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## **DANIDA GREEN GROWTH PROJECT**

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### **Report of the Survey on Lait caillé Value Chain: Evaluation of Lait caillé consumption and perception of consumers in Ouagadougou**

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## **INTRODUCTION**

The exploratory study on Lait caillé value chain took place in Ouagadougou in 2016, and the main objective was to identify the lait caillé value chain actors, their source of provision and their distribution. Following that study, we undertook in May 2017 a study on Lait caillé consumption. The main objective of this study was to determine the level of consumption of lait caillé, the perception of Lait caillé by consumers and to identify the constraints related to its consumption in Ouagadougou. The specific objectives were to:

- identify the challenges associated with the production, the transportation, the commercialisation and the consumption of Lait caillé;
- determine the position of Lait caillé in comparison with a competitive product such as yoghurt;
- identify the elements of strategies for the development of Lait caillé consumption.

### **I. CONTEXT AND JUSTIFICATION**

The study of Lait caillé value chain is part of the GREEN GROWTH project activities, financed by DANIDA in order to improve Lait caillé technology. This will help the emergence of the value chain through the increase in Lait caillé consumption. In Burkina Faso, the project is led by IRSAT/DTA which addresses the need of Lait caillé technology and quality improvement through an ongoing PhD thesis based on the selection efficient starter culture for Lait caillé production. The results must be practical, particularly with improved and innovative products in order to create value.

In order to make the innovation possible, following the introduction of improved technologies in Lait caillé production, the socio economic team of DTA is planning many prospective and comprehensive investigations in the current sector of Lait caillé. The plan is to undertake:

- a) a study to assess Lait caillé consumption and consumer acceptance evaluated by 200 people, in Ouagadougou;
- b) an economic study to map the value chain and the financial compensation per component of the chain;
- c) a sociologic study to understand the interactions between the participants and particularly the potential in the business of lait caillé.

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This report concerns the first study mentioned above “a study to assess Lait caillé consumption and consumers acceptance evaluated by 200 people, in Ouagadougou”. The activities related to this study lead us to a sociologic investigation to determine how often Lait caillé is consumed and the judgement of consumers, in order to suggest some adjustments on the improved Lait caillé, so that it can meet the consumers expectations.

## **II. DATA COLLECTION METHODOLOGY**

### **2.1. Sampling**

Two hundred and eight (208) people and households were randomly selected. The size of the sample was according the available resources.

Visited Sites (areas of Ouagadougou): six (05) areas of four (04) Districts of Ouagadougou Commune ( Districts 2, 5, 6 and 10) and one (01) area of one rural commune (Saaba) have been visited: Nabi yard (District 5), Saaba (Rurale commune), Bénogo (District 10) Pissy (District 6), Hamdallaye (District 2), Gounghin /near Church St Pierre (District 2):

### **2.2. Spatial location**

The survey was undertook in Ouagadougou in both areas where Lait caillé was available (ZD) and not available (ZND). Before the survey, 11 areas where Lait caillé was available and 13 areas where Lait caillé was not available were identified. The availability is recognised by the presence of a local market and/or Lait caillé ambulatory vendors. The separation in ZD and ZND was made in order to apprehend the impact of Lait caillé availability or no availability on its consumption. It also helps for a better definition of the consumer profile. Thus, 99 selected for investigation were in ZD areas whereas 109 were located in ZND areas.

