

## Perception and knowledge of the production and the merchandising of *Ablo*, a cereal food fermented of Benin

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**ABSTRACT:** The *Ablo* is a cereal product fermented. It is considered like humid, slightly salty and sugary bread, cooked steam and sold under shape of wads. The objective of the survey is to have present quantitative and qualitative data on the production and the merchandising of *Ablo* in Benin. The methodology adopted consist to do an investigation of land in some townships of the center (Abomey, Bohicon, Covè) and of the south (Abomey-Calavi, Comè, Cotonou) Benin by the producers and sellers of *Ablo*. The results of our investigations showed that the production and the sale of *Ablo* is exclusively an activity feminine, casual, economically profitable and constitute a source of employment. It generates incomes and allows the producers and sellers to face their daily needs including those of their families. The *Ablo* is prepared mainly from the corn and rice and is consumed alone or accompanied of pimento or frying with fried fish or of the fried meat.

**KEYWORDS:** *Ablo*, merchandising, Benin, informal, socio-economy.

### 1 INTRODUCTION

The cereals (corn (*Zea mays*), sorghum (*Sorghum bicolor*), rice (*Oryza sativa*), wheat (*Triticum spp*) and millet (*Pennisetum spp.*)) make integral part of the food tradition of the peoples of Africa, in particular of Benin. They are used alone or in combination, sometimes in substitution in numerous traditional culinary preparations. Indeed, in the big city of Benin, the tendency to the combination or to the substitution of the cereals keys many traditional foods as Gowé, Akpan, *Ablo* ... [1].

*Ablo*, slightly sugary humid bread, produce from the dough fermented of corn or rice, procure substantial income to the transforming women ([2]; [3]). This humid bread in the shape of wad is very consumed in Benin, especially in the big city ([4]; [5]; [6]; [7]; [8]).

The sector of the traditional transformation of the food commodity plays a strategic role in the national food security by the transformation of the local product; the food provision by the preparation of food locally known on the cultural plan and the use of the women of which the transformation of foods being their main source of income in the urban zone [9].

The daily income generated by the trade of street food rose to an amount between 1500 and 15 000 francs CFA by seller [10]. The contemporary life style is very distant of what made itself in the past. Thus, hurried by the time, the increase of the number of unmarried people, mono-parent family and women that works, drove to deep changing in the preparation of food and the habit of consumption.

The sector of the street food takes a dimension however all particular in the African urban center where the fast urbanization and the economic difficulty encouraged the increase of the number of seller of food on the public way [11].

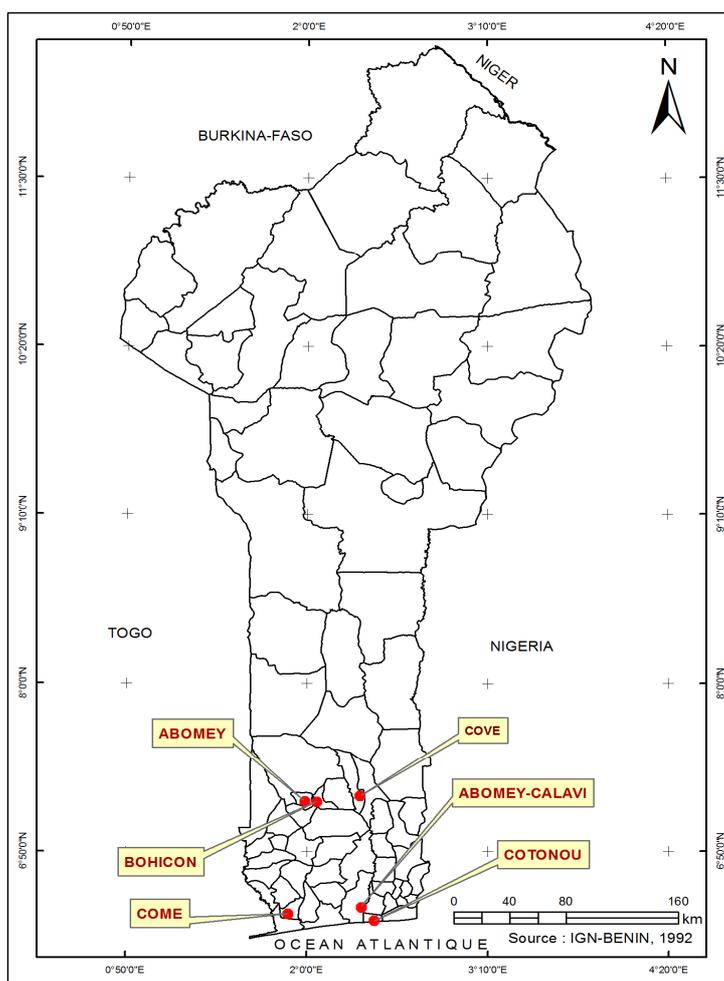
However, it is a sector of activity implying important add money and supplier of job to a large proportion of the population, including women and the whole family ([12]; [13]; [14]).

