

# Wealth Generated by Actors in the Livestock-Meat Sector in the Budget of Decentralized Entities in the Department of Bermo, Niger

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**Abstract**— *The self-managed cattle market in Bermo and Wurssena were surveyed during the months of August 2015 to July 2016, among actors in the livestock-meat sector, including butchers (wholesalers and retailers), collectors, conveyors, traders and intermediaries or witnesses to evaluate their contributions to communal pastoral entities. Livestock sales were higher in winter and post harvest periods. Revenues earned by livestock markets are reviewed. Thus, the communes registered respectively 1.920.000 FCFA from the self-managed market of Bermo and 21.150.000 FCFA concerning that of Wurssena. These are taxes levied during sales. If we add the annual exercise taxes imposed on butchers, traders, dealers, intermediaries or witnesses, as well as the jobs created, the benefits are far from negligible.*

**Keywords**— *Livestock sale, Recipe, town, Employment, Livestock market.*

## I. INTRODUCTION

Pastoral livestock farming plays an important role in the economies of African countries. Indeed, it represents 25% of agricultural GDP and 10 to 44% of the national GDP of West African countries (IUCN, 2006), 20% of the GDP of various African states (IIED, 2006). Mobile livestock is known for providing goods and services, including livestock, animal products, organic manure, animal traction and job creation, etc. (Steve, 2008).

As a breeding country by excellence, Niger has a considerable workforce estimated at more than 41 million head, or a value of 15,829,818 TLU. The sector accounts for 11% of the national GDP, 35% of the agricultural GDP contributing 3,000 billion FCFA (Atlas on livestock in Niger, 2014). Livestock contributes more than 15% to

the household budget and provides huge revenues to towns (INS, 2013).

Three types of livestock systems coexist in Niger. This is the pastoral system, agro-pastoral and urban and peri-urban system (Atlas on livestock in Niger, 2014).

With 76% of the national herd belonging to pastoralists, pastoralism in Niger contributes 84% to agricultural GDP (IIED, 2010). Pastoral farming accounts for over 30% of the livestock population (MEIA, 2002). It accounts for 30% of income of a pastoral household (INS, 2013).

Like other Sahelian countries, pastoralism also provides many products and services at the level of the decentralized entities of Niger; these are animal products (meat, milk and butter), livestock, organic manure, animal traction and jobs. Through the sale of animals, pastoral livestock farming provides important financial resources to rural households and municipalities by levying taxes on livestock markets and small businesses located nearby.

The functioning of the town halls is ensured by the state subsidy and the revenue from taxes levied on some actors (butchers, intermediaries-witnesses, merchants-resellers of cattle, merchants of articles, restorers, etc.).

However, only taxes from livestock markets are counted by the city council as the contribution of pastoral livestock. The resources collected from established businesses thanks to the presence of cattle markets are totally ignored in the economic analyzes. Added to this are the various services created, including the jobs generated by the presence of the livestock market. The situation is the same at the level of the population, technical services and partners; they are unaware of the flow of financial resources involved in livestock market

transactions and dismemberment, as well as the services provided by livestock farming as an activity.

This explains the disinterest of the communes in the area of livestock, resulting in the lack of investment in the sector. This behavior of the decentralized entities results from the underestimation of the products and services resulting from the functioning of the livestock markets.

The purpose of this study is to evaluate the resources (direct and indirect) offered by livestock markets at the level of communal pastoral entities. This will create renewed interest from municipal authorities and development partners in pastoralists.

## II. MATERIAL AND METHODS

### 2.1 Study area

The area concerned by this study is the department of Bermo in Niger. It covers an area of 6496 km<sup>2</sup>, 210 km from the city of Maradi, the capital of the region. The department is located between the East longitude 006°49.170 ° and the North latitude 15°08.872 ° and has two rural communes including Bermo and Gadabédji. The

population is composed of 52274 inhabitants for 6972 households and distributed among the Arabs, Hausa, Fulani and Tuareg (INS, 2012).

The physical environment is characterized by a hot and dry Sahelo-Saharan climate with an average rainfall of 200 to 250 mm per year. At the soil level, soils are dune. The vegetation is composed of clear savannah with a well-developed herbaceous layer. The relief is structured in inter-dune plateaus and valleys which are full of tree concentrations.

The 130-hectare Akadany pond is the main source of surface water in the department. However, there are some semi permanent ponds.

Livestock is the main activity of the population, which is mostly composed of breeders. The department has a herd of 594 642 heads, consisting of 29484 asins, 193082 cattle, 91352 camels, 95643 goats, 1785 horses and 183295 sheep (DDEL Bermo, 2016).

The study covered the self-managed livestock markets of Bermo and Wurssena on an area of 500 m<sup>2</sup> each (Figure 1).

