VOICE FOR CHANGE PARTNERSHIP (V4CP)





Livestock markets in Burkina Faso: Characteristics and impact on the local economy

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Table of contents

1.	Intr	oduction	5
2.		thods	
		racteristics of livestock markets	
	3.1.	Types of markets	8
	3.2.	Infrastructure	<u>c</u>
	3.3.	History and management	11
	3.4.	Volume and value of livestock trade	14
	3.5.	Commercial flows	19
4.	Eco	nomic impact of livestock markets	21
	4.1.	Tax revenue from livestock markets	21
	4.2.	Economic activity in and near the livestock market	22
	4.3.	Spending patterns of visitors to the livestock markets	23
5.	Sun	nmary and conclusions	27

List of tables

Tableau 1. Liste des marchés enquetés	7
Tableau 2. Type de marché	
Tableau 3. Fréquence du marché	8
Tableau 4. Nombre d'employés	8
Tableau 5. Dimension de la clôture (m)	9
Tableau 6. Principale matière de la clôture	
Tableau 7. Number of buildings in the market	
Tableau 8. Installations du marché (%)	.10
Tableau 9. Type de source d'eau	.10
Tableau 10. Type de toilette	.10
Tableau 11. Services près du marché (%)	.10
Tableau 12. Année de construction	
Tableau 13. Type de marché au debut	. 11
Tableau 14. Initiative de construir un marché moderne	.12
Tableau 15. Source principale de financement	
Tableau 16. Proprietaire du marché	
Tableau 17. Mode de gestion du marché	
Tableau 18. Type de textes qui regissent le marché (%)	
Tableau 19. Nombre de textes qui regissent le marché (%)	
Tableau 20. Repartition du revenu du marché (%)	.13
Tableau 21. Investissement du revenu le plus important dans le marché	
Tableau 22. Investissement du revenu le plus important en dehors du marché	
Tableau 23. Quantité vendues par mois par marché	
Tableau 24. Quantité vendues par an au niveau national (1000 têtes)	
Tableau 25. Mois des ventes de bovins les plus élevées	. 15
Tableau 26. Mois des ventes de bovins les plus bas	.16
Tableau 27. Mois des ventes de petits ruminants les plus élevées	
Tableau 28. Mois des ventes de petits ruminants les plus bas	
Tableau 29. Quantité des ventes de bétail	. 17
Tableau 30. Quantité des ventes de petits ruminants	
Tableau 31. Prix moyen des ventes (FCFA/tete)	. 18
Tableau 32. Prix moyen d'un taureau de 3 ans par mois (FCFA/tete)	
Tableau 33. Type de vendeurs de chaque type d'animale (%)	
Tableau 34. Origine de chaque type d'animale (%)	. 19
Tableau 35. Moyen de transport en arrivant (%)	
Tableau 36. Type d'acheteurs de chaque type d'animale (%)	
Tableau 37. Destination de chaque type d'animale (%)	.20
Tableau 38. Moyen de transporte en quittant	
Tableau 39. Moment auquel les taxes sont percue (%)	
Tableau 40. Taxes payées par animale	
Tableau 41. Valeur totale des taxes percues	
Tableau 42. Nombre de personnes qui travaillent au marché	
Tableau 43. Infrastructures a moin de 100 m du marché	.23

Tableau 44. Proportion des menages qui ont visité un marché à bétail l'année dernière par zone	23
Tableau 45. Proportion des menages qui ont visité un marché à bétail l'année dernière par quintile	24
Tableau 46. Nombre de visites et nombre de marchés visites	24
Tableau 47. Marché à bétail principale visité par zone agro-écologique	25
Tableau 48. Temps de voyage au marché principal	. 25
Tableau 49. Nombre de nuits passees pendant la derniere visite	26
Tableau 50. Dépenses pendant la dernière visite au marché à bétail	26
Tableau 51. Dépenses nationales et annuelles aux marchés à bétail	27

1. Introduction

Livestock production is undoubtedly an important part of the economy in Burkina Faso. National statistics indicate that agriculture, forestry, and fisheries account for 28% of gross national product (World Bank, 2018). Livestock alone represents around 10-20% of gross national product (FAO, 2018). However, these figures understate the importance of the sector because it is an important source of income for the poor. Our household survey indicates that over 90% of rural household raise livestock, so it is an important source of employment for the poor in Burkina Faso.

Livestock markets play a vital role in the livestock economy. They connect farmers with traders, connecting producers with consumers. Income growth in Burkina Faso is relatively high, with real GDP growth of 6.8% and per capita GDP growth of 3.9% in 2018, according to the African Development Bank (ADB, 2020). Since the demand for meat and other animal products is highly income elastic, it is likely that the domestic demand for these products is growing at 5% per year or most. In addition, there is a growing demand for meat and other animal products in Ghana and other coastal countries, fueling livestock exports. Livestock markets make it possible for producers in Burkina Faso to supply these consumers, and in doing so earn income.

In addition to serving livestock producers, livestock markets generate revenue for local government. Most livestock markets collect taxes at livestock markets, often based on the sale of animals, but sometimes upon arrival or upon departure of the animals. At the same time, many of the livestock markets have only basic infrastructure and need investment to maintain animal health, sanitation, and security and facilitate the growing trade in animals. A key policy question is whether investment in livestock markets has been sufficient and how it is financed.

In this context, the SNV Voices for Change Partnership works on three themes in Burkina Faso: food and nutrition security, pastoral resilience, and renewable energy. This study is carried out by the pastoral resilience theme, which seeks to gather information about the challenges facing pastoralists in Burkina Faso in order to inform policymakers and advocate for greater support for pastoral producers.

The objective of this report is to describe the characteristics of livestock markets in Burkina Faso and to shed light on the role of livestock markets in the rural economy. For example, we want to address the following questions:

- What is the current infrastructure at livestock markets?
- Who are the buyers and sellers who carry out livestock transactions?
- What is the volume of trade at livestock markets?
- How are taxes being collected and how is this tax revenue being used?
- How many businesses depend on the livestock trade that occurs at these markets?
- How many rural households visit livestock markets in a given year and what are their spending patterns during these trips?

This report provides answers to these questions based on two surveys: a survey of managers at 45 livestock markets and a survey of 1,000 randomly-selected rural households. The report is organized as follows. In Section 2, we briefly describe the methods used to collect and analyze the data. In section 3, we describe the results of the surveys, including information on the size, infrastructure, and facilities of livestock markets, the volume and value of trade, the system of tax collection, the use of tax revenue, and the spending patterns of households who visit livestock markets. In section 4, the results are summarized, and some implications for policy are discussed.

2. Methods

This report makes use of two surveys carried out in May and June 2019. Both surveys were designed by the International Food Policy Research Institute, in consultation with the SNV, and implemented by AfricSante, a research firm based in Bobo Dioulasso.

The first is a survey of livestock markets, named the 2019 Survey of Livestock Markets. The sample was compiled by obtaining lists of the main livestock markets in Burkina Faso from Comité permanent Interétats de Lutte Contre la Sécheresse dans le Sahel (CILSS) and the Ministry of Animal Resources and Fisheries (MRAH). This resulted in a list of 45 livestock markets in the country (see Table 1). This should not be considered an exhaustive list of places where livestock are bought and sold, since the trading of livestock occurs at village markets throughout the country. However, it probably includes most of the larger, permanent livestock markets in Burkina Faso. The questionnaire consists of six modules over the equivalent of nine pages.