The survey initiated to collect present information relative to the production and to the merchandising of *Ablo*. It has for objective to have quantitative and qualitative data on the production and the merchandising of *Ablo* in Benin.

## 2 MATERIALS AND METHODS

### 2.1 MATERIALS

The investigations have been done in some townships of the center (Abomey, Bohicon and Covè) and of the south (Abomey-Calavi, Comè and Cotonou) Benin by the producers and sellers of *Ablo* with the help of a questionnaire integrating questions of orders sociocultural, technological and economic. The figure 1 above presents the positioning of the investigation zones on the card of Benin.



**Fig.1. Card of positioning of the investigation zones**

### 2.2 METHODS

#### 2.2.1 SAMPLING OF THE INVESTIGATIONS

The adopted methodology has been centered on investigations of land that took place mainly in four phases under shape of semi - structured interviews on the base of a questionnaire. The four phases were the following: the exploratory phase, the phase of sampling, the phase of collection of the data and the phase of analysis of the data. The number of them investigated has been determined from the formula of [15]:

$$N = U_{1-\alpha/2}^2 \times \frac{pi(1-pi)}{d^2}$$

N : size of the sample

pi : proportion of transforming " specific n " by type of data on the whole " NT " of the actors of the path (pi = n/nT)

d : margin of the mistake fixed to 5%.

U<sub>1-α/2</sub>: value (1,96) of the normal law table for a line of confidence of 95%.

The size of the sample gotten was of 159 actors of which 114 producers and 45 sellers. The proportion of the producers and sellers investigated by township is indicated in the table 1.

**Table1. Distribution of respondents by municipality**

Municipality	Population	Number of women	Rate of poll	Number of producers	Number of sellers	Percentage of respondents
Abomey	92 825	47 990	0.05	6	2	5.03
Abomey-Calavi	655 965	334 003	0.38	42	17	37.17
Bohicon	170 604	89 474	0.10	11	5	10.06
Comè	79 665	41 407	0.05	6	2	5.03
Cotonou	678 965	353 590	0.39	46	18	40.25
Covè	50 235	26 251	0.03	3	1	2.52
Total	1 728 166	892 715	1	114	45	100

Source: [16]

### 2.2.2 STATISTICAL ANALYSIS

The software Microsoft Excel XP has been used to do the descriptive statistics calculations. The software MINITAB served to analyze the data of investigation. The retained significance level is of 5% (p < 0.05).

## 3 RESULTS

### HISTORIC OF ABLO

*Ablo* is a dough fermented steam firing. Originally, the *Ablo* is prepared from the corn following a traditional process including a stage of spontaneous fermentation of the mixture gotten from the mawè and water. According to the producers and sellers, the *Ablo* is comparable to humid bread presenting a whitish color, a pleasant aroma and a sugary and slightly acidic flavor.

The original technology of production using the corn solely came of the Mina and of the Watchis from the departments of the Mono and the Couffo to the south of Benin. These populations are border of the neighboring Togo and transmitted thanks to the brewing the technology of production to the Togolese population.

Intended to consumption to the domestic scale in the worry to vary the dish, the *Ablo* became thereafter a commercial product. The merchandising influenced the evolution of the technology with the introduction of another raw material notably rice used like substituting partial or complete and of ingredients as salt, sugar, the flour of wheat and the yeast.

### PERCEPTIONS OR KNOWLEDGE OF THE PRODUCTION AND THE MERCHANDISING OF THE ABLO

The figures 2, 3, 4, 5, 6, 7, 8, 9, 10 and 11 as well as the tables 2, 3, 4 and 5 present the socioeconomic and technological information below relative to the production and selling of the *Ablo*.