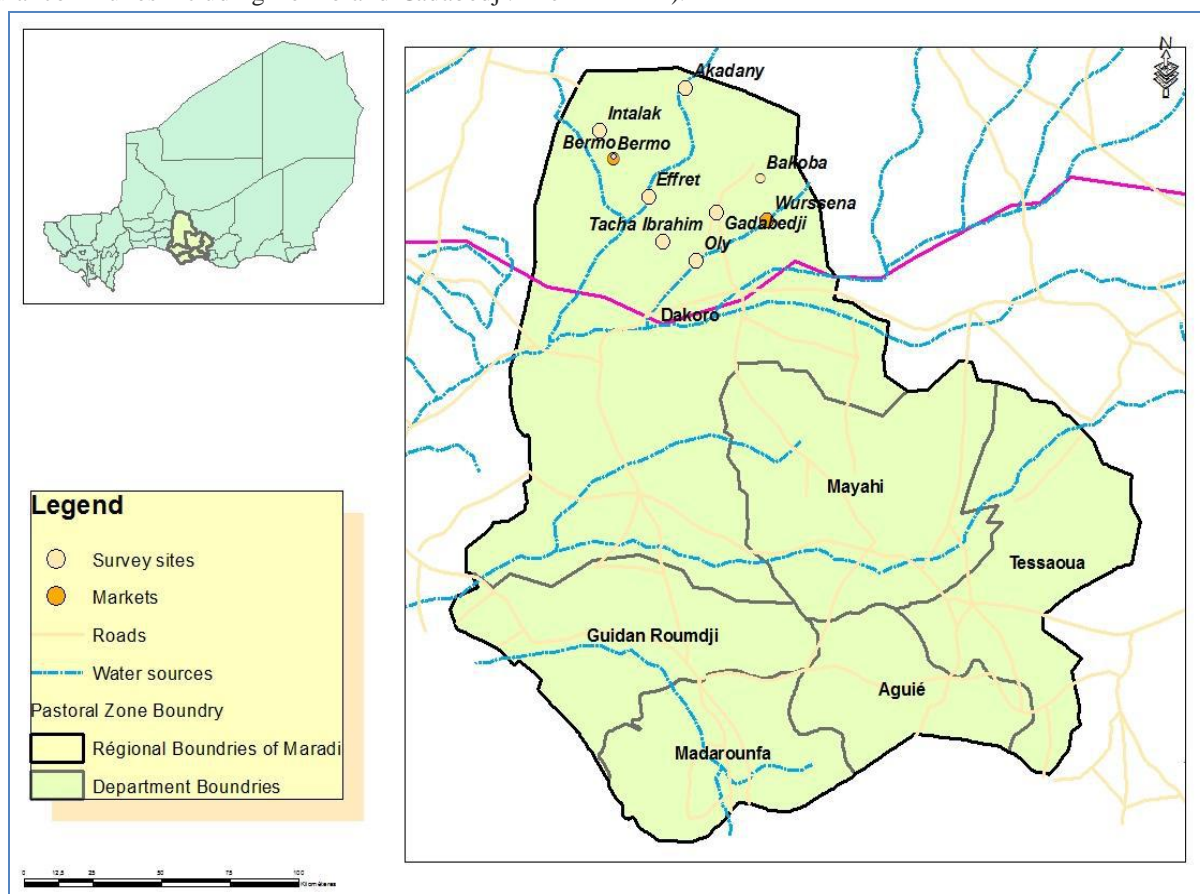


Fig.1: Location map of cattle markets surveyed.

### 2.2 Data collection and analysis

The survey was conducted at the main livestock market in each of the rural towns of Bermo and Gadabedji. This is the self-managed market of Bermo for the first and Wurssena for the second. The study was spread over the

twelve months from August 2015 to July 2016. Both markets are active every Tuesday. The collection of data was done on a frequency of one week out of two, two passages per month.

Monitoring has affected actors in the livestock-meat sector, including butchers (wholesalers and retailers), collectors, conveyors, traders and intermediaries-witnesses. At each exit a single category of actors is investigated. Municipalities were also called upon to collect the revenue raised by the cattle markets, as well as the distribution of the expenses related to their management.

The data collected focused on the revenue from the sale of animals. The survey cards used for this collection mainly record the number of sales, the monthly evolution of sales prices for the various species (asine, cattle, goat, camel and sheep), the jobs generated and the taxes collected.

The data was processed by the Excel spreadsheet to calculate the reported and sold workforce, as well as the sales amounts based on the period.

### III. RESULTS

#### 3.1 Sale of livestock at the level of municipal entities

Pastoralists regularly use the harvest of some animal heads that they sell on the markets, in order to meet the financial needs of their households. Thus, through the sales taxes of cattle on the market, the municipalities earn important revenues.

##### 3.1.1 Revenue from livestock sales

Revenues generated by the Wurssena livestock market were higher during the 2012-2016 period; In fact, they provide more than 70% of the total revenues paid to communities by the two markets combined.

These receipts correspond to the amount allocated to each municipal entity, after subtracting the expenses relating to the management and functioning of the market (salaries, operation, maintenance, etc.).

Table 1 shows the amounts of revenue paid to municipalities for livestock sales at the Bermo and Wurssena markets.

Table.1: Revenue paid to municipalities from 2011 to 2016.

Sales value (FCFA)	Year					
	2011	2012	2013	2014	2015	2016
MarketBermo	1560000	1800000	1800000	1800000	1920000	1920000
MarketWurssena	710875	11460453	5884400	8125700	19109833	21500000
<b>Total</b>	<b>2270875</b>	<b>13260453</b>	<b>7684400</b>	<b>9925700</b>	<b>21029833</b>	<b>23420000</b>

Figures (2 and 3) describe the distribution of receipts at the respective livestock markets of Bermo and Wurssena.

The salaries of the tax collectors and witnesses, as well as the amounts paid to the town of Bermo, represent respectively averages of 35 and 41% in average of the total receipts. The remaining financial resources of 17% go to AREN through an Economic Interest Group (KLD), which manages the Bermo market.