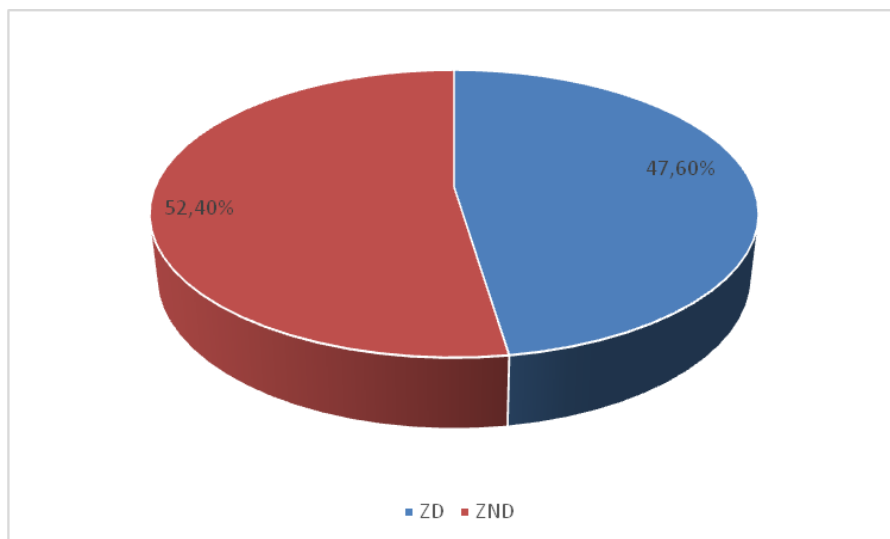


Figure 1. Lait caillé availability in the areas of investigation

### **2.3.Data collection and treatment**

Data collection was done through a questionnaire. Ten pollsters were trained to do the survey. The survey was done within 2 days. Care was taken to have a good coverage of the town. Excel, SPSS and Sphnix softwares were used for data treatment.

## **I- RESULTS**

### **3.1. Socio demographic profile**

Following the areas selection, the targeted people for the survey were chosen randomly. The distribution by gender of the 208 respondents of the survey was 137 men (65.86%) and 71 women (34.13%). The distribution according the academic level was quite composite as shown by the figure below

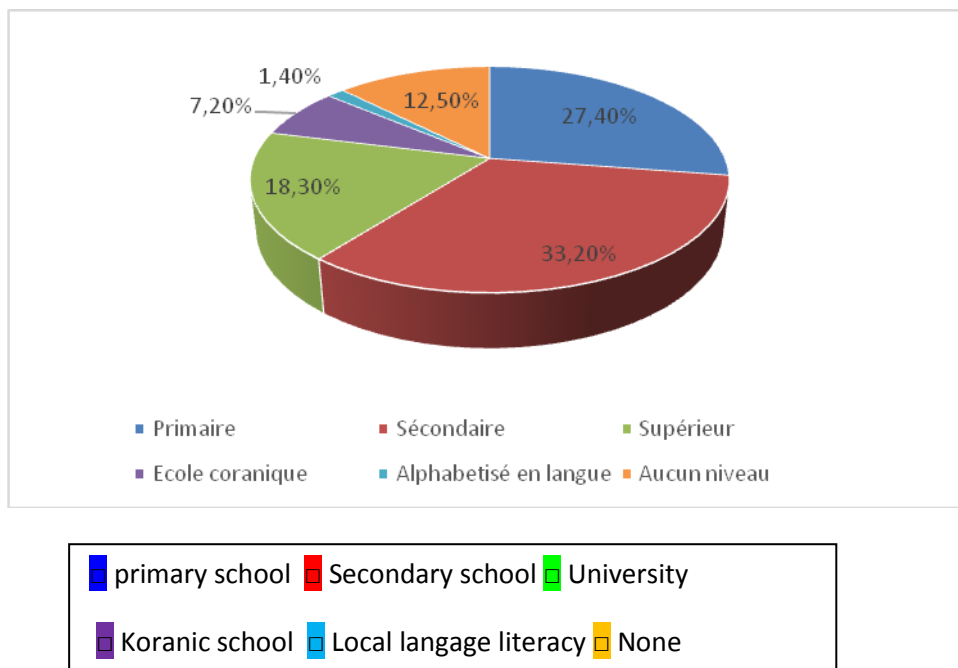


Figure 2. Distribution of the respondents according their academic level

Based on the religion, 134 declared to be muslims (64.42%), while 72 declared to be Christians (34.61%) and 2 declared to be animists (0.96%).

According the marital status the following distribution (Table 1) was shown:

Table1. Distribution of the respondents according the marital status

Marital status	Number of citation	Frequency (%)
Single	84	40.40
Married	118	56.70
Divorced	3	1.40
Widow (er)	3	1.40
TOTAL OBS.	208	100%

According to the size of the household we got an average of 5.19 members with a high profile of respondents coming from households of less than 5 members and respondents coming from households between 5 and 10 members.