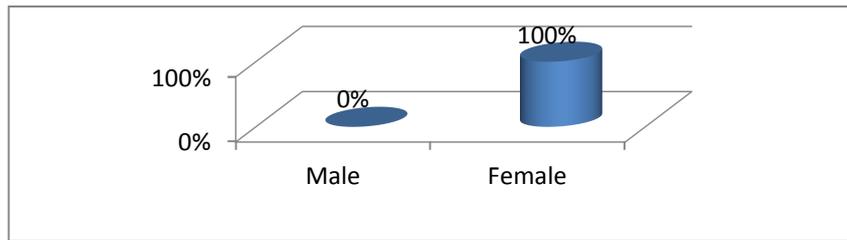


Fig.2. Diagram of distribution of producers and sellers according to sex

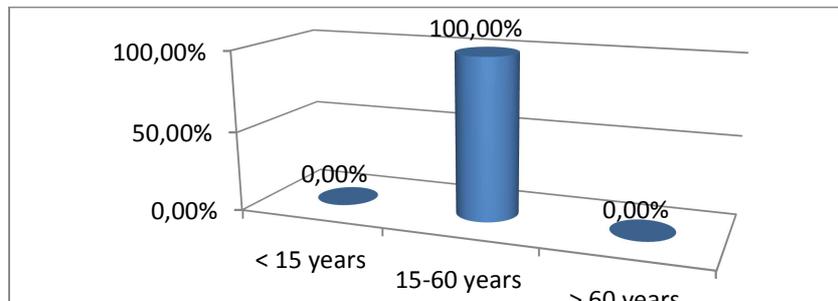


Fig.3. Diagram of distribution of producers and sellers according to age

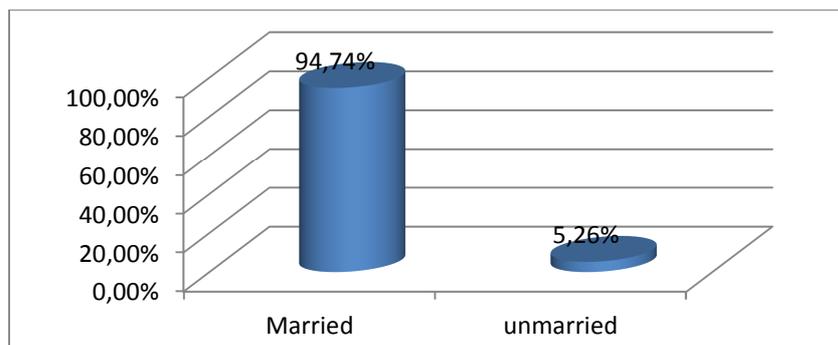


Fig.4. Diagram of distribution of producers and sellers according to their matrimonial situation

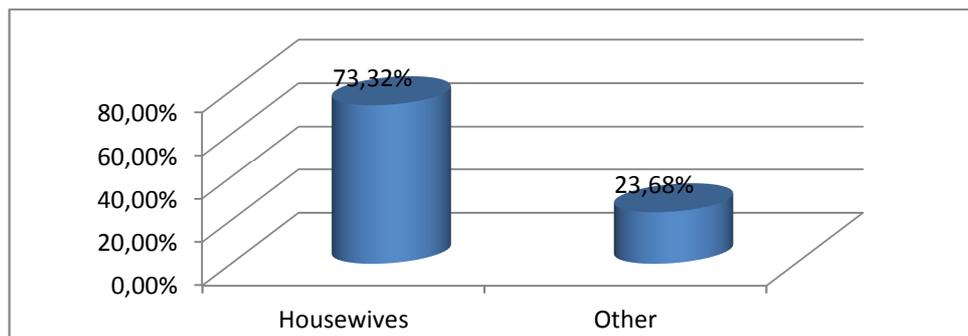
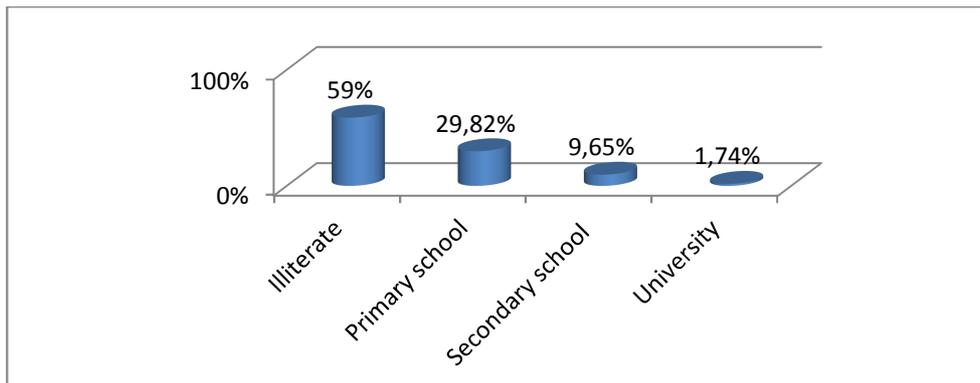
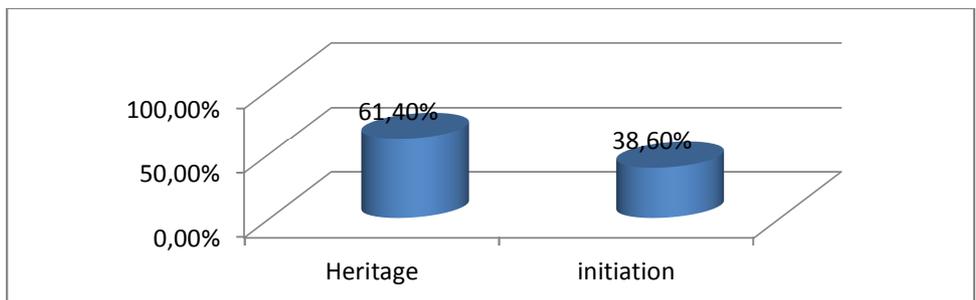