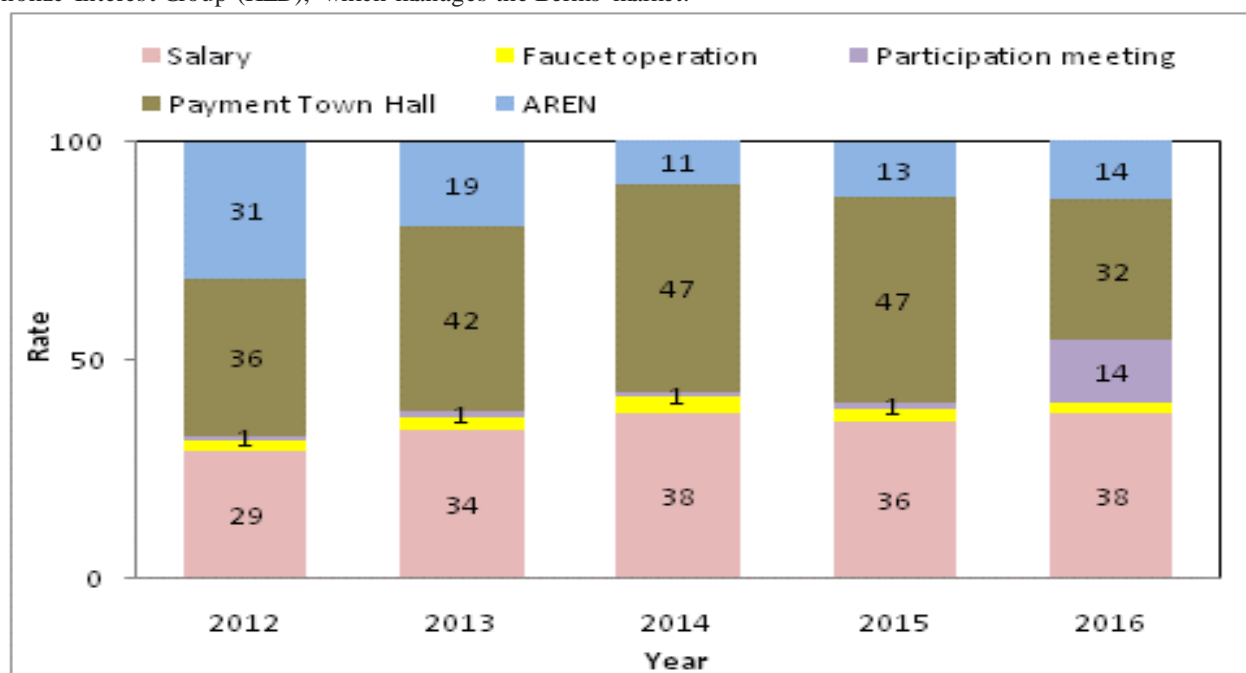


Fig.2: Breakdown of revenue from Bermo self-managed market from 2012 to 2016.

Almost all (91%) of the average earnings obtained at the Wurssena market level are paid to the municipality, which pays the tax collectors' salaries. Except for the editing of

receipts used to collect taxes on the amount paid to the town hall, the salaries of the collectors represent the

municipality's only expense item, at the level of the said

market (Figure 3).



Fig.3: Distribution of revenues from the Wurssena market from 2012 to 2016.

Six (6) types of taxes are levied from actors operating on the market; These include identification fees (small and large ruminant) imposed on the owners of the animals, annual exercise taxes for butchers (wholesaler and retailer), intermediaries or witnesses and traders.

Taxes for butchers, intermediaries, witnesses and traders are levied annually; On the other hand, the collection of identification fees is weekly and is collected per capita.

The various taxes mentioned above represent almost all the revenue collected by the communities on livestock markets; they are the main source of income for these communities located in the pastoral zone.

Apart from the support of the state, the main sources of revenue of the municipality of Bermo are the municipal taxes and those of market. The latter come mainly from

the self-managed livestock market. The other markets in the locality are almost empty in the dry season and only work in winter after the return of the breeders. Despite the presence of pastoralists, the rate of tax recovery on these seasonal markets is very low. The municipal tax is greatly influenced by the presence of the livestock market; in fact, the installation of small businesses in the municipality follows the transformation of the previously traditional market into a self-managed market.

The Wurssena market provides more than 90% of the revenue of Gadabedji commune. As for the other markets, including that of the town chief (Gadabédji), the revenue generated is low.

Table 2 shows the amounts of taxes collected by the municipalities from actors in the sector.

Table.2: Individual taxes levied on actors.

Nature Tax	Small Ruminant Identification	Large Ruminant Identification	Butcher retailer	Butcher wholesaler	Witness-intermediate	Trader
Amount (FCFA)	500	1500	7500	13000	3500	13000

Identification fees are collected per animal, while other taxes (butcher, intermediary and merchant) are collected annually.

### 3.1.2 General evolution of livestock sales in the department during 2016.

Sales are spread throughout the year and have been significantly larger in the Wurssena market. They mainly concern sheep, goats and cattle. Peak sales are observed in the months of July for sheep, in January, July and

September for goats and in December, March and April for cattle.

Figures 4 and 5 show the evolution of sales during the year.