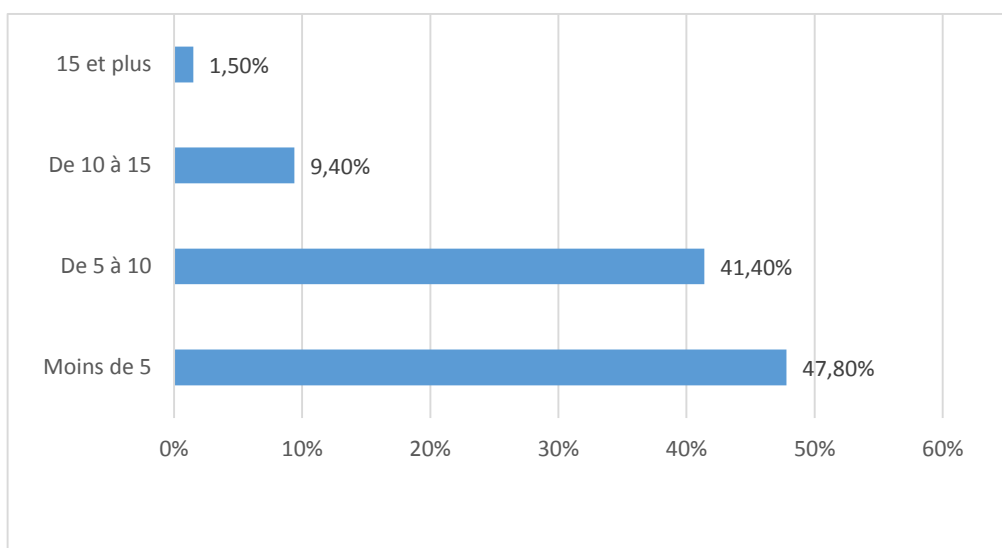


Figure 3. Distribution of the respondents according the size of the household

According the duration of time they have been living in urban area we got the following distribution:

Table 2. Distribution of the respondents according the duration of residence in Ouagadougou

Years of residence in Ouagadougou	Nb. cit.	Frequency (%)
Less than 10	53	26,00
From 10 to 20	45	22,10
From 20 to 30	60	29,40
From 30 to 40	35	17,20
From 40 to 50	8	3,90
50 and more	3	1,50
TOTAL CIT.	204	100

Eighteen ethnical groups were identified with a high profile of respondents coming from the Mossi ethnical group i.e. 141/208 (67.78%)

The distribution of the responding according to the presence of e selling point is recorded in table 3.

Table3. Distribution of the respondents according the presence of a selling point

Existence of selling points	Nb. cit.	Frequency (%)
Yes	108	51,90
No	100	48,10
TOTAL OBS.	208	100

### 3.2. Lait caillé consumption

#### 3.2.1. Evaluation and practises of consumption of Lait caillé

74 % of the respondent declared they consume Lait caillé while 26% declared they were not consumers. The consumption is a practice which was in line with sociality in 80.50% of the cases. But a significant association was found between the size of the household and the consumption of Lait caillé with a probability of 99.76%. Thus the more the household was big, the more Lait caillé consumers were present. However, the gender, the religion, the academic level, the availability of Lait caillé in the areas selected for the survey were not decisive variables. The other situations in Lait caillé consumption are reported in the figure below.