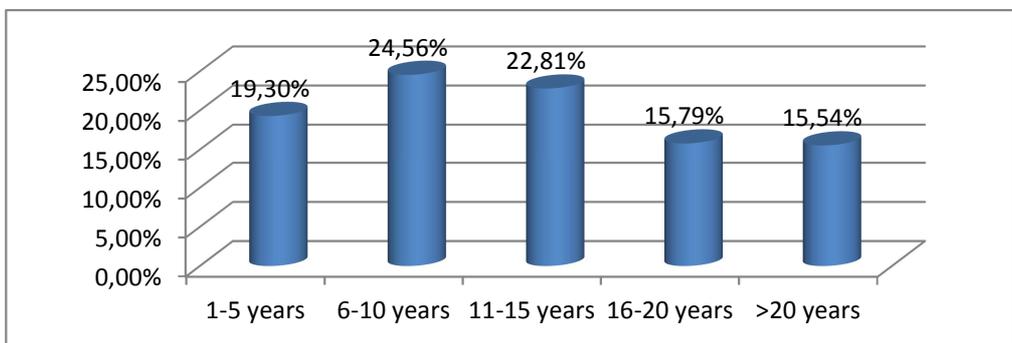
Fig.5. Diagram of distribution of producers and sellers according to their social status



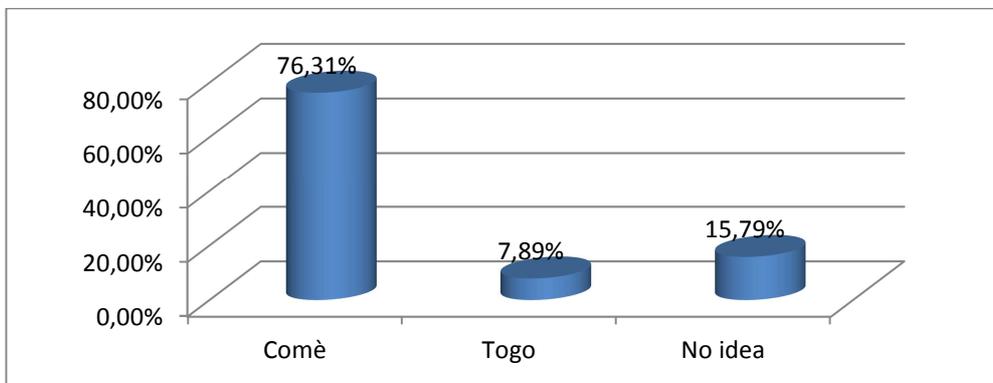
**Fig.6. Diagram of distribution of producers and sellers according to education**