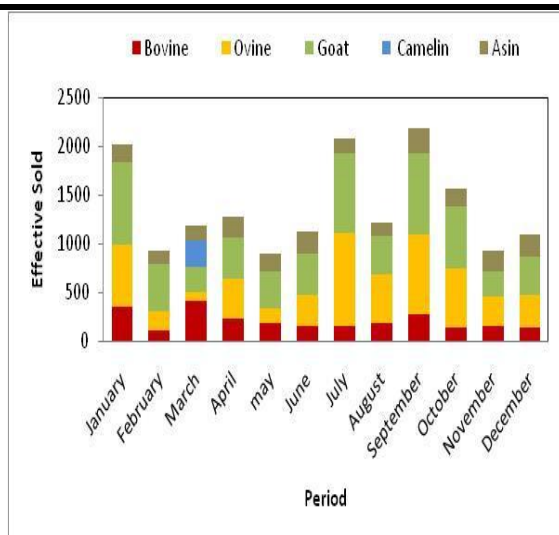


Fig.4: Livestock sales in the market from Bermo

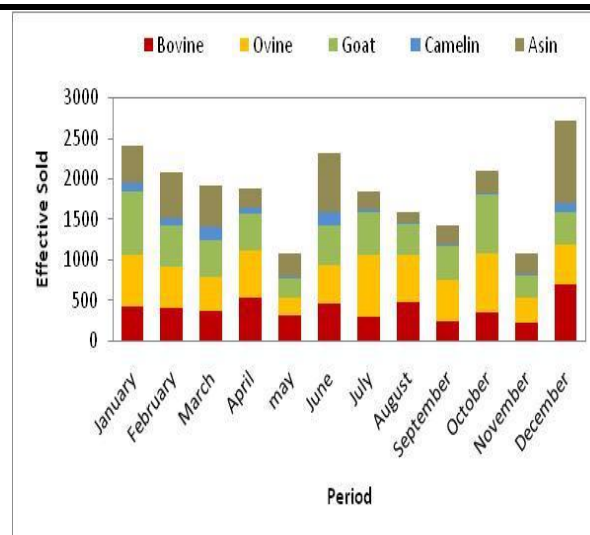


Fig.5: Livestock sales in the market from Wurssena

The best flow rates of the species presented on the market were obtained during the months of march, may and february, respectively in goats (96%), asins (90%), sheep and camels (89%). These record performances have all been recorded at the Wurssena market level.

Figure 6 depicts the evolution of the stocking rate of animals on the market.

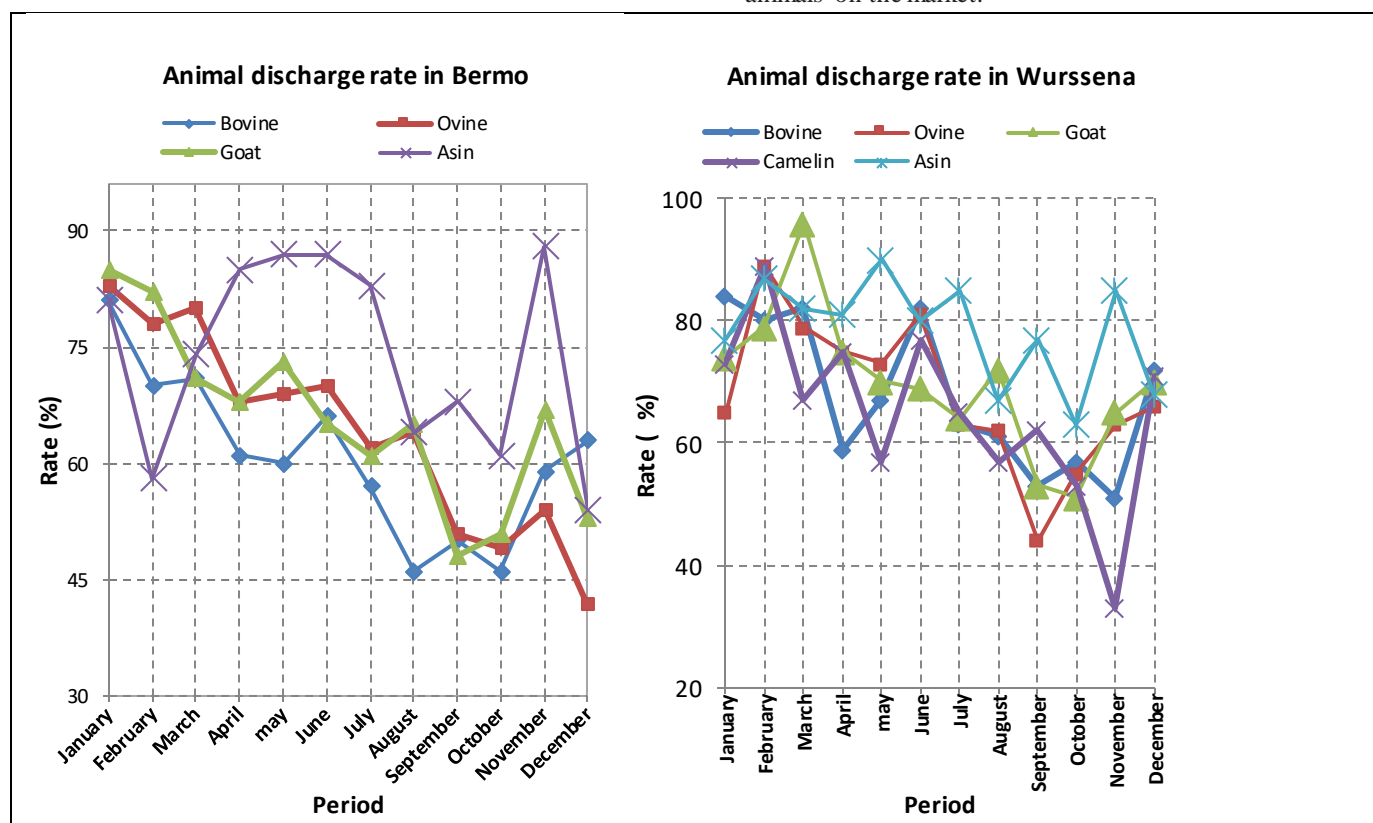


Fig.6: Flow rate of animals presented.

### 3.1.3 Evolution of selling prices of livestock.

At the cattle level, the highest average prices are recorded in january for bulls, cows and heifers and in september for bulls, as regards the Bermo market. These prices are also

recorded in january for bulls and cows, in march for heifers and in august for bulls on the Wurssena market. The lowest prices are in june for bull and cow and in may for bull and heifer in Bermo's self-managed market. These



prices are also displayed in June for the cow and the bull, in May for the bull, June and September for the heifer

(Figure 7).