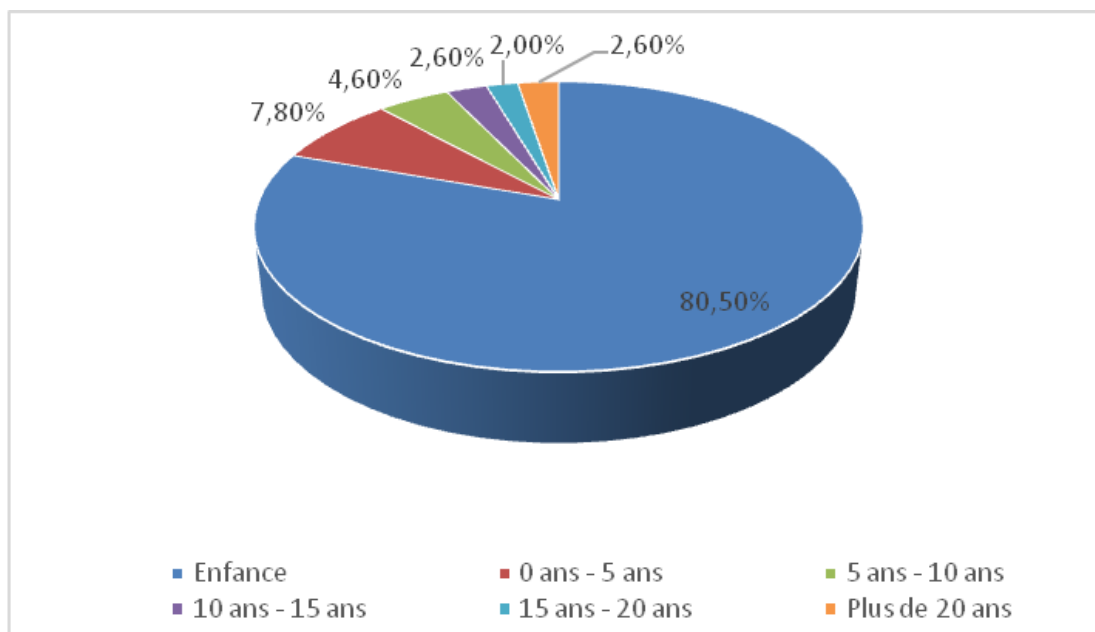


Figure 4 : potential consumers of Lait caillé

We noticed a slight insertion of new consumers. The periods for Lait caillé consumption varied and there were seasonal (36%) and non seasonal (66%) consumers. This seems to be linked to the origin of the consumption habit. Lait caillé consumption was an ordinary practice in 89% of the cases. Evening time was reported to be the best moment by 48.40% The daily consumers represented 30.50% ie. 47 out of 154, while 70% consumed Lait caillé between 1 to 5 times per week. Among them, 1 or 2 times per week consumer were predominant with ratios equalling 63 out of 154 and 23 out 154 respectively. The quantities consumed are presented in figure 5:

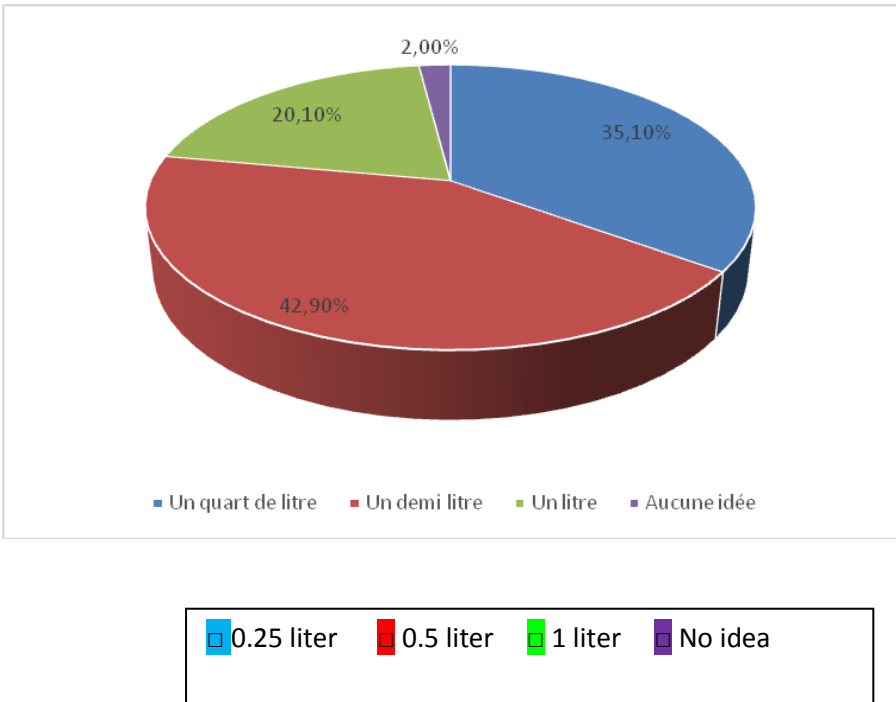


Figure 5: Quantities of Lait caillé consumed by the consumers

**Ways of consumption of Lait caillé**

Lait caillé is consumed alone or in combination with many other millet based meals. The most represented are « boules d’akassa »<sup>1</sup>, millet based couscous, malaxed « tô<sup>2</sup> », « galette »<sup>3</sup> (like flat bread). Beignets<sup>4</sup> (deep fried dough), gari<sup>5</sup>, attiéké<sup>6</sup>, rice and porridge were very little consumed. The preferred place of eating Lait caillé was home. Apart for consumption use, Lait caillé was used for ritual reasons in 11.70%.