The second is a survey of rural households. It uses a three-stage stratified random sample. In the first stage, 25 provinces were randomly selected, stratified to ensure roughly equal numbers in the three agro-ecological zones of Burkina Faso: Sahelian, North Sudanese, and South Sudanese. In the second stage, four villages were randomly selected from each province. In the third stage, 10 rural households were randomly selected from lists maintained at the village level. Where lists were not available, a comprehensive list of households in the village was prepared from which to select the ten households. Thus, the total sample was 1,000 rural households. The questionnaire consisted of 9 modules spanning the equivalent of 20 pages. Most of the results of the household survey are available from a separate report. In this report, we provide the results from a module on the use of livestock markets by rural households.

Both the livestock market survey and the rural household survey were implemented by a team of 32 enumerators hired and managed by AfricSante. The two questionnaires were programmed onto tablets using SurveyCTO software. The program was designed to perform basic quality control checks, ensuring that all responses were within the correct range and skipping over some questions depending on the responses to earlier questions. The enumerator training took place in April 2019, and the data collection occurred from May 18 to June 22. The analysis was carried out by IFPRI in consultation with the SNV team in Burkina Faso of the Voices for Change Partnership.

Tableau 1. Liste des marchés enquetés.

	Tableau 1. Liste des marchés enquetés.				
	Province	Nom du marché	Type du marché		
1	Bam	Yilou	Marché de consommation		
2	Banwa	Béna	Marché d'exportation		
3	Boulgou	Bitou	Marché d'exportation		
4	Boulgou	Garango	Marché de regroupement		
5	Gnagna	Bilanga-Yanga	Marché de production		
6	Gnagna	Bogande	Marché de production		
7	Gnagna	Diaka	Marché de production		
8	Gnagna	Kibare	Marché de production		
9	Gnagna	Kodjena	Marché de production		
10	Gnagna	Mani	Marché d'exportation		
11	Gnagna	Piela	Marché de production		
12	Gourma	Dagou	Marché de production		
13	Gourma	Fada	Marché d'exportation		
14	Gourma	Matiacoali	Marché de production		
15	Gourma	Natiaboani	Marché de production		
16	Gourma	Tanwalbougou	Marché de production		
17	Houet	Bobo Abattoir	Marché de regroupement		
18	Houet	Bobo Colma	Marché d'exportation		
19	Mouhoun	Dédougou	Marché de consommation		
20	Oudalan	Korizena	Marché de production		
21	Oudalan	Tasmakatt	Marché de production		
			·		
22	Oudalan	Petabouli	Marché de production		
23	Sanmatenga	Kaya	Marché de regroupement		
24	Sanmatenga	Pissila	Marché de production		
25	Seno	Bombofa	Marché de production		
26	Seno	Dori	Marché d'exportation		
27	Seno	Bani	Marché de production		
28	Seno	Coulgountou	Marché de production		
29	Seno	Falangountou	Marché de production		
30	Seno	Sampelega	Marché de production		
31	Seno	Soffokel	Marché de production		
32	Seno	Gangaol	Marché de production		
33	Seno	Seytenga	Marché de production		
34	Seno	Touka Korno	Marché de production		
35	Sourou	Toéni	Marché de production		
36	Sourou	Toéni	Marché de regroupement		
37	Тароа	Diapaga	Marché de production		
38	Тароа	Kantchari	Marché d'exportation		
39	Tapoa	Logobou	Marché de production		
40	Tapoa	Nadiabonli	Marché de production		
41	Тароа	Namounou	Marché d'exportation		
42	Тароа	Nampoanli	Marché de production		
43	Tapoa	Tansarga	Marché de production		
44	Yatenga	Namissiguima	Marché de production		
45	Yatenga	Oula	Marché de production		
	2019 Survey of livestock	markets	·		

Source: 2019 Survey of livestock markets

3. Characteristics of livestock markets

3.1. Types of markets

Livestock markets are informally classified into four categories. Production markets are located in livestock production zones and provide a place for herders to bring their animals for sale to traders. Regroupment markets are places where traders bring small groups of animals to be sold and combined with other small herds for transportation to urban areas. Export markets are places where livestock are sold to be shipped to neighboring countries. And consumption markets are markets located near large cities where livestock are brought to be sold to butchers and retailers who serve urban consumers. However, it is important to note that these distinctions are not clear-cut. The difference between producer markets and collection markets is not always clear. In addition, some animals in collection markets and consumption markets may be purchased for export.

Of the 45 markets surveyed, more than two-thirds (69%) were classified as producer markets by the market managers. Another 18% were categorized as export markets. The remainder were regroupment markets (9%) and consumption markets (4%).

Tableau 2. Type de marché

Туре	Nbr	%
Marché de production	31	69
Marché de regroupeme	4	9
Marché d'exportation	8	18
Marché de consommation	2	4
Total	45	100

Source: 2019 Enquête sur les marchés á bétail

According to Table 3, almost half (47%) of the livestock markets are weekly, with most of the remaining markets operating every three days. Only a handful of markets operating on a daily basis or six times a week and only one market operates once every five days.

Tableau 3. Fréquence du marché

Fréquence	Nbr	%
Quotidien	2	4
Six jour par semaine	1	2
Tous les 3 jours	20	44
Tous les 5 jours	1	2
Hebdomadaire	21	47
Total	45	100

Source: 2019 Enquête sur les marchés á bétail

The average number of permanent employees is 3.2, the number ranging from 0 to 9 across markets. We have removed two responses (80 and 400), which may reflect a misunderstanding of the question. Perhaps the respondent thought the question referred to the number of people employed in the vicinity of the market (including vendors) rather than the number employed by the market itself. The average number of temporary employees was 4.4, ranging from 0 to 20. Again, we excluded one response (200) which probably represents a misunderstanding of the question.

	N	Moyenne	Std dev	Min	Max
Permanentes	43.0	3.2	2.5	0.0	9.0
Temporaires	44.0	4.4	4.9	0.0	20.0

3.2. Infrastructure

Livestock markets vary widely in terms of the level of infrastructure. Some markets are little more than an open field where buyers and sellers come together on a regular basis. Others have walls, buildings, electricity, an enclosing wall, and other facilities. This section describes some of the main features of the infastructure of livestock markets.

Three-quarters of the market have enclosures around the market. The survey enumerators asked about the length and width of the enclosure, as well as the height, as shown in Tableau 5. According to the respondents, the average length was 228 m, and the average width was 155 m. We can estimate the area inside the enclosure by mutliplying length and width. The average area is over 50,000 m, equivalent to 5 hectares. This seems exagerrated and may reflect over-estimation of the length and width. The average height of the enclosure was 1.6 m, reflecting the fact that most responses were either 1 m or 2 m.

Tableau 5. Dimension de la clôture (m)

	N	Mean	Min	Max
Longueur (m)	34	228	40	600
Largeur (m)	34	155	7	450
Superficie (m2)	34	51,700	280	270,000
Hauteur (m)	30	1.6	1.0	2.0

Source: 2019 Enquête sur les marchés á bétail

As shown in Table 6, 90% of the markets with enclosures have metal enclosures. The remainder are brick and/or cement.

Tableau 6. Principale matière de la clôture

Matiere	N	%
Briques en ciment	1	3
Briques tailles	1	3
Métal	27	90
Autre	1	3
Total	30	100

Source: 2019 Enquête sur les marchés á bétail

The respondents were asked how many permanent and temporary building were at the market. Permanent bulding are defined as those made of concrete, brick, or stone. In contrast, temporary buildings are usually made with wood or sticks. As shown below, on average, livestock markets have 8 permanent buldings and 7 temporary buildings. Eleven markets have no permanent buildings, but one respondent said the market had 144 perment buildings.