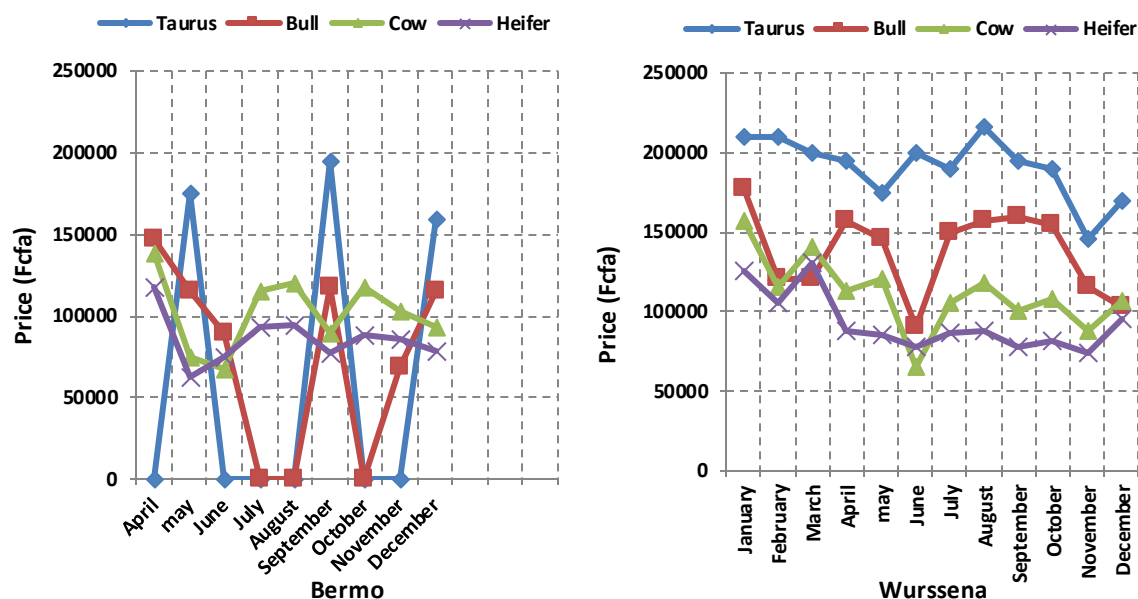


Fig.7: Evolution of cattle prices (Fcfa) in local markets.

Regarding the average prices of sheep, the maximum figures are shown in January for rams, male ewes and sheep under one year old, and in February for female sheep less than one year old on the Bermo market. As for the minima, they are recorded during the months of May to June for the ram, October for the sheep, August for the male sheep less than one year and in August and October for the female sheep of less than a year.

On the Wurssena market, the highest average prices are observed in January for ewes, male sheep under one year of age and female sheep under one year old and in August for ram. The average minimum prices are published in November in the relevant market (figure 8).

Prices are generally higher in the ram, then in the sheep.

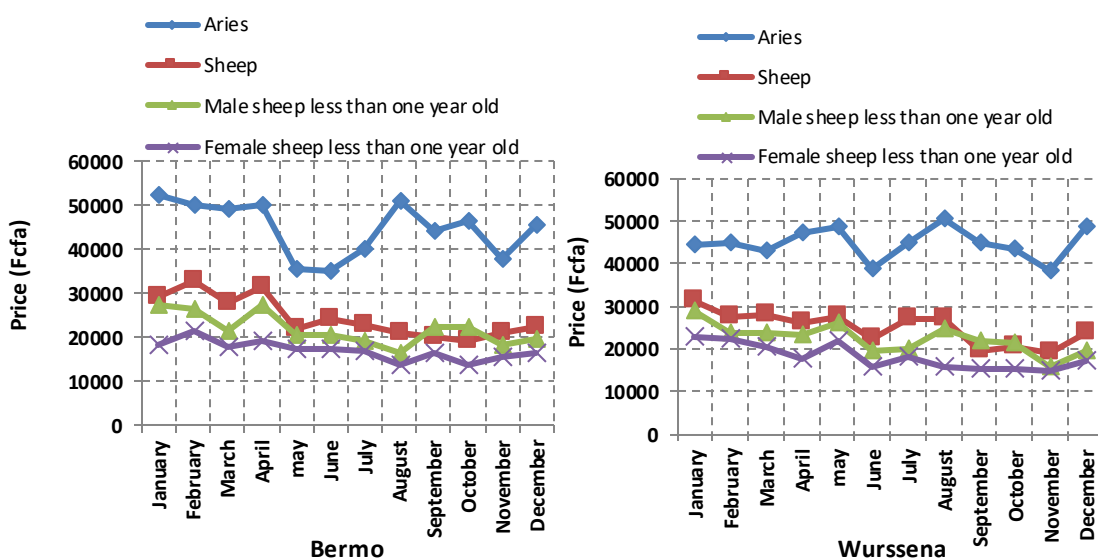


Fig.8: Evolution of sheep prices (Fcfa) in local markets.

In the case of the Bermo market, the highest average goat prices are in January for goats, female goats under one year old, in February for goats and February to April for

male goats less than a year. These prices are observed in January for the goat, the male goat of less than one year

and the female goat of less than one year, in august for the goat on the market of Wurssena.

The lowest prices are recorded in october for the goat, november for the goat on the two markets surveyed. They are displayed in august for male goats less than a year old, in august and september for female goats less than a year old in the Bermo market. In the Wurssena market, these prices are read in november for male goats less than one year old and goats less than one year old (figure 9).

Figure 9 reveals a clear superiority of the selling price of the female relative to the male for the wurssena goat.