**Fig.7. Diagram of distribution of producers and sellers according to the source of technology acquisition**



**Fig.8. Diagram of distribution of producers and sellers according to their seniority**



**Fig.9. Diagram of distribution of producers and sellers according to origin of Ablo**

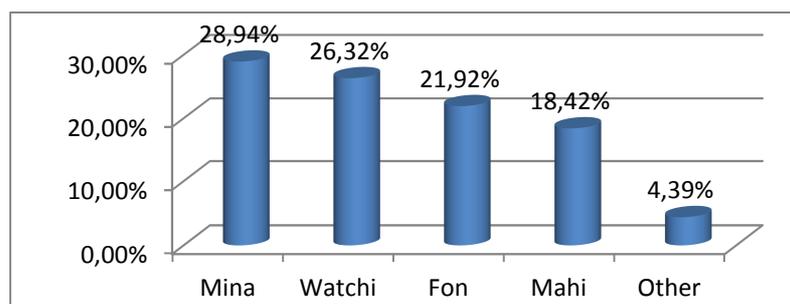


Fig.10. Diagram of distribution of producers and sellers according to their ethnic group

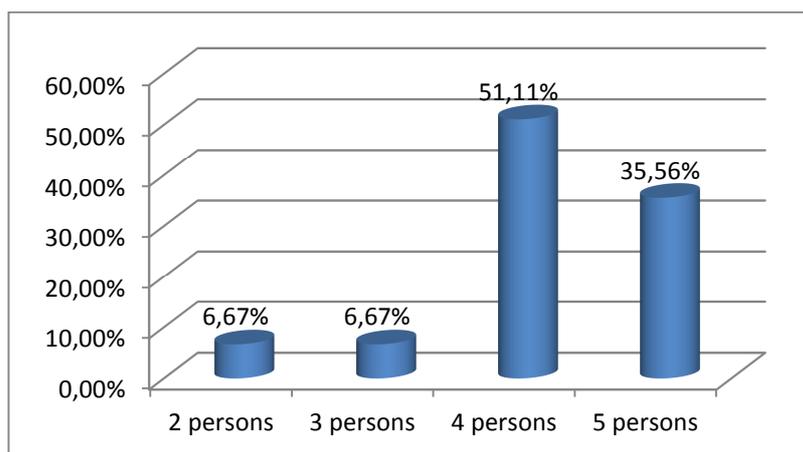


Fig.11. Diagram of distribution of producers and sellers according to their need in staff

Table2. Raw materials, ingredients, source of procurement, moment of production and of sale, number of production per week and the place of production in the different municipality

	Abomey	Abomey-Calavi	Bohicon	Comè	Cotonou	Covè
Raw materials	rice	rice	rice	maize	rice	maize
Ingrédients	flour of Wheat, yeast, Sugar and Salt	flour of wheat, yeast, sugar, salt and flour of rice sometime				
Source of procurement	market	market	market	market	market	market
Moment of production and of sale	evening	evening	evening	morning and evening	evening	evening
Number of production per week	7	6 - 7	7	7	6 - 7	7

**Table3. Type of sellers and of sale, place of sale, place of production, means of conservation and types of packing in the different municipality**

	Abomey	Abomey-Calavi	Bohicon	Comè	Cotonou	Covè
Type of sellers and of sale	immobile	immobile	immobile	mobile	immobile	immobile
Place of sale	very close to the way					
Place of production	very close to the way	very close to the way	very close to the way	at home	very close to the way	very close to the way
Means of conservation	icebox	icebox	icebox	sachet	icebox	icebox
Types of packing	tin	tin	tin	sachet or leaf	tin	tin

**Table4. Length of production in hour, difficulty met in the activity of production and sale and the dish of accompaniment in the different municipality**

	Abomey	Abomey-Calavi	Bohicon	Comè	Cotonou	Covè
Length of production in hour	5 – 6	5 – 6	5 – 6	7 – 8	5 – 6	7 – 8
Difficulty met in the activity of production and sale	heat of fire, conditioning, pressure of the consumers	heat of fire, conditioning, pressure of the consumers	heat of fire, conditioning, pressure of the consumers	heat of fire, conditioning, pressure of the consumers and risk of accident	heat of fire, conditioning, pressure of the consumers	heat of fire, conditioning, pressure of the consumers
Dish of accompaniment	pimento or frying whith fish or meat	pimento or frying whith fish or meat	pimento or frying whith fish or meat			

**Table5. Middle cost of production from one Kg of raw materials, middle weight of one ball, selling cost of one ball and daily profit means by producers and sellers in the different municipality**