### Commensal practice of Lait caillé

A significant relationship was found between the place of consumption and the academic level with a probability of 98.10%. That shows that Lait caillé is a product highly consumed at home when we consider the positive correlation between the academic level and the place of consumption. Women represented the group that consume Lait caillé at home with a high probability of 99.56%.

<sup>1</sup> round, fermented millet based dough. <sup>2</sup> cooked cereal based dough - fufu like. <sup>3</sup> Millet based – pancake like. <sup>4</sup> Beans based deep fried dough. <sup>5</sup> granulated fermented cassava tubers. <sup>6</sup> Fermented cassava tubers - couscous like.

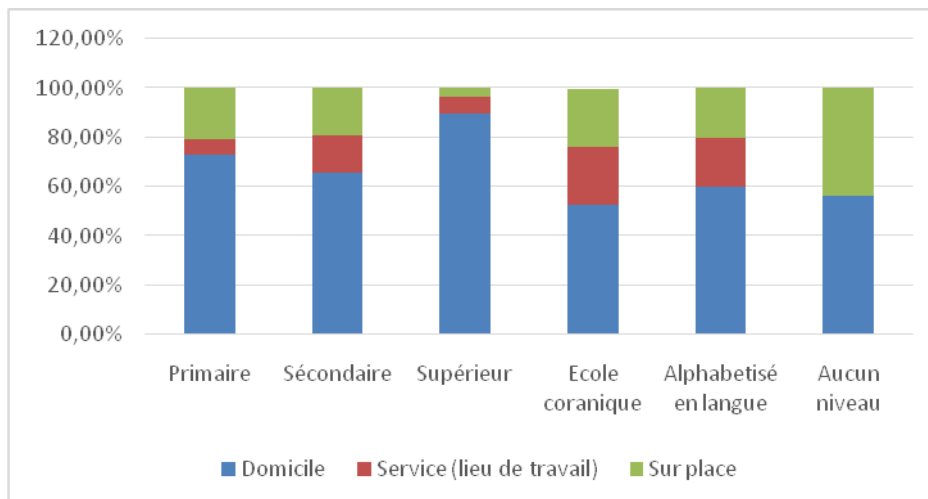


Figure 6. Relationship between place of consumption and the academic level

### Factors for Lait caillé consumption

The sour taste principally, the nutritional value and the texture of Lait caillé were the factors for judgement of Lait caillé quality by the consumers. Only 13% of consumers did not like the quality of the Lait caillé they consume: bad storage, adding of water, use of powder milk, and lack of hygiene are the reasons.