Tableau 7. Number of buildings in the market

Туре	N	Moyenne	Min	Max
Permanentes	45	8	0	144

Temporaires	45	5	0	50

As shown in the Table below, very few livestock markets have electricity (9%), and none have outdoor lighting a night. Roughly one-third of the markets have a source of drinking water within the market, but more than two-thirds have a toilet.

Tableau 8. Installations du marché (%)

	· · · · · · · · · · · · · · · · · · ·	~,
	N	%
Electricité	4	9
Eclairage a l'exterieur	0	0
Source d'eau	15	33
Toilette	31	69

Source: 2019 Enquête sur les marchés á bétail

Among the 15 markets with drinking water, the source is usually (73%) a borehole, though some markets have a spigot or a large-diameter well.

Tableau 9. Type de source d'eau

Source d'eau	Nbr	%
Robinet	2	13
Forage	11	73
Puits a grand diamèt	1	7
Autres	1	7
Total	15	100

Source: 2019 Enquête sur les marchés á bétail

The toilets in the market places are latrines, two-thirds being simple (traditional) latrines and the remainder are ventilated, improved latrines.

Tableau 10. Type de toilette

	71	
Type de toilette	Nbr	%
Latrines simples	21	68
Latrines ventilees	10	32
Total	31	100

Source: 2019 Enquête sur les marchés á bétail

The table below gives the proportion of livestock markets that offer different goods or services near the market. For example, 22% of markets have a source of water near the market, so that in total, 55% of the markets have water in or near them. and 31% offer forage for animals. Forage, animal feed, veterinary medications, and veterinary services are each available at less than one-third of the markets. Somewhat more widely available is water for animals (33%) and unofficial veterinary medications (42%).

Tableau 11. Services près du marché (%)

	%
Source d'eau	22.2
Fourrage pour les animaux	31.1
Aliments betail (SPAI)/ son/ gousse d'acacia, etc	26.7
L'eau pour les animaux	33.3
Médicaments vétérinaires	22.2
Prestations vétérinaires	22.2

3.3. History and management

The questionnaire also asked about the year of construction of the market. Sometimes this is difficult to define the year a market started, since a market may start as an open field and gradually acquire infrastructure. Here we ask the year of construction, which refers to the date the market obtained buildings and/or an enclosure. Eleven markets reported that they have not been constructed, meaning that they do not yet have buildings or an enclosure. These are the same markets that reported not having an enclosure in Tableau 5. Among the other 34 markets, one was built in 1979 (the Kaya market in Sanmatenga), two were built in the 1980s, three in the 1990s, and the other 28 since the year 2000. Six of the markets were built in 2014.

Tableau 12. Année de construction

Tableau 12. Allile	c ac constra	CCIOII
Année	Nbr	%
1979	1	3
1982	1	3
1986	1	3
1995	1	3
1996	1	3
1999	1	3
2001	1	3
2002	1	3
2004	1	3
2005	1	3
2006	2	6
2007	1	3
2008	3	9
2009	3	9
2010	1	3
2011	2	6
2013	3	9
2014	6	18
2016	1	3
2018	2	6
Total	34	100

Source: 2019 Enquête sur les marchés á bétail

A large majority of the markets (84%) started as traditional markets and later became formalized, while the others (16%) were started as formal markets.

Tableau 13. Type de marché au debut

Type de marché	Nbr	%
Traditionnel	38	84
Moderne	7	16
Total	45	100

Source: 2019 Enquête sur les marchés á bétail

Among the 38 markets that started as traditional markets, we asked which person or organization took the initiative to develop it into a modern market with an enclosure and official status. About two-thirds of the markets were made formal by the commune or conceil regional. One market was started by a village chief and 11 markets by another person or body.

Tableau 14. Initiative de construir un marché moderne

Iniciative de constr	Nbr	%
Chef de village	1	3
Commune/conseil regi	26	68
Autre	11	29
Total	38	100

Source: 2019 Enquête sur les marchés á bétail

The source of financing for the construction also varies across markets. The central government provided the funding for 18 markets (40% of the total), while the commune or conseil general was responsible for funding another 11 markets (24%). Just one market (Bitou market in Boulgou province) was financed by the private sector, that is by traders. Another 15 markets (one-third of the total) received funding from another source.

Tableau 15. Source principale de financement

Tableau 13: Source principale de linancement		
Source principale de	Nbr	%
Commune/conseil regi	11	24
Gouvernement central	18	40
Secteur privé	1	2
Autre	15	33
Total	45	100

Source: 2019 Enquête sur les marchés á bétail

Almost all the livestock markets surveyed (41 or 91%) were owned by the commune. Just two markets (4%) were owned by traders and two (4%) by other entities.

Tableau 16. Proprietaire du marché

Propietaire	Nbr	%
Commune	41	91
Secteur privé	2	4
Autre	2	4
Total	45	100

Source: 2019 Enquête sur les marchés á bétail

The market questionnaire also asked about the mode of management. Direct management means that the owner (almost always a commune) hires a manager and plays an important role in management of the market. Delegation refers to the situation where the owner allows another organization to manage the livestock market, perhaps with some system for sharing the revenue generated by the market. According to the survey, almost half of the markets (47%) are under direct management, while another 40% involve delegated management. The remainder (13%) have some other management mode, which could include a hybrid of the two other modes.

Tableau 17. Mode de gestion du marché

	0	
Mode	Nbr	%
Direct	21	47
Délégation	18	40

Autre	6	13
Total	45	100

Each livestock market has texts which determine how the market is governed. However, it is possible that a market is governed by more than one type of texts. For this reason, the livestock market questionnaire allowed respondents to give more than one response, resulting in a total which is greater than 45, the number of markets visited. As shown in the table below, the most common type of texts is statutes and internal reguation (44%), followed by a record of entries and exits (31%) and a record of receits (29%). Less common texts are the record of specific charges (18%) and a contract or convention (16%). In total, there were 62 governing texts among the 45 markets surveyed.

Tableau 18. Type de textes qui regissent le marché (%)

	N	%	
Statuts et règlement intérieur	20	44	
Contrat ou convention	7	16	
Cahier de charges specifique	8	18	
Cahier d'enregistrement des entrées et des sorties	14	31	
Cahier de recettes	13	29	

Source: 2019 Enquête sur les marchés á bétail

The previous table might give the impression that all markets have some governing texts. However, the table below shows that almost half the markets (22 or 49%) have no governing texts. In half these cases (11 markets), the market has not been formalized and does not have an enclosure. However, the other half have been formalized, do have an enclosure, but appear not to have governing texts. At the other extreme, four markets have four of the governing texts and another four markets have all five of the governing texts.

Tableau 19. Nombre de textes qui regissent le marché (%)

Nombre de textes	N	%
0	22	49
1	9	20
2	1	2
3	5	11
4	4	9
5	4	9
Total	45	100

Source: 2019 Enquête sur les marchés á bétail

The questionnaire also asked about the repartition of the revenue from the market. Three markets reported that there was no revenue for repartition. Among the 42 other markets, the average repartition is shown in the table below. Somewhat less than two-thirds of the revenue (64%) goes to the commune, 21% to the management committee, and 14% to others. It is rare that all of the revenue goes to the commune (6 markets) or to the management committee (1 market). Among the 42 markets generating revenue, almost all (41) provide some of the revenue to the commune and more than half of them allocate some to the commune and some to the management committee. On average, 14% of the revenue was allocated to "other". In almost all cases, this refers to payments made to (or retained by) the tax collectors. Typically, this amount was 20% of the total, though not all markets paid collectors in this way.

