In livestock markets, animals were kept for less than a week. The majority of the respondents (51.25%) reported that the average stay was three (3) days, while 26.25% reported two (2) days. About 23.75% did not mention an exact average duration.

ANIMALS HEALTH

Regarding animals illness, more than 80% of the respondents had no knowledge about the period of disease occurrence. Only 18.75% of the respondents mentioned the period from March to June as the favourable period for illness occurrence. About 32.50% reported practicing self-medication. The remaining 67.50% never experienced self-medication. The majority (53.85%) of those who practice self-medication were respondents with no formal education. About 38.46% were respondents with primary education and 11.53% were those with secondary

education.

LIVESTOCK MARKET MANAGEMENT

All the respondents (100%) reported that livestock markets are designated and organized spaces developed to facilitate animals trading. Unfortunately, they are not equipped with vet services. They also reported that there is no formal waste management service. Actors are responsible for their waste management which results in uncontrolled waste disposal in all the livestock markets visited.

DISCUSSION

The survey involved a total of 80 respondents across livestock markets. The gender distribution showed a strong predominance of males (81.20%) compared to females (18.80%). These results indicate that both men and women are involved in livestock trading; however, the imbalance observed in the present study is consistent with findings from earlier studies conducted in Burkina Faso, which highlighted the limited participation of women in cattle and small ruminant markets (LoCaBreed, 2022; UNCDF, 2023). Similarly, Gninga *et al.* (2025) reported male dominance in livestock trading activities in Mali. While women's role in livestock-related activities is well recognized in previous studies (FAO, 2013), the fact remains that men still dominate livestock farming and their trading in rural areas across Africa (Njuki *et al.*, 2011, 2013; FAO, 2013; Njuki and Mburu, 2013). Gender-based restrictions linked to cultural norms, restricted access to credit, limited control over resources, issues of mobility, balancing household activities with market participation, access to information and infrastructural facilities in markets, low literacy and weak bargaining power are among the key factors that constrain women's involvement in livestock value chain (UNCDF, 2023; Gninga *et al.*, 2025). According to numerous studies conducted in Africa, women are more likely to be involved in the rearing of short-cycle animals such as poultry, small ruminants and pigs than in the rearing of large animals (FAO, 2009; Assan, 2014; MARAH, 2021) and the selling of animals' by-product such as milk, butter, meat and eggs (Waithanji *et al.*, 2013). Ngeno *et al.* (2011) revealed in their study conducted in Kenya's peri-urban areas that in over 80% of households, Chickens and their eggs were sold by women at the farm gate. During the survey, it was noted that women were more commonly involved in secondary activities such as the retail of by-products, the sale of animal feed, and food preparation and vending around visited livestock markets. Previous work such as that of Al-Ghaswyneh (2022) had revealed similar results.

The findings showed that respondents involvement in livestock marketing ranged from 10 to 55 years, with

a median of 31 years. The fact that over three-quarters (76.25%) had more than 25 years of experience indicates that livestock marketing is not only a long-term economic activity but also one predominantly practiced by adults in their most productive years. These findings are further supported by the observations of Ayantunde *et al.* (2023) in Burkina and Gninga *et al.* (2025) in Mali, who revealed that experienced men dominate livestock value chains. This high level of experience suggests that market actors possess considerable practical knowledge of animal trade, negotiation, and market dynamics, which contributes to the resilience of the livestock sector (Fadairo *et al.*, 2023).

Regarding occupation, most respondents were livestock sellers (63.75%), followed by brokers (23.75%) and buyers (12.50%). This distribution highlights the functioning of livestock markets, emphasizing the dynamics between different actors, the structure of participation, as well as the challenges related to the organization, access and regulation of these spaces. In fact, brokers are intermediaries who facilitate transactions and ensure information flow between sellers and buyers. They are the key actor in livestock price negotiations between sellers and buyers (Bassarou *et al.*, 2022), while receiving a fixed commission, which may be paid by the buyer alone, by both the seller and the buyer, or, less commonly, by the seller only (Guibert *et al.*, 2009). So, many sellers rely on one broker services to facilitate their transactions which could explain the high number of sellers compared to brokers. This reliance underscores the brokers' pivotal role in livestock markets. The relatively low proportion of buyers among respondents could reflect the transient nature of their involvement in markets compared to sellers and brokers, who tend to be permanent actors.

In terms of education, the survey revealed that a substantial proportion of respondents (41.25%) had no formal education, while 40% had completed primary school and only 18.75% had reached secondary education. These results are consistent with the findings of Ayantunde *et al.* (2023), who have shown that actors on livestock feed markets in Burkina Faso are often men with low levels of formal education. Similarly, Gninga *et al.* (2025) in Mali reported that livestock value chains are dominated by non-schooled men, with women and younger actors often confined to marginal roles. Millogo *et al.* (2008); Cissé *et al.* (2018) also observed that most actors involved in milk production and trade in Burkina Faso were poorly educated, relying primarily on traditional practices. While long experience ensures stability and continuity in livestock marketing, the relatively low educational level of sellers remains a major barrier for the ability of market participants to access, understand, and apply technical innovations or regulatory requirements. Conversely, the relatively higher educational attainment among brokers and buyers may partly explain their ability to handle negotiation, communication, and

decision-making roles within the markets.

This study provided valuable insights into the organization and functioning of livestock markets in Ouagadougou, highlighting the variability in sourcing, housing conditions, and turnover of animals. The findings show that many traders import their animals from both rural areas of Burkina Faso and neighboring countries, confirming the high degree of regional integration of livestock markets in West Africa (Kamuanga *et al.*, 2008; Valerio, 2020). This cross-border dimension reflects not only the mobility of herds driven by transhumance and trade opportunities but also the structural dependence of local markets on external supply (Okike *et al.*, 2004; MAAH, 2020; Simonet *et al.*, 2020).