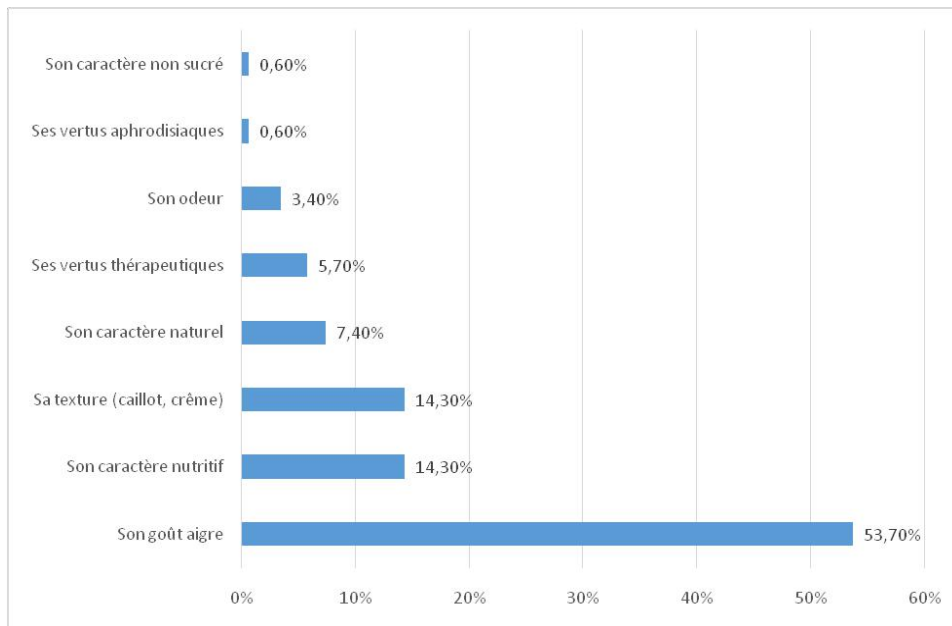


Figure 7. Reasons for Lait caillé consumption

### Lait caillé and yoghurt

The presence of only consumers of Lait caillé and consumers of both Lait caillé and yoghurt was reported with ratios of 20/154 et 134/154 respectively. The perceived difference between the two products ( yoghurt and lait caillé) concerned the sensorial characteristics particularly the taste and the texture. In addition Lait caillé was reported to be “natural”. The label natural gives the appearance of “genuiness” and without addition of chemical product. This is a real advantage for Lait caillé.

### Impact of the duration in town residency on the perceived difference between Lait caillé and yoghurt

Table 4. Impact of the duration of residence in town on Lait caillé perception

Number of years of residence in ouagadougou/difference between yoghurt and Lait caillé	Taste (Yoghurt is more sugared, Lait caillé is sour)	The “natural” characteristic (le lait caillé est naturel, le yaourt non)	Yoghurt is thicker Lait caillé	Cream and clots	Packaging	Odor	TOTAL
Less than 10	64,30%	28,60%	0,00%	2,40%	2,40%	2,40%	100%
From 10 to 20	48,70%	46,00%	2,70%	0,00%	0,00%	2,70%	100%
From 20 to 30	50,00%	40,90%	2,30%	2,30%	2,30%	2,30%	100%
From 30 to 40	45,80%	50,00%	0,00%	4,20%	0,00%	0,00%	100%

From 40 to 50	40,00%	60,00%	0,00%	0,00%	0,00%	0,00%	100%
50 and more	33,30%	33,30%	0,00%	33,30%	0,00%	0,00%	100%
TOTAL	51,90%	41,30%	1,30%	2,50%	1,30%	1,90%	100%

Urbanisation as the academic level did not lead neither to a uniformed perception of the taste nor to a loss of perceiving a difference between yoghurt and Lait caillé. The technological improvements should not suppress the traditional characteristics of Lait caillé which are still well appreciated. However the improvements should concern the hygienic quality, the acidity do be decreased, the odour of farm to be removed and the skimming of Lait caillé.

### **3.3. Facteurs related to the non consumption use of Lait caillé**

The non consumers of Lait caillé were 54/208 ( 25.96%) . The causes of non consumption of Lait caillé were biologic (intolerance to milk products), organoleptic, sanitary and availability reasons. An improvement touching these paremeters may lead to new consumers of Lait caillé. The changes concern:

- decreasing the sourness,
- deodorising,
- skimming,

in addition to enhancement of hygienic conditions. People who are not intolerant to milk products, consume Lait caillé. This survey supports the ongoing activities for Lait caillé promotion, because there is a great potential attached to the appreciation of the product. A qualitative enhancement, followed by a good strategy may help starting dynamics for advances on the value chain of lait caillé.

## **CONCLUSION**

The survey supports the the ongoing activities for a better promotion of Lait caillé because there is a great potential attached to the appreciation of the product. Mobility in urban areas facilitates the proximity of Lait caillé to consumers. This is due to a strategic implatation of the partakers invloved in the Lait caillé marketing. . A qualitative improvement that would preserve some specific traditional characteristics of Lait caillé, followed by a good strategy, would help starting dynamics for the value chain developpement in the large urban areas of Burkina Faso.