Commune	64
Comité de gestion	21
Autre	14
Total	100

The questionnaire asked about the most important investment made in the market using funds from the market. Only 23 of the 45 market managers responded to this question. Several markets (26%) reported investments in enclosures, buildings, and water sources. A few said they did not know. However, almost two-thirds reported "other" investments. This may refer to a wide range of different investments or some category that we did not include. Although salaries are generally not considered "investments", it is quite possible that salaries for employees of the market is the most common use of market revenue. The fact that 12 respondents did not answer this question may reflect a lack of knowledge of how market revenue is allocated and/or a lack of investment in the livestock market.

Tableau 21. Investissement du revenu le plus important dans le marché

Dans le marché	Nbr	%
Cloture	2	9
Structures	1	4
Point d'eau	3	13
Autre	15	65
Je ne sais pas	2	9
Total	23	100

Source: 2019 Enquête sur les marchés á bétail

The questionnaire also asked about the most important investments outside the market that were funded by market revenue. In this case, only 16 of the 45 market managers responded. They mentioned roads (13%) and community buildings (6%). The "other" responses included small repairs, food support for the police, classrooms, and so on. Almost one-third (31%) said there were no investments outside the market.

Tableau 22. Investissement du revenu le plus important en dehors du marché

En dehor le marché	Nbr	%
Routes	2	13
Structure communautaire	1	6
Rien	5	31
Autre	6	38
Je ne sais pas	2	13
Total	16	100

Source: 2019 Enquête sur les marchés á bétail

3.4. Volume and value of livestock trade

This section describes the results of the livestock market survey concerning the volume and value of trade in animals. Table 23 describes the number of sales of each type of animal over the month before the interview. A large majority of markets (84-100%) reported sales of cattle, goats, and sheep, whereas very few market (4-9%) reported sales of pigs and camels. Roughly half of the markets visited reported sales of other animals, such as donkeys, mules, and poultry. The average number of animals sold per market in the past month (including zeroes) was 384 cattle, 552 goats, and 609 sheep. The average

number of animals sold was much smaller for pigs and camels, mainly due to the fact that most markets had zero sales. One market (the abattoir in Bobo Dioulasso) reported 2000 camel sales in the previous month.

Tableau 23. Quantité vendues par mois par marché

rabicaa 201 quantite venaaco par moio par marene					
	N	% des	Nbr	Min	Max
		marchés	vendu		
		avec de	par mois		
		ventes			
Bovins	45	84	384	0	2,880
Chèvres	45	98	552	0	3,000
Moutons	45	100	609	10	4,000
Cochons	45	4	0	0	0
Chameaux	45	9	47	0	2,000
Autres	45	49	2,496	0	60,000

Source: 2019 Enquête sur les marchés á bétail

The table below provides estimates of the total number of cattle, goats, and sheep sold in Burkina Faso according to the Survey of Livestock Markets and the Household Survey on Rural Resilience. Based on the Survey of Livestock Markets, 207 thousand cattle, 298 thousand goats, and 329 sheep were sold at the 45 large markets in the sample. However, if we extrapolate from the Household Survey on Rural Resilience, we estimate that the number of cattle sold was 1.9 million, while sales of goats and sheep were 4.3 million and 2.3 million. Of course, many of these sales were outside markets, including sales to neighbors and directly to butchers. However, the survey also collected information on the share of animal sales that took place at markets, shown in the third column. Based on this information, we estimate that roughly 1.0 million cattle were sold at markets, in addition to 2.8 million goats and 1.9 million sheep. The difference between the first column and the last column implies that the 45 large markets represent only a small portion of the livestock sales at markets. In other words, there are many smaller markets that account for more than half of the livestock sales that take place at markets.

Tableau 24. Quantité vendues par an au niveau national (1000 têtes)

rabicad 24. Quantite vendues par an ad invead national (1000 tetes)						
	Quantité	Quantité	Pct. vendue	Quantité		
	vendues aux 45	vendues par les	aux marchés	vendues aux		
	marchés	ménages		marchés		
	grandes	ruraux				
	(1,000 têtes)	(1,000 têtes)	(%)	(1,000 têtes)		
Bovins	207	1,887	54	1,019		
Chèvres	298	4,261	65	2,770		
Moutons	329	2,253	79	1,859		

Source: 2019 Enquête sur les marchés á bétail (1ere colonne) et 2019 Enquête aupres des menages ruraux sur la resilience rurale (autres colonnes)

In order to measure the seasonality of cattle sales, we asked the market managers which month had the highest cattle sales. The months most widely reported as peak months were September (22% of markets) and December (20%), followed by October (13%) and June (11%). Three of these months occur during the rainy season, probably reflecting the desire of livestock producers to fatten cattle and increase their value before sale.

Tableau 25. Mois des ventes de bovins les plus élevées

Mois Nbr %

Janvier	2	4
Mai	3	7
Juin	5	11
Juillet	3	7
Aout	4	9
Septembre	10	22
Octubre	6	13
Novembre	3	7
Decembre	9	20
Total	45	100

Similarly, we asked in which month are cattle sales the lowest. More than half the market managers surveyed said that March or April was the month of lowest cattle sales. These are the final months of the dry season, when pasture is difficult to find and feed is costly, so cattle tend to be underweight.

Tableau 26. Mois des ventes de bovins les plus bas

Mois	Nbr	%
Janvier	1	2
Mars	17	38
Avril	7	16
Mai	2	4
Juin	4	9
Juillet	4	9
Aout	7	16
Septembre	2	4
Octubre	1	2
Total	45	100

Source: 2019 Enquête sur les marchés á bétail

The livestock survey also asked about the month of highest sales of small ruminants, mainly goats and sheep. As shown in the table below, 85% of the markets reported that the months of June through September were the months of highest sales. Again, this corresponds to the rainy season in Burkina Faso, reflecting the fact that livestock producers want to fatten their animals before sale.

Tableau 27. Mois des ventes de petits ruminants les plus élevées

Mois	Nbr	%
Janvier	2	4
Juin	5	11
Juillet	13	29
Aout	8	18
Septembre	12	27
Octubre	2	4
Decembre	3	7
Total	45	100

Source: 2019 Enquête sur les marchés á bétail

Almost three-quarters of the market managers (71%) reported that the months of February to May were the period of lowest sales. This represents the end of the dry season when goats and sheep are generally underweight and would not get a good price in the market.

Tableau 28. Mois des ventes de petits ruminants les plus bas

Mois	Nbr	%
Janvier	1	2
Fevrier	5	11
Mars	14	31
Avril	9	20
Mai	4	9
Juin	3	7
Juillet	2	4
Aout	4	9
Septembre	1	2
Octubre	1	2
Novembre	1	2
Total	45	100

Tables 28 and 29 show the average, minimum, and maximum sales of cattle and small ruminants, respectively. It is necessary to interpret these figures with caution because only one-third of the markets (15) reported that they maintain written records of cattle sales over the previous 12 months. Thus, for most of the markets, these figures are based on memory and are likely subject to some recall error. Table 28 gives the number of cattle sold over the 12 months before the interview. The average ranges from 263 in March 2019 to 491 in December 2018. It is also worth noting that some markets have no cattle sales each month, while others have thousands of cattle sales per month.

The average number of cattle sold in each market is 357 per month or 4,285 per year. Across the 45 livestock markets surveyed, this represents sales of 193 thousand cattle per year. This is close to the estimate provided earlier of 207 thousand cattle sales per year, based on an extrapolation from the previous month alone (see Table 23).