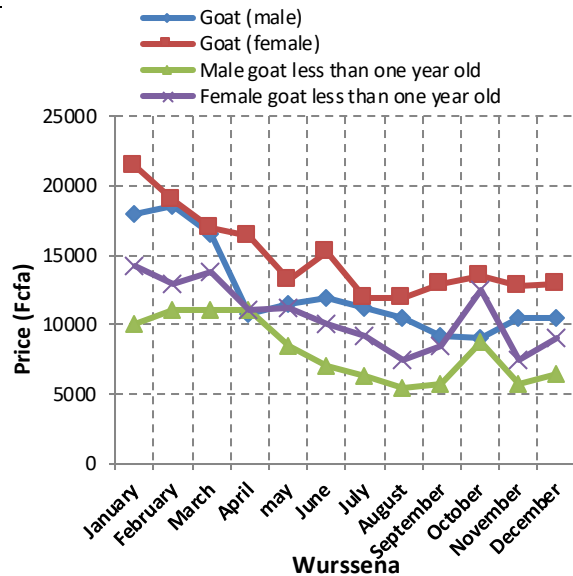
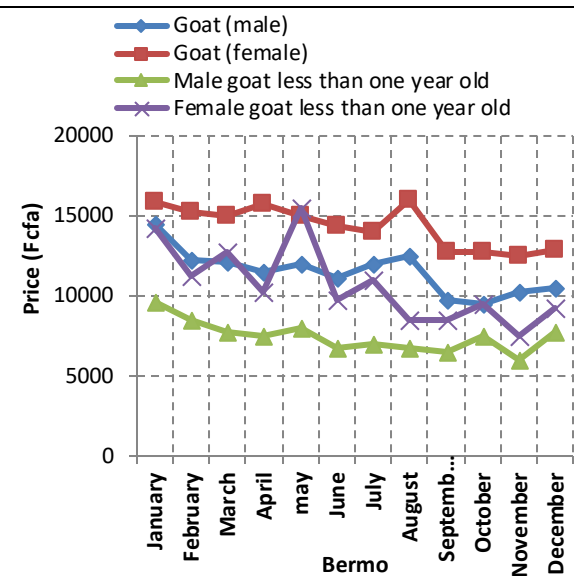


Fig.9: Evolution of goats prices (Fcf) in local markets.

For camels, sales prices peak in may. They decrease in June and increase in July. After that, prices tend to stabilize until october. They decline from november to december, to grow in january and finally to decrease gradually from february to march. The selling prices of

male subjects are slightly higher than those of females. However, no camel sales were recorded in september at Wurssena.

It should be noted that camel sales were only at the Wurssena market level.

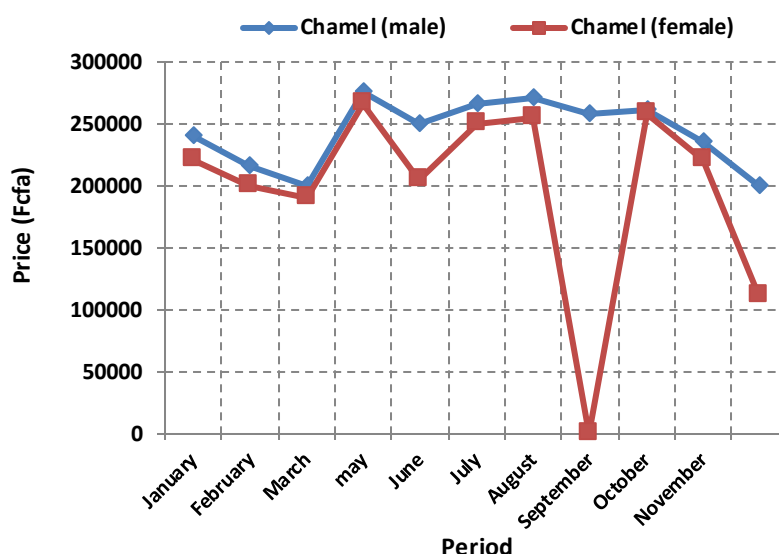


Fig.10: Evolution of the price (Fcf) of the camels at the wurssena market

At the level of the insects the price of the sale of the male is everywhere higher than that of the female. All in all, the peaks are displayed in may, june and november.

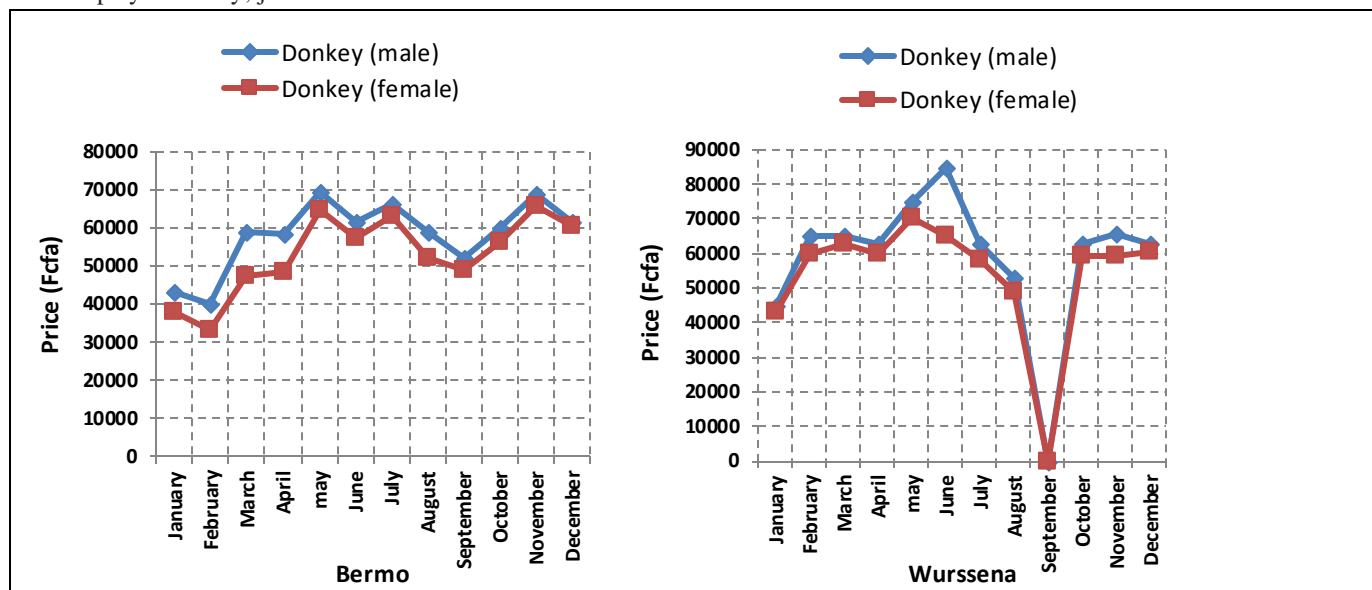


Fig.11: Evolution of donkey prices (Fcfa) in local markets.