## **APPENDICES**

### **Summary of the supervision visit (May, 2017) of the survey concerning the Study on Lait caillé consumption in Ouagadougou / PROJECT DANIDA GREEN GROWTH**

#### **1-VISITED SITES (areas of Ouagadougou)**

- Nabi yard (District 5 of Ouagadougou commune)
- Saaba (Rural commune of Ouagadougou)
- Bénogo (District 10)
- Pissy (District 6)
- Hamdallaye (District 2)
- Gounghin - near church St Pierre (District 2)

#### **2- MECHANISMS OF COMMERCIALISATION**

We have modern and traditional mechanisms of commercialisation:

- The markets (Nabi yard, Saaba, Pissy)
- The vicinity of the markets (Bénogo, Pissy, Gounghin)
- The mosques (Hamdallaye)
- The shops

The conditions of selling are very simple with traditional containers and modern second hand packaging (5 and 20 litres cans). Some vendors are installed on unpaved road side and others (like in Bénogo) are closed to poultry market.

#### **3- SOURCES OF PROVISION**

They are family farms, wholesalers and retailers (like Nabi yard market which is provided from Hamdallaye).

The wholesalers are provided predominantly from Léo or Ghana (this was reported by the saleswomen from Saaba at Pissy).

#### **4- ACTORS**

The retailers are predominantly Fulany women. The wholesaling involves both women and men.

Two types of retailers are identical: those who produce by themselves and those who depend on wholesalers. The decapitalisation of some fulany households seems to contribute in the

setting up of Lait caillé wholesalers. What are the good and bad consequences on the quality of Lait caillé? A difference in the appearance between the Lait caillé from the wholesalers and the Lait caillé from the family farm seems to be visible.

In total, 17 actors (women) in activity have been met between 9h am and 3h pm. Most of the sellers come out in evening because of the moslem feast period, the “Ramadan”. We can mention some examples:

- 4 retailers for Nabi yard market,
- 3 retailers for Bénogo market,
- 7 retailers for Saaba market,
- 3 retailers for Pissy market.

## **5-AVAILABILITY AND USE OF LAIT CAILLE**

The availability of Lait caillé in the sites we visited seems to be linked to many factors, particularly:

- the existence of a ritual market
- the closeness of a Fulani traditional household
- the existence of wholesalers or retailers de grossistes ou de détaillants

The use of Lait caillé are of two types:

- the ritual use,
- the consumption use as food product.

The ritual use predominated in all the sites investigated. Only in Saaba market it was noticed the availability of Lait caillé for consumption. The organoleptic characteristics of Lait caillé seems to vary according to the usage. Lait caillé used for ritual purpose, causes suspicion because of its appearance and therefore, its quality.

## APPENDICE

**ZD = Zone of availability (Zone de Disponibilité)**

**ZND = Zone of no availability (Zone de Non Disponibilité)**

### ZD

N°	ZD (area) of survey	Place of availability sources of provision
1	Bilbalgo	To the famers
2	Pissy	Markets of Pissy, Kouritenga and Nabi yard
3	SONATUR (Sapouy gare)	Koubri, Manga, Saponé, Sapouy, Kongoussi, Kienfangué, Léo, Market of Cissin, Ambulatory sellers (women)
4	Hamdallaye	Sellers on the streets near the big Mosque , Tampouy
5	14 yards	Dori, Namatenga, Roodwoko, Koubri, Market of 14 yards,
6	Nabi yards	Market of Nabi yard, ambulatory sellers
7	Zone 1	Market of zone 1, shops, ambulatory sellers
8	Wemtenga	Nabi yard, ASECNA
9	Paglayiri	Market of Paglayiri, sapouy gare, shops
10	Kalgondin	Léo, ambulatory sellers, near church of Dapoya, Rimkiéta
11	Ouagar inter	Gare ouaga inter, shops, ambulatory sellers

N°	ZND (area) of survey	Place of availability sources of provision
1	Cissin	Gounghin, In front of Church St Pierre
2	Gounghin	10 yards, Hamdallaye, ambulatory sellers
3	Song Naba	ASECNA area
4	Dapoya	Shops
5	Tampouy	Shop Bon Samaritin, zone 1
6	Karpala	Market of Karpala, near the rond-point, Koubri
7	1200 lgmts	Markets of Zogona, Dasasgho, shops, ambulatory sellers
8	Sinyiri	Villages
9	Saaba	Markets of Saaba and 14 yards, shop
10	Pissy	Near the market of Gounghin, ambulatory sellers
11	Bendogo	Shops, Dasasgho, market of Saaba, 14 yards
12	Bilbolgo & Samandin	Nagbongré, Market of Paglayiri, Sapouy gare, Cité an 2, ambulatory sellers
13	Tanghin & Wemtenga	Markets of Tanghin, Sankar yaré, Nabi yard, ambulatory sellers

Residence1 x Consumption Lait caillé

Résidence1

Do you consume Lait caillé ?