Tableau 29. Quantité des ventes de bétail

Mois	N	Moyenne	Min	Max
Mai 2018	44	288	0	1,800
Juin 2018	44	330	0	2,800
Juillet 2018	44	292	0	2,000
Aout 2018	44	341	0	4,000
Septembre 2018	44	377	0	4,500
Octobre 2018	44	416	0	5,000
Novembre 2018	44	405	0	4,500
Décembre 2018	44	491	0	8,000
Janvier 2019	44	468	0	6,000
Fevrier 2019	44	332	0	4,500
Mars 2019	44	263	0	2,500
Avril 2019	44	282	0	2,000

Source: 2019 Enquête sur les marchés á bétail

The sales of small ruminants range from 802 per market in May 2018 to 1,101 per market in December 2018. The sales of small ruminants was greatest in December and January, showing the same seasonal pattern as the sales of cattle. Again, there is a wide variation across markets, with some markets selling just a dozen small ruminants per month, while others sell more than 8,000 small ruminants per month.

The average sales per market across the year is 950 animals per month or 11,401 animals per year. Taking the sum of all transactions, the 45 markets surveyed had 513,000 small ruminant sales over the

year prior to the survey. This is about 20% less than the estimate of 627 thousand goats and sheep sold from these markets based on an extrapolation of the previous month of sales (see Table 23).

Tableau 30. Quantité des ventes de petits ruminants

Mois	N	Moyenne	Min	Max
Mai 2018	44	802	15	8,000
Juin 2018	44	993	20	9,500
Juillet 2018	44	860	12	9,000
Aout 2018	44	935	10	9,000
Septembre 2018	44	908	12	9,000
Octobre 2018	44	987	10	9,000
Novembre 2018	44	959	15	8,500
Décembre 2018	44	1,101	15	10,000
Janvier 2019	44	1,097	15	8,000
Fevrier 2019	44	917	10	7,500
Mars 2019	44	924	15	8,000
Avril 2019	44	918	10	7,300

Source: 2019 Enquête sur les marchés á bétail

To collect information on livestock prices, respondents were asked the average price of each type of animal over the previous month. Table 30 shows the average, minimum, and maximum prices given across markets. The average price of cattle was FCFA 224 thousand for cattle, close to FCFA 20 thousand for goats, and about FCFA 42 thousand for sheep. The maximum price tends to be roughly double the average price, while the minimum price for all three species was in the range of FCFA 10-15 thousand. Although the questionnaire also collected information on the price of pigs and camels, these results are not included because in each case, just one market reported a price. Again, these results should be interpretted with some caution because only 9 of the 45 markets (20%) keep records of the prices from the sale of animals.

Tableau 31. Prix moyen des ventes (FCFA/tete)

Туре	N	Moyennen	Min	Max
Bovins	38	223,816	15,000	400,000
Chèvres	45	19,811	10,000	40,000
Moutons	45	42,467	15,000	85,000

Source: 2019 Enquête sur les marchés á bétail

To get information on the seasonality of livestock prices, we asked the market managers to estimate the price of a three-year-old bull of average quality for each of the previous 12 months. The highest prices were in June 2018, close to FCFA 248 thousand, and since then prices have declined to just FCFA 151 thousand. It seems unlikely that this is a seasonal pattern and may reflect a trend over 2018-2019. The range of prices is relatively narrow. Across the 45 markets and 12 months, the lowest reported price for a three-year-old bull was FCFA 80 thousand and the highest was FCFA 450 thousand.

Tableau 32. Prix moyen d'un taureau de 3 ans par mois (FCFA/tete)

Mois	N	Moyenne	Min	Max
Mai 2018	38	201,053	100,000	350,000
Juin 2018	40	247,750	115,000	450,000
Juillet 2018	38	209,026	110,000	400,000
Aout 2018	38	206,711	90,000	400,000
Septembre 2018	38	213,026	85,000	450,000

Octobre 2018	38	206,711	100,000	450,000
Novembre 2018	38	192,763	100,000	375,000
Décembre 2018	39	195,897	125,000	300,000
Janvier 2019	38	180,789	115,000	300,000
Fevrier 2019	38	171,579	110,000	300,000
Mars 2019	38	157,368	80,000	300,000
Avril 2019	38	151,053	80,000	300,000

3.5. Commercial flows

This section describes the buyers and sellers of livestock in each market, as well as the main origins and destinations of animals in the market. The first table examines the main type of buyer of each animal type. It illustrates the importants of livestock traders among sellers in livestock markets. Overall, 44% of the markets reported that traders represent the majority of sellers, and another 46% says that traders represent about half of sellers. In other words, it is unusual for livestock producers to represent a large share of sellers in the 45 livestock markets we surveyed. This is in spite of the fact that two-thirds of the markets visited were categorized as producer markets. It is likely that livestock producers tend to sell their animals either at the farm or at a village market, and that traders buy animals at these small village markets and bring them to larger markets, such as the ones in our sample.

Tableau 33. Type de vendeurs de chaque type d'animale (%)

Type de vendeur	Bovins	Chevres	Moutons	Autre	Total
Tous commerçants	6	6	10	10	8
Majorité commerçants	32	32	32	70	36
Moitié commerçants	48	48	48	20	46
Minorité commerçants	13	10	10	0	10
Pas de commerçants	0	3	0	0	1
Total	100	100	100	100	100
N=	31	31	31	10	103

Source: 2019 Enquête sur les marchés á bétail

Regarding the geographic origin of animals being sold at the market, 92% of the respondents said that the animals come from the same province, but generally not from the same commune. This general pattern holds across cattle, goats, sheep, and other animals. Only one market reported that the animals generally come from another country.

Tableau 34. Origine de chaque type d'animale (%)

Origine	Bovins	Chevres	Moutons	Autre	Total
Même commune	19	19	16	20	18
Même province	71	74	77	70	74
Autre province	6	3	3	10	5
Autre pays	3	3	3	0	3
Total	100	100	100	100	100
N=	31	31	31	10	103

Source: 2019 Enquête sur les marchés á bétail

For 60% of the markets, the main method of transporting animals to the market is on foot. The percentage is somewhat higher for cattle (68%) and somewhat lower for goats and sheep (55%). In the case of cattle, the second most common mode of transport was by truck, whille goats and sheep arrived by a variety of modes including trucks, motorcycles, and three-wheeled vehicles.

Tableau 35. Moyen de transport en arrivant (%)

		01			
Type de transporte	Bovins	Chevres	Moutons	Autre	Total
Camions	26	16	19	10	19
Pickup	0	0	0	10	1
Tricycle	3	10	10	0	7
Motos	3	19	16	10	13
A pied	68	55	55	70	60
Total	100	100	100	100	100
N=	31	31	31	10	103

Source: 2019 Enquête sur les marchés á bétail

Turning to the types of buyers at the market, they are very often traders. In 90% of the cases, respondents said that all or most of the buyers were traders. This proportion is considerably higher than the corresponding figure for buyers (44%). This percentage is 84% for cattle, 93% for goats, and 97% for sheep. In other words, the common transaction at the livestock markets surveyed is a trader selling one or more animals to another trader, followed by a producer selling to a trader.

Tableau 36. Type d'acheteurs de chaque type d'animale (%)

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Type d'acheteur	Bovins	Chevres	Moutons	Autre	Total
Tous commerçants	10	19	13	10	14
Majorité commerçants	74	74	84	60	76
Moitié commerçants	3	3	0	0	2
Minorité commerçants	0	0	0	20	2
Pas de commerçants	13	3	3	10	7
Total	100	100	100	100	100
N=	31	31	31	10	103

Source: 2019 Enquête sur les marchés á bétail

Approximately three-quarters (77%) of the respondents said that the animals sold are mostly transported to markets within the same province, though frequently in a different commune. About 20% of the respondents said that most animals are shipped to other provinces, and 3% (one respondent) said that most animals are exported out of the country. In other words, most of the transport of animals seems to be within the same province, although the destination of the animals tends to be farther than the origin.