#### IV. DISCUSSION

##### 4.1 Presentations and sales periods of livestock

Animal numbers (insects, cattle, camels, goats and sheep) on the market are almost entirely sold, especially during february, march and may. The best flow rates are obtained with goats (96%) and donkeys (90%) at Wurssena market. Goats are the first species to be sold when needed. As for the donkeys, they are of great importance in this area with pastoral vocation, especially in the activities of dewatering and transport, which explains their strong presence on the markets and the observed selling prices.

Animal sales are mainly in the post-harvest period and during the dry season at the two livestock markets surveyed. They are also important in the run-up to the tabaski festival (aid el fitre). This explains the high numbers of sheep sales during the months of July-September, the period in which this holiday takes place in 2016.

After harvests, the grain supply is high and selling prices are the lowest. The animals in their turn are in good condition. The period is therefore favorable to livestock farmers, who sell part of cattle to buy good quality cereals at a lower cost. The sales made in the dry season allow them especially to renew the food stock of the household.

A study conducted in the Burkina Faso Sahel, reports the numerical superiority of cattle in the Gorom-Gorom market in 2001. But, between 2002-2003, the numbers of cattle, sheep and goats presented approached (Ouedraogo, 2004). In the same area, on kiMansila market, the run-off rate of animals presented is 40% for cattle, 23% for sheep and 24% for goats (Ouedraogo, 2004).

In the area of Diffa, sales peaks of small ruminants are recorded from august to september at the

N'Guelkollmarket level. A large presence of large ruminants on the relevant market is observed during the monsoon season (July-September), with the return of breeders (Steve, 2008).

The presence of a livestock market allows the farmers to sell their animals to meet their needs. Livestock sales at the Tichift (north Mali) market level are higher than those observed in the two markets monitored; these range from 12645 small ruminants and 1873 camels during the first year (2010) of operation, to 12359 heads of small ruminants and 3452 camels only sold in the first half of 2011 (AVSF, 2013).

Work conducted at the Soubdou market in Niger indicates the sale of 1,000 head of cattle between june and november and 400 head between december and may. Livestock sales are mainly in the post-harvest period (a small analytical and synthetic atlas, 2006).

82% of the animals presented at N'Guelkoll and Kindjandi markets in Diffa area come from mobile pastoralists, including transhumant herders (Steve, 2008). The sale is more important during the months of november and december.

The livelihoods baseline study of Bororo pastoralists in the former department of Dakoro reveals Peak Sales of livestock before the first rains (May-June) and harvests (Oxfam and al., 2008).

Touré and al (2005) report higher prices in february and higher sales during tabaski in male sheep.

##### 4.2. Evolution of the price sale of animals.

For most species, sales price peaks are mainly observed during the winter season (June-September) and during the cold dry season (December-January). These two periods



are favorable to the breeders, because of the good state of overweight presented by the animals with the good availability of the natural resources (pasture and water). This results in the reduction of the herd's feed loads. On the other hand household food is facilitated by the abundance of agricultural products on the market. The breeder can therefore quietly negotiate the price in his favor, because the body condition of the animal allows him to negotiate the price in his favor.

Price peaks are also displayed in the hot dry season (March-May), when animals are almost absent from the market, most of the species having moved in transhumance; This allows the farmer to obtain competitive selling prices. This situation is mainly recorded in cattle and goats.

The farmer regularly sells a few heads, after the harvest, to stock food; this situation leads to the price peaks observed during this period, especially with animals in good condition.

The sales price of males generally exceed that of females, with the exception of goats. Most male goats are often slaughtered or sold at a young age. As can be seen, the males brought to the market are sometimes very young or in poor condition. Due to the high harvest in the goats, only a few rare heads for breeding reach maturity.

The work done in the pastoral area of the department of Gouré, report higher sales prices than those observed at the department of Bermo in bulls, cows, rams, goats and camels. On the other hand, the ewe and the camel presented lower amounts (European Commission, 2012). With prices of 280623 FCFA, 182380, 65005, 28947, 35144, 25060, 260674 and 156574 FCFA respectively for the price of the bull, the cow, the ram, the ewe, the goat, the goat, the camel and the camel on the market of Guidigir.

Price changes were also observed during holiday periods and by month (Abba 1998; Moussa and *al.*, 1997; Ouedrago 1996).

On the other hand, the selling prices of the animals are higher during the months of June to August; to go lower from october to september (Ministry of Agriculture, Animal Resources and Fisheries of Djibouti, 2015).

At the level of the Tichift market in northern Tombouctou, the selling price is higher than 250000 FCFA for the dromedary and 210000 for the camel. It exceeds respectively 45000 and 20000 FCFA for sheep and sheep (AVSF, 2013). These prices are similar to those obtained in the markets of Bermo and Wurssena, with the exception of the ewe. Kept on the farm for breeding purposes, the ewe is rarely taken to the market. In the case of sales with the exception of diseased or reformed females, those marketed have good market value. Raised only for consumption because it is not whole, sheep are

less popular on the market; which gives it relatively low sales prices.

The two markets studied (Tichift and Bermo), being located in pastoral zone; the determination of the price will depend mainly on the nature of the hazards of the pastoral campaign, the state of the animal presented to the market and the demand.

Through its role in meeting social and economic needs, livestock trading is necessary to maintain the survival of pastoralists. It also contributes to the development of rural towns particularly those located in the pastoral zone. It has a significant impact on the economy of municipalities and the creation of jobs and income.