Residence1/Consumption of Lait caillé	yes	No	TOTAL
Paglayiri	75,00%	25,00%	100%
Tanghin	40,00%	60,00%	100%
Zone 1	70,60%	29,40%	100%
Somgandé	25,00%	75,00%	100%
Saaba	83,30%	16,70%	100%
Song naaba	40,00%	60,00%	100%
Patte d'oie	83,30%	16,70%	100%
Cissin	66,70%	33,30%	100%
Zongo	100%	0,00%	100%
Komsilga	100%	0,00%	100%
Taab tenga	100%	0,00%	100%
Pissy	90,00%	10,00%	100%
Dji kofè	100%	0,00%	100%
Wemtenga	87,50%	12,50%	100%
Bendogo	100%	0,00%	100%
Nagrin	87,50%	12,50%	100%
Bangré	100%	0,00%	100%

Kalgodin	100%	0,00%	100%
Karpala	75,00%	25,00%	100%
Silmissin	100%	0,00%	100%
Sonré	100%	0,00%	100%
Samadin	100%	0,00%	100%
Belle ville	100%	0,00%	100%
Balkuy	100%	0,00%	100%
Toud weogo	100%	0,00%	100%
Koul weoghin	0,00%	100%	100%
Zogona	100%	0,00%	100%
Bilbalgo	100%	0,00%	100%
Kouritenga	0,00%	100%	100%
Amdalaye	71,40%	28,60%	100%
Tampouy	100%	0,00%	100%
Rimkieta	100%	0,00%	100%
Dapoya	100%	0,00%	100%
Widi	50,00%	50,00%	100%
Wayalghin	25,00%	75,00%	100%
Nioko 2	100%	0,00%	100%
Bedogo	75,00%	25,00%	100%
Ragnongo	66,70%	33,30%	100%
San yiri	75,00%	25,00%	100%
Dassasgho	50,00%	50,00%	100%
1200 lgmts	50,00%	50,00%	100%
Gounghin	33,30%	66,70%	100%
Zone du bois	100%	0,00%	100%
Ouaga 2000	100%	0,00%	100%
Toyibin	0,00%	100%	100%
TOTAL	74,00%	26,00%	100%

Place where the survey was performed x Consumption Lait caillé

Lieu de réalisation enquête

Do you consume lait caillé ?

Place where the survey was performed/ Consumption Lait caillé	Yes	No	TOTAL
Tanghin	40,00%	60,00%	100%
Ouaga inter	50,00%	50,00%	100%
Asecna	90,00%	10,00%	100%
Samandin	100%	0,00%	100%
Karpala	85,70%	14,30%	100%
Wemtenga	90,00%	10,00%	100%



Cissin	33,30%	66,70%	100%
Gounghin	100%	0,00%	100%
Song Naaba	100%	0,00%	100%
Nabi Yard	100%	0,00%	100%
Pissy	81,80%	18,20%	100%
14 Yard	75,00%	25,00%	100%
Paglayiri	80,00%	20,00%	100%
Kalgondin	90,00%	10,00%	100%
Sapouy yard (sonatur)	81,80%	18,20%	100%
Nioko 1	100%	0,00%	100%
Bilbalgo	100%	0,00%	100%
Kamsonghin	75,00%	25,00%	100%
Amdalaye	80,00%	20,00%	100%
Dapoya	100%	0,00%	100%
Tampouy	100%	0,00%	100%
Wayalghin	27,30%	72,70%	100%
Zone 1	61,50%	38,50%	100%
Sanyiri	100%	0,00%	100%
1200 lgmts	50,00%	50,00%	100%
Gounghin	40,00%	60,00%	100%
Bedogo	75,00%	25,00%	100%
Saaba	100%	0,00%	100%
TOTAL	74,00%	26,00%	100%