Tableau 37. Destination de chaque type d'animale (%)

Tabicaa	rabicad 371 Destination de chaque type à ammaie (70)								
Destination	Bovins	Chevres	Moutons	Autre	Total				
Même commune	26	16	16	10	18				
Même province	52	58	65	70	59				
Autre province	19	26	19	10	20				
Autre pays	3	0	0	10	2				
Total	100	100	100	100	100				
N=	31	31	31	10	103				

Source: 2019 Enquête sur les marchés á bétail

Finally, the respondents were asked about the mode of transportation for shipping animals to their destination after sale. Trucks and movement on foot were the most common responses, each accounting for 35-50% in the case of cattle, goats, and sheep. In general terms, we can say that animals generally arrive at the market on foot from within the province, but they leave by truck or on foot to more distant destinations.

Tableau 38. Moyen de transporte en quittant

Transporte	Bovins	Chevres	Moutons	Autre	Total
Camions	52	39	42	0	40
Tricycle	0	6	6	10	5
Moto	3	19	16	10	13
A pied	45	35	35	80	43
Total	100	100	100	100	100
N=	31	31	31	10	103

Source: 2019 Enquête sur les marchés á bétail

4. Economic impact of livestock markets

What is the economic impact of livestock markets on the local communities? This section explores three dimensions of economic impact: 1) the tax revenue collected from these markets and its use, 2) the economic activity in and near the markets, and 3) the spending patterns of people who visit livestock markets to buy and sell animals. The first two types of indicators come from the 2019 Survey of Livestock Markets, while the third, information on spending patterns, comes from the 2019 Household Survey on Rural Resilience.

4.1. Tax revenue from livestock markets

Of the 45 markets surveyed, 41 of them (91%) collect some type of tax or fee on livestock that pass through the market. Of these 41, 32% collect a tax at the point where livestock are brought into the market, 76% at the time of sale, and 24% at the time when the animals leave the market. One livestock market also collects a fee for animals that remain overnight. The fact that the sum of these percentages is more than 100% implies that some markets collect taxes or fees at more than one point, but most collect it at just one point.

Tableau 39. Moment auquel les taxes sont percue (%)

	N	%
A l'entrée	13	32
A la vente	31	76
A la sortie	10	24
Pour le parkage	1	2

Source: 2019 Enquête sur les marchés á bétail

The table below shows the total value of taxes charged for each type of animal. Almost all markets collect taxes on cattle, goats, and sheep. The average tax collected on cattle is FCFA 802 per head, while the average for goats and sheep is FCFA 202 per head. All markets charge the same taxes on goats and sheep. Just one market collects taxes on pigs and three market collect taxes on camels. This probably reflects the fact that these animals are not widely traded in livestock markets. According to the Household Survey on Rural Resilience, almost all pigs are sold by producers at the farm rather than in a

market. Presumably, pigs follow a separate market channel that rarely involves the livestock markets in our sample.

Tableau 40. Taxes payées par animale

rabicaa 401 raxes payees par animale						
	N	Moyenne	Min	Max		
		(FCFA/tête)	(FCFA/tête)	(FCFA/tête)		
Bovins	36	812	200	3200		
Chèvres	41	202	50	600		
Moutons	41	202	50	600		
Cochons	1	100	100	100		
Chameaux	3	433	100	1000		

Source: 2019 Enquête sur les marchés á bétail

The average tax revenue collected across markets was FCFA 221 per month per market. This is lower than the figure obtained by multiplying the numbers of each type of animal sold by the tax in the last table, which comes to FCFA 546 per month per market. This may reflect the difficult of collecting the tax consistently, discounts given to traders, or over-estimation of the number of animals sold.

The annual amount collected by the 45 livestock markets is estimated to be FCFA 119 million. The potential tax revenue, if the estimate of animal sales is correct and taxes were collected on every animal, would be more than double this figure.

Tableau 41. Valeur totale des taxes percues

	•	
	N	Valeur
		(millions
		de FCFA)
Revenu total par mois par marché	45	0.22
Revenu total par mois pour les 45 marché	45	9.94
Revenu annual par marché	45	2.65
Revenu annual pour les 45 marché	45	119.34

Source: 2019 Enquête sur les marchés á bétail

4.2. Economic activity in and near the livestock market

One way to measure the economic impact of livestock markets is by the number of people employed there. We asked the market managers to estimate the number of people working at the livestock market. This is not limited to people employed by the market, but includes others who work there including traders, vendors, brokers, and day laborers. The table below gives the average number of each type of worker. The most common types of people working at the livestock market are animal traders (71 per market), their employees (30), brokers (17), day laborers (15), and vendors (10). In total, there are an average of 151 people working at the market, though the total varies widely, ranging from just 3 brokers in one small market to over 1,300 people in a large market.

Tableau 42. Nombre de personnes qui travaillent au marché

Types de travail	Moyenne	Min	Max
Commerçants de bétail	71	0	1,000
Employés des commerçants	30	0	200
Courtiers	17	0	60
Vendeurs	10	0	80
Journaliers	15	0	100

Gardes de sécurité	1	0	10
Employés du marché á bétail	5	0	31
Parking	1	0	50
Autres	1	0	40
Total	151	3	1,324

We asked about the average daily revenue of an unskilled worker. The responses ranged from FCFA 1000 per day to FCFA 60,000 per day, with an average of FCFA 4,578 per day. The average and maximum value indicate that some respondents did not correctly understand the question. Perhaps they thought the question referred to the average daily revenue of people working at the market, including traders and brokers. In any case, it is likely that the true value is toward the bottom of this range, that is FCFA 1000-2500 per day.

Another indicator of the economic activity stimulated by the livestock market is the number of businesses in the vicinity of the market. Since the market draws livestock producers, traders, and others to the town, it is not surprising that businesses appear nearby to provide goods and services to them. The table below gives the average number of each type of business within 100 meters of the livestock market. Only one of the 45 markets reported having an auberge or chambre d'hôtes, so the average number per market is close to zero. On the other hand, the markets had an average of 2.4 restaurants/bars/maquis and a similar number of boutiques/alimentations. Only 3 of the 45 markets had a supplier of agricultural inputs and four markets had a grain store within 100 meters.

Tableau 43. Infrastructures a moin de 100 m du marché

Types d'infrastructures	Moyenne	Min	Max
Auberge ou chambres d'hôtes	0.0	0.0	1.0
Restaurants / bars / maquis	2.4	0.0	20.0
Boutique / alimentation	2.4	0.0	20.0
Magasins des intrants agricoles	0.2	0.0	5.0
Magasins ou banque de céréales	0.2	0.0	5.0
Autre	0.1	0.0	5.0

Source: 2019 Enquête sur les marchés á bétail

4.3. Spending patterns of visitors to the livestock markets

This section describes the patterns of rural household visits to livestock markets and how much they spend while there. It is based on the 2019 Household Survey of Rural Resilience, which involved a sample of 1,000 rural households scattered across 25 provinces of Burkina Faso. As a stratified random sample of rural households, it can be considered representative of the rural areas of the country and the three agro-ecological zones. Here, we focus on the results from Section F8 "Utilization of livestock markets". Other parts of the survey are described in a separate report.