	Abomey	Abomey-Calavi	Bohicon	Comè	Cotonou	Covè
1	758,33 <sup>a</sup> ±49,16	800,60 <sup>a</sup> ±56,27	740 <sup>a</sup> ±43,69	950 <sup>b</sup> ±44,72	758 <sup>a</sup> ±49,20	650 <sup>a</sup> ±50
2	47,46 <sup>a</sup> ±3,39	55 <sup>a</sup> ±9,56	49,56 <sup>a</sup> ±6,29	59,82 <sup>b</sup> ±6,91	51,75 <sup>a</sup> ±2,5	46 <sup>a</sup> ±2,33
3	25	25	25	25	25	25
4	3250 <sup>a</sup> ±267,3	5441,2 <sup>b</sup> ±845,6	4500 <sup>b</sup> ±612,4	3050 <sup>a</sup> ±497,2	5638 <sup>b</sup> ±1011,8	2912,5 <sup>a</sup> ±339,9

**The middle values carrying the same letters on the same line are not meaningfully different to the doorstep of 5%**

1= Middle cost of production from one Kg of raw materials; 2= Middle weight of one ball; 3= selling cost of one ball; 4= Daily profit means by producers and sellers in the different municipality.

#### 4 DISCUSSION

The results of investigation show that the production and selling of *Ablo* is an informal activity that is only exercised by women. They have an age between 15 and 60 years (Fig.2). Generally they are married women (94.74%), housewives (73.32%) and illiterate (59%). The producers and sellers investigated use the incomes descended of this activity to provide the elementary need and the family exigency. The majority of the producers and sellers are Mina (28.94%) and Watchi (26.32%). It is due to the fact that at the origin the *Ablo* was consumed on a domestic scale in the departments of the Mono and the Couffo where concentrated Mina and the Watchi. These results are compliant to those of ([17]; [12]; [13]).

The majority of the producers (61.40%) inherited the technology of their parents and accumulates of very long years of experience. what shows that the transmission of the technology is matrilinear. The presence in weak proportion (38.60%) but not negligible of producers having acquired the technology by initiation shows the socioeconomic interest of the *Ablo*. They produce lone way but affirm that they have a need in staff between 2 and 5 individuals (Fig.11). This solitude is due to the fact that they don't want to live the difficulties bound to the human management and especially financial.

The production and the sale are made very close to the ways in urban surroundings and on average six times per week (table2). The sale is stationary in the other cities outside of Comè where it is itinerant. This itinerant sale explains the fact that the potential client of these sellers is the travelers. These results are in accordance with those of [3].

The *Ablo* is preserved hot in iceboxes in urban surroundings and in sachet in Comè. This conservation hot explains itself by the behavior of the consumers who require that the product either hot.

The length of production varies between 5 and 6 hours in the city of Abomey, Abomey-Calavi, Bohicon and Cotonou and between 7 and 8 hours at Comè and Covè. It explains itself by the fact that the main raw material used is the corn at Comè and Covè and rice in the other city. Indeed, the use of the corn requires the preparation of the mawè, a long and laborious stage.

The producers and sellers of *Ablo* affirm that the difficulties are especially bound to the heat of fire at the time of cooking, to the conditioning, to the itinerant sale (Comè) and to the no mastery of the raw material. Some of these difficulties as the heat of fire and the itinerant sale explain the aged people absence (>60 years) of the circuit of production and sale.

The cost of production from one kilogramme of raw material varies between 650±50 francs CFA and 950±44.72 francs CFA. The middle weight of a ball of *Ablo* varies between 46±2.33 gramme and 59.82±6.91 gramme. The ball is sold to 25 francs CFA in all townships in spite of the meaningful difference noted to the level of its weight and the cost of production between some townships (table5). It explains itself by the worry of standardization of the selling price by the producers and the sellers.

The daily middle profit of the producers and sellers of *Ablo* varies between 2912.5±339.9 francs CFA and 5638±1011.8 francs CFAS (table5). These results are in accordance with those of [18] quoted by [14] who showed that the daily incomes generated by the trade of street food in Benin rose to an amount between 1 500 francs CFA and 15 000 francs CFA. The meaningful difference noted between some city is not only owed to the status economic of these last but especially to the dishes of accompaniment. Indeed, the producers and sellers affirmed that the majority of the profits come on the whole from the sale on order of the promoters of feast and other festivities but also of the sale of fish, meat and frying.

#### 5 CONCLUSION

The survey shows that the production and the sale of *Ablo* is an informal activity economically profitable and constitute a source of employment for the producers and sellers. It generates incomes and enables the producers and sellers to face their daily needs including those of their family. The two main raw materials are the corn and rice imported. The recourse to imported raw material (the white rice) can constitute a brake to the local agricultural product promotion. From then on, it is important to understand the real incentive of the producers to operate such change and to value the technological faculty of other local cereals for the production of *Ablo*.

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