The survey revealed that animals are less protected in the markets, with enclosures made of wood or bricks, which expose them to climatic factors such as sun heating, rain, and wind. The situation becomes more critical during festive periods, when the number of animals increases and spaces around the markets are occupied without proper infrastructure. Such practices also observed in previous studies (MRA et MAHRH, 2007) not only undermine animal welfare but also raise concerns regarding sanitary risks, since inadequate housing conditions may facilitate the spread of infectious diseases and zoonosis. Similar challenges have been reported in other African livestock markets, where infrastructure deficiencies remain a major bottleneck to sustainable livestock trade (Tegegne *et al.*, 2010; Ayele, 2019). Addressing these shortcomings is crucial for improving both animal health and market efficiency.

In terms of duration of stay, most animals were kept in markets for less than a week, with an average of 2–3 days. This short holding time suggests a rapid turnover, which may help limit feeding costs and reduce health risks. However, the lack of precise information provided by some respondents (23.75%) highlights the persistence of informal practices and the absence of systematic record-keeping in livestock markets. Such informality hampers traceability and makes it difficult to establish accurate monitoring systems, which are essential for disease surveillance and market regulation (Sievers *et al.*, 2024).

Overall, these findings underline the dual nature of livestock markets in Ouagadougou: On the one hand, they function as vibrant hubs of regional trade that ensure a steady flow of animals; on the other hand, they face significant organizational and infrastructural challenges that undermine their efficiency and sustainability. Strengthening market facilities, promoting better housing conditions for animals, and formalizing management practices could enhance the resilience of these markets

while safeguarding public health and supporting regional livestock trade.

The results of this study reveal critical gaps in knowledge and practices related to animal health among market actors. More than 80% of respondents had no awareness of the period during which diseases occurred. Only a minority (18.75%) identified the period from March to June which coincides with the transition from the dry to rainy season as the favourable. This period is often associated with increased stress on animals and vulnerability to infectious diseases (FAO, 2011). This lack of knowledge may compromise early detection and timely response to outbreaks, thereby increasing the risk of disease spreading within and across markets.

Self-medication practices were reported by nearly one-third (32.50%) of respondents, with the majority being actors with no formal education (53.85%). The strong link between self-medication and low educational attainment is consistent with observations across Sub-Saharan Africa, where limited access to veterinary services and low literacy levels are associated with the use of informal practices such as self-treatment and traditional knowledge (Cama-i-Gibernau *et al.*, 2025). However, these practices raise serious concerns including misuse, and the appearance of antimicrobial resistance (Góchez *et al.*, 2019). Respondents with higher levels of education were less likely to engage in self-medication, suggesting that literacy and training could improve adoption of safer and more effective disease management strategies (Coman *et al.*, 2020).

Another critical issue revealed by this study is the absence of veterinary services in all surveyed livestock markets. Although markets are designated and organized for animal trading, the lack of veterinary infrastructure undermines surveillance, early detection of diseases, and the promotion of animal welfare. Previous studies have emphasized that livestock markets without veterinary oversight are potential hotspots for the spread of transboundary animal diseases (Ayele *et al.*, 2003).

Furthermore, the absence of formal waste management systems poses significant risks. Respondents indicated that actors are individually responsible for their waste, leading to uncontrolled disposal. This situation contributes to environmental pollution, proliferation of vectors, and increased risk of zoonotic disease transmission. Similar findings have been reported in other African livestock markets, where inadequate sanitation and poor waste management have been associated with higher prevalence of parasites and zoonotic pathogens (Kagira and Kanyari, 2010).

CONFLICTS OF INTEREST

The authors have declared no conflict of interest.

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The study revealed that the main actors in livestock markets in Ouagadougou are experienced men with low levels of formal education. Despite their crucial role in the regional livestock trade, livestock markets remain poorly managed characterized by inadequate animal housing and lack of veterinary and waste management services. Establishing such services would improve both animal welfare and public health, while contributing to the sustainability and safety of livestock marketing systems in Burkina Faso.

ACKNOWLEDGEMENT

We express our sincere gratitude to all the actors of the Tanghin, Tampouy, and Ouaga-Inter livestock markets who agreed to participate in this study. Their availability, warm welcome, and willingness to share their experiences and knowledge were essential to the completion of this work. Our special thanks to the presidents of livestock markets, affectionately called « Naba » for their leadership

NOVELTY STATEMENT

The current study mapped the direct stakeholders operating within urban livestock markets in Ouagadougou. It provides reliable data for an area that have remained undocumented despite its critical role in the regional livestock trade. Unlike previous studies in Burkina Faso that investigate subjects related to production systems, gender implications in livestock production, and value chains, this study investigated the characteristics of livestock markets and revealed who operates in these markets and how they function. It revealed for the first time, the absence of veterinary services, informal waste disposal practices, widespread self-medication, and limited disease awareness among market actors, highlighting livestock markets as critical but overlooked hotspots for sanitary risks and disease transmission.

AUTHOR'S CONTRIBUTION

KM and RLSO conceived and designed the study and performed the fieldwork. Data analysis and manuscript editing were done by KM assisted by IO and RPS. All authors have read and agreed to the published version of the manuscript.

GENERATIVE AI AND AI-ASSISTED TECHNOLOGY STATEMENT

Authors hereby declare that NO generative AI technologies such as Large Language Models (ChatGPT, COPILOT, etc.) and text-to-image generators have been used during the writing or editing of this manuscript.

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