The first table gives the percentage of rural households that say they visited a livestock market within the past 12 months to buy or sell an animal. Overall, 28 percent of rural households visited a market, though the proportion ranges from 45% in the Sahelian zone to 14% in the South Sudanese zone. This probably reflects the fact that rainfall is lowest in the Sahelian zone, making crop production difficult and livestock a more important source of livelihoods.

Tableau 44. Proportion des menages qui ont visité un marché à bétail l'année dernière par zone

Zone	Pct des
	menages

Sahélienne	45
Nord-soudanienne	18
Sud-soudanienne	14
Total	28

Source : Enquête auprès des ménages sur la résilience rurale, 2019

We can also examine the pattern by wealth quintile, which is defined based on the housing characteristics and the ownership of selected consumer assets. We use principal components analysis to generate a single asset index, then sort the households by this index, and divide them into five groups of equal size (quintiles). There is a strong pattern in which the poorest households are most likely to visit a livestock market (50%) while the richest are the least likely to (19%). In other words, livestock markets are used disproportionately by the poorest livestock producers.

Tableau 45. Proportion des menages qui ont visité un marché à bétail l'année dernière par quintile

Categorie de richesse	pct des
	menages
Le plus pauvre	50
2ieme	23
3ieme	21
4ieme	27
Le plus riche	19
Total	28

Source : Enquête auprès des ménages sur la résilience rurale, 2019

Although less than one-third of rural households visited a livestock market in the previous year, those that did made multiple visits. On average, they visited a livestock market 6.8 times over the 12 months, implying an average of once every 7-8 weeks. If we extrapolate this to the national level, it implies that rural households make 4.96 million trips to livestock markets every year. Households in the Sahelian zone were more likely to visit a livestock market (45% of them did), but they visit markets less frequently (5.6 times per year).

Of those visiting markets, 80% of them visited the same livestock market multiple times. Only a few households visited more than one different livestock market over the year. One household (perhaps a trader) reported visiting 22 markets over the previous 12 months. On average, households visited 1.3 different markets over the year.

Tableau 46. Nombre de visites et nombre de marchés visites			
Zone	Nombre	Nombre	
	de	de	
	visites	marchés	
	par an	visités	
Sahélienne	5.6	1.2	

 Nord-soudanienne
 10.0
 1.5

 Sud-soudanienne
 7.8
 1.1

 Total
 6.8
 1.3

Source : Enquête auprès des ménages sur la résilience rurale, 2019

The table below shows the main livestock markets visited by the respondents of the 2019 Household Survey on Rural Resilience. The most visited markets are those in Yilou and Kaya (each visited by 28 households), followed by those in Bitou and Garango (each visited by 21 households) and Mani (20

households). The agro-ecological zone refers to the home of the respondent households. Most markets draw visitors only from one agro-ecological zone, which is not surprising given that it is easier for households to visit markets nearby.

Tableau 47. Marché à bétail principale visité par zone agro-écologique

Tableau 47. Mai che a bet	p	Zone		, 10 B. qu. c
Marché	Sahélien	Nord-	Sud-	Total
		sou	soud	
	(nombre d	e ménages en	quêtés qui	ont visité)
Yilou	28	0	0	28
Béna	0	5	0	5
Bitou	0	17	4	21
Garango	0	20	1	21
Bilanga-yanga	12	0	0	12
Kibare	2	0	0	2
Mani	20	0	0	20
Piela	1	0	0	1
Fada	0	6	0	6
Bobo Abattoir	0	0	14	14
Bobo Colma	0	0	9	9
Dédougou	0	1	0	1
Taskmakatt	11	1	0	12
Kaya	28	0	0	28
Bombofa	15	0	0	15
Dori	5	0	0	5
Coulgountou	3	0	0	3
Falangountou	9	0	0	9
Sampelega	6	0	0	6
Soffokel	10	0	0	10
Gangaol	5	0	0	5
Diapaga	0	0	3	3
Kantchari	0	0	2	2
Nampoanli	0	0	1	1
Tansarga	0	0	1	1
Namissiguima	9	0	0	9
Oula	4	0	0	4
Total	168	51	35	254

Source : Enquête auprès des ménages sur la résilience rurale, 2019

The average travel time from home to the main livestock market is 9 hours. However, this figure is misleading because it includes the effect of a few households that report travel times of 800 hours (33 days) and 500 hours (21 days). These may refer to households that bring their animals on foot to a distant market. Even if we exclude these two households, the average is still 6.5 hours. However, the median travel time is just one hour, meaning that half the households report travel time of one hour or less, while the other half report travel times of more than an hour.

Tableau 48. Temps de voyage au marché principal

Zone	Temp	Temps
	moyen de	median de
	voyage	voyage
	(heures)	(heures)

Sahélienne	6	1
Nord-soudanienne	17	1
Sud-soudanienne	10	2
Total	9	1

Source : Enquête auprès des ménages sur la résilience rurale, 2019

The survey also asked about the number of nights spent at the location of the livestock market. Virtually all respondents (98%) did not spend the night there. Instead, they carried out their business and started to return home the same day. This finding helps explain the lack of chambre d'hôtes within 100 meters of the market, according to the Survey of Livestock Markets.

Tableau 49. Nombre de nuits passees pendant la derniere visite

Nombre de nuits	Freq.	Percent
0	250	98
1	1	0
2	3	1
Total	254	100

Source : Enquête auprès des ménages sur la résilience rurale, 2019

The table below gives the household expenditure during the most recent trip to a livestock market for the 254 households in the survey that reported such a trip. The most common expenses were food (80% of households) and food supplies to bring home (70%), followed by transport (41%) and non-food items to bring home (33%). Very few households (2%) spent on accommodation and just 8% purchased agricultural inputs during the trip to the livestock market. Average spending was FCFA 17,338 per trip. Of this total, the largest components were food to bring home (31%), inputs for livestock production (22%), transport (14%), and non-food goods to bring home (11%).

These calculations give equal weight to each household. However, some households make numerous trips to the market, while others only make one or two trips per year. The households making many trips tend to spend more than those making few trips. As a result, if we calculate the average spending by trip, giving greater weight to frequent visitors, the average spending is FCFA 52,044 per trip.

Tableau 50. Dépenses pendant la dernière visite au marché à bétail

Type de dépense	N	% avec	Dépenses	% des
		dépenses	moyennes	dépenses
			(FCFA/visite)	
Auberge	254	2	121	1
Aliments	254	80	1,379	8
Transport	254	41	2,384	14
Intrants pour l'elevage	254	27	3,814	22
Intrants pour l'agriculture	254	8	419	2
Aliment pour la maison	254	70	5,312	31
Biens non-alimentaires	254	33	1,959	11
Autre	254	2	1,951	11
Total	254	95	17,338	100

Source : Enquête auprès des ménages sur la résilience rurale, 2019

In the table below, we extrapolate spending at livestock markets to the national and annual level. These estimates take into account the spending per trip, the number of trips taken in the past 12 months, and

the sampling weights (also called expansion factors) to estimate the total for all rural households in Burkina Faso. The results indicate that rural households spend approximately FCFA 258 billion per year at livestock markets when traveling there to buy and sell animals. The main categories of expenses are transportation (23%), other (21%), and food to bring home (18%).