#### 4.3 Impact on the economy of the communes

The budgets of the communal entities located in the pastoral zone are fed mainly by the receipts collected at the level of the cattle markets, through the levy of the taxes on the animals. The recipes consist of identification taxes. Thus, since the creation of the self-managed market, the revenues collected annually at the level of the market of Bermo are never estimated below 1800000 FCFA.

Contrary to the regularity of the performance of this market, the contribution of the Wurssena market varies according to the state of the pastoral campaign. In 2012 and 2014, the department experienced deficits in fodder; which justifies the strong presence of breeders on the cattle market. The years 2011 and 2013, follow periods of crisis, which are characterized by the reduction of the size of the flock, of which a large part is sold. Hence this discontinuous change in revenue from 2011-2014. From 2015, the revenues increase gradually, to reach very important amounts (19 to 21 million FCFA). Despite its traditional character, the Wurssena market dominates in terms of revenue, as local farmers are wealthy, allowing them to bring inputs to the animals during the lean season. Added to this is the presentation of significant staff at the level of this market.

Each of the town halls (Bermo and Gadabédji) also levies taxes from livestock traders, butchers (retailers and wholesalers) and intermediaries / witnesses, which amount respectively to 13,000, 7,500-13,000 and 3,500 FCFA per year.

The revenue of the commune of Bermo results mainly from the existence of the self-managed livestock market. As for Gadabedji, more than 90% of the revenues of the municipality concerned come from the Wurssena market. The revenue from the sale of livestock, collected by the commune of Chétimari in Niger amounted to 2987010 FCFA in august and 2785860 in november 2007. In the year 2008, the same entity records 2110700 FCFA in february, against 2056050 FCFA in April. The commune of Gueskérrou collected revenues of 2004210 and 988380

FCFA in august and november 2007, 587700 FCFA and 389250 FCFA respectively in february and May 2008 (Steve, 2008).

In the sylvo pastoral zone of Senegal, the livestock market provides important currencies to the communes of Dahra, Ranérou and Djibo. At the level of Dahra, He contributes annually for at least twenty-four million; which allows it to be the second source of income of the municipality (Dia, 2014). Revenues from the sale of animals provide more than 20% of family expenses of the population of Ranérou (Dia, 2014). Taxes from the sale of cattle represent 20% of the revenue of the municipality of Dahra. 80% of the revenues generated by the Djibo livestock market are paid to the town hall (Dia, 2014).

The study of Ouedraogo (2004) at the Seytenda secure livestock market (Sahel Burkinabe), distinguishes receipts in the order of 1685850 FCFA, divided between the prefecture and the management committee.

Studies conducted on the Goumori cattle market in Benin, reveal that more than ten million profits from the sale of cattle are paid to the mayor and at least six million reserved to the management committee (Samba *and al.*, 2013).

The contribution of the Tichift market in northern Tombouctou amounts to 746.4 million FCFA. Livestock sales account for 59% of household income (AVSF, 2013).

In Burkina Faso, the sale of animals annually provides more than 4 million FCFA to the town hall of GoromGorom (Ouedraogo, 2004).

The sale of animals represents 98.53% of household income in KouroBéri and 97.8% for Dereki (Hafizou, 2017).

#### 4.4 Impact on job creation and income

Part of the revenue collected (35%) on the Bermo market is oriented towards paying the salaries of tax collectors and witnesses. On average 8% of Wurssena revenue is earmarked for tax collectors. The creation of a livestock market allows important actors (intermediary-witnesses, traders, collectors and conveyors) of the cattle-meat sector to obtain a job. The presence of cattle market in this pastoral area, has favored the emergence of new actors, who are responsible for small businesses, restaurateurs, shoemakers, artisans, etc.

In the Diffa region (Niger), 66-86% of Chétimari shopkeepers' turnover comes from pastoralists, compared to 57-83% in Gueskérou commune (Steve, 2008).

In Senegal, the sale of animals has a great influence on transport and trade; indeed during the transhumance the turnover of traders is decreasing; this is also the case for transporters, whose clientele decreases with the departure of farmers to the south. With the presence of the breeders, the traders of Dahra, Linguère and Ranérou record high

turnover during the weekly markets. Merchandise trade is mainly maintained by livestock traders, as they represent more than 50% of the clientele in Linguère, 40% for Dahra and 60% at Ranérou. For three quarters of cart drivers, the weekly market (livestock) is driving up their revenues (Dia, 2014).

The Mansila market management committee, the brokers and the administration respectively receive 218,950 FCFA, 1748,000 and 570,400 FCFA per year (Ouedraogo, 2004).

According to the study conducted by AVSF in Mali, the establishment of the Tichift market has greatly improved the exchanges between the actors, the sharing of information concerning the evolution of the pastoral situation and the creation of several jobs (direct sellers, truck loaders and animal conveyors, etc.).

The removal of the witnesses allowed the breeders to be in direct contact with the buyers, to know the real price of the animal and also to sell cash (AVSF, 2013).

## V. CONCLUSION

The livestock trade generates significant revenues for the communal entities of the department of Bermo. Thus, taxes collected from market players provide considerable financial resources to the decentralized entities of the pastoral zone. Also, the presence of these livestock markets has favored the establishment of other small businesses, which also provide financial resources to the town halls through the levy of taxes. The sale of livestock allows pastoralists to stock up on food after good harvests. Several species are presented on the market and the best selling periods are the winter season (June-September) and dry season (December-January) for most species because of the good condition of the animals at these times. However, price peaks are also recorded in the hot dry season (March-May), where livestock is scarce on the market because most of the species are transhumant. In addition to these resources obtained through taxes, the presence of livestock markets leads to the creation of jobs and income for various actors including butchers, middlemen or witnesses, conveyors, collectors, merchant-resellers of livestock, restaurateurs and merchants of various articles.

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