Tableau 51. Dépenses nationales et annuelles aux marchés à bétail

Type de dépense	Total	% du
	(millions de	total
	FCFA/an)	
Auberge	648	0
Aliments	22,356	9
Transport	58,444	23
Intrants pour l'elevage	42,522	16
Intrants pour l'agriculture	1,924	1
Aliment pour la maison	45,779	18
Biens non-alimentaires	33,687	13
Autre	52,984	21
Total	258,345	100

Source : Enquête auprès des ménages sur la résilience rurale, 2019

5. Summary and conclusions

5.1. Summary

This report was prepared under the theme of Pastoral Resilience within the Voices for Change Partnership between SNV, the International Food Policy Research Institute (IFPRI), and various civil society organizations based in Burkina Faso. The objective of the report is to shed light on the important role of livestock markets in the rural economy. In particular, the report focuses on describing the characteristics of livestock markets in Burkina Faso and their contribution to the local economy. The study is based on two surveys. The first is a survey of market managers at 45 livestock markets in the country. The other is a stratified random survey of 1,000 rural households dispersed across 25 provinces of Burkina Faso. Most of the results of the household survey are described in a separate report, but here we examine the use of livestock markets by rural households.

About two-thirds of the markets interviewed were categorized as producer markets, but the sample also included export markets, aggregation markets, and consumption markets. The larger markets generally operated on a three-day schedule, while smaller ones followed a weekly cycle. The infrastructure of these livestock markets is fairly basic. One-quarter of the markets do not have an enclosure wall, and among those that do, 90% are made of metal rather than bricks or concrete blocks. Less then 10% of the markets have electricity, one-third have a source of water, and two-thirds have a latrine. A large majority of the markets (84%) started as traditional markets and have since been formalized. In two-thirds of the cases, it was the commune that initated this formalization. The funding for this formalization generally came from the central government (40%) or the commune (24%). Almost all the markets surveyed (91%) were owned by the commune. About half are managed directly, while somewhat less than half are managed by delegation. Almost half the markets (49%) have no governing texts to regulate their operation.

Three markets collect no revenue. Among the others, an average of 64% of the revenue goes to the commune and another 20% to the management committee. When asked the most important investment in the market, only half the respondents answered, perhaps reflecting the lack of investment in the market. A five respondents mentioned infrastructure, such as buildings and enclosure walls, but

the most said "other", which may refer to salaries. Similarly, only one-third of the respondents could identify an investment outside the market that the revenue was used for. Among them, the most common response was "other", which may refer to salaries.

Most of the markets involve trading of cattle, goats, and sheep, wheras very few had sales of pigs and camels. Based on monthly sales, we can extrapolate to annual sales across the 45 markets of 207 thousand cattle and 627 thousand goats and sheep. In contrast, the Household Survey on Rural Resilience indicates that producers sell about 1.0 million cattle and 4.5 million goats and sheep at markets. This implies that some 80% of livestock sales occur at smaller village markets and just 20% at the 45 larger markets in the survey.

Livestock sales at the 45 markets shows distinct seasonality, which higher sales in the period June-September and lower sales in March-April. This reflects the tendency to sell animals after the rainy season has started so they can be fattened up. Sales are lowest at the end of the dry season, when the animals are likely to be underweight.

In over half the markets, the main method of bringing animals to the market is on foot, though some cattle arrive by truck and small ruminants arrive by motorcycle and three-wheeled vehicles. They generally come from a different commune but the same province. In most markets, traders represent about half of all sellers or more than half. Presumably, traders buy the animals at smaller village markets to bring to these 45 larger markets. A large majority of buyers in these markets are traders, and animals are mostly taken from the market by truck, though some are taken away on foot.

We measure the economic impact in three ways. First, the livestock markets generate tax revenue. They charge an average of FCFA 800 per bovin and FCFA 200 per goat or sheep. The average monthly tax revenue is FCFA 2.6 million per year per market or FCFA 119 million across the 45 markets. This figure is less than what we estimate they could collect given the number of animals passing through the market and the per-animal fees, which may reflect over-estimation of volumes or inconsistency in collecting taxes.

Second, the livestock markets provide employment to 150 people on average, two-thirds of whom are the traders and their employees, while the other third is composed of brokers, vendors, and day laborers. In addition, there are an average of five businesses within 100 meters of the market, particularly restaurants, shops, and food stores.

Third, the Household Survey on Rural Resilience gives us information on household visits to livestock markets and how much they spend there. About 28% of rural households visit a livestock market each year, but those households make an average of 6.8 visits per year. At the national level, this is equivalent to 4.96 million visits to livestock markets. Poor households are much more likely to visit a livestock market than wealthier households. Even though those visiting livestock markets rarely spend the night in town, they spend an average of FCFA 17,000 per visit, mostly food to bring home, inputs for livestock production, and transportation. Based on these expenditures and the number of visits, we estimate that rural households spend FCFA 258 billion per year at livestock markets.

5.2. Implications

The results of this study clearly show that livestock markets play a critical role, not just in the livestock value chains but in the rural economy in general. We estimate that more than 1.0 million cattle and 4.6 million goats and sheep pass through at least one livestock market each year. Furthermore, each year livestock markets receive almost 5 million visits from people coming to buy or sell animals. We find that low-income rural households are twice as likely to visit a livestock market during a given year compared

to wealthier rural households. These visitors spend a total of FCFA 258 billion during these trips on transport, food, and other goods and services, not including their animal purchases.

However, the infrastructure at these markets is minimal. Less than 10% of the markets have electricity, just one-third of the markets have a source of water, and barely two-thirds have latrines. Just three-quarters of the markets have an enclosure wall, and of those that do, almost all are metal rather than brick or concrete block. Given the number of visitors, the volume of animal sales, and the spending of visitors coming to the livestock market, it seems that these facilities should be upgraded.

Almost all the markets surveyed collect taxes on animals entering, being sold, or leaving the market. Across the 45 markets, we estimate that annual tax collection is FCFA 119 million. However, there are three issues with the system of tax collection that need to be discussed. First, the tax rate seems uneven across animals. The average tax on cattle is FCFA 800 per animal, which is less than half a percent of the average value (0.4%). For sheep, the average tax is FCFA 200, which is roughly half a percent of the average value (0.5%). In contrast, the average tax for goats is FCFA 200, which is roughly 1% of the average value. In other words, goats are taxed much more heavily than cattle or sheep. If the market managers wanted to introduce an even 1% tax, based on the average value, this would imply a tax of FCFA 2000 per bovin, FCFA 400 per sheep, and FCFA 200 per goat. This would generate more revenue and be more fair to owners of goats. Alternatively, if they charged one half of these fees, it would generate about the same revenue as currently, but with a more fair allocation across animals.

Second, we found some evidence of under-collection of taxes. In other words, the amount that market managers said they collected each month was less than half what we would expect based on the peranimal tax rate and the estimated volume of animals being sold in the market. Our study did not collect information that would allow us to know the reason for this discrepancy, but there are at least three possibilities. First, it is possible that the quantity of animals sold in the market was over-estimated. Second, perhaps the tax collectors are being lenient and not collecting taxes from everyone. And third, they are collecting the funds but not passing them on to the communal authorities. Further research would be needed to answer these questions.

Third, it seems that the communal authorities are not reinvesting much of these tax revenues into infrastructure to upgrade the livestock markets. When asked about the main type of investment in the livestock market from tax revenue, most market managers did not respond, said they didn't know, or said that there were no investments. At best, this suggests a lack of transparency in how livestock tax revenue is being spent.

In light of the importance of livestock markets in the rural economy of Burkina Faso, the government should take steps to ensure a fairer system for collecting taxes, a more transparent system for allocating the tax revenue, and greater investment to upgrade the infrastructure of livestock markets. These steps would make livestock markets more efficient and improve the health and value of animals through the livestock value chains.

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