



Assessment of the food supply at the University of Yaoundé I

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ABSTRACT: Food security refers to the availability of sufficient, accessible, stable and wisely used food. Thus, food supply is a determinant of food security and food insecurity in turn. Given the statistics on food insecurity in sub-Saharan Africa, and in Cameroon in particular, and the impact of food on school performance, this article takes stock of the food supply in the Yaoundé I university environment. An observation guide is used to identify the various foods on offer. It shows that there are two main types of catering, morning and midday. These restaurants offer a variety of foods, including cereals, starchy foods, fruit and vegetables, pulses and various drinks. Apart from these two types, other foods are available at any time of day, such as snack products (caramel, salted peanuts, etc.). However, future studies will have to assess the nutritional and health quality of these foods and also evaluate other pillars of food safety, namely access, stability and use of these foods, in order to assess the general state of food safety in this educational environment.

KEY WORDS: Food; State; Supply; University; Yaoundé.

1. INTRODUCTION

According to FAO, 2018 cited by Diallo et al, 2023, food security exists when all people at all times have sufficient, safe and nutritious food to lead an active and healthy life. Four pillars or dimensions of food security emerge from this definition: availability, which refers to food supply. Accessibility, which refers to the physical and economic ability of all individuals to meet their food needs. Stability refers to the spatial and temporal regularity of the food supply, while utilisation refers to the way in which individuals use the food available. A country is therefore said to have achieved food security when its population has sufficient food available, has access to this food both physically and financially, and when this availability of food is stable over time and used wisely, i.e. avoids food waste, for example. Unfortunately, this definition only seems to make sense in theory. In practice, the opposite is blatantly obvious throughout the world: food insecurity. Food insecurity is a situation in which people are unable to feed themselves, either qualitatively or quantitatively.

International and national statistics show the state of food insecurity in the world. Sub-Saharan Africa appears to be the region most affected by this phenomenon. A report by the FAO et al, 2022, states that Sub-Saharan Africa is the region of the world with the highest rate of food insecurity. According to the report, the number of undernourished people is rising steadily. This situation is exacerbated by pandemics on the one hand, and by socio-economic and socio-political crises on the other, notably the covid pandemic, wars, etc. There are also natural constraints such as agro-ecological, climatic and geographical conditions (Diallo et al., 2023; Diallo et al., 2022; Tougan et al., (2020). The statistics in this report show that the prevalence of undernutrition in sub-Saharan Africa was 22% between 2012 and 2020, compared with 9% in other developing countries and 3% in developed countries. Food insecurity is increasing in sub-Saharan Africa, while it is falling in other continents, such as Asia. The FAO, 2018 quoted by Diallo et al, 2023 revealed that in 2013, the number of food-insecure people in sub-Saharan Africa was 200.4 million, then rose to 236.5 million in 2017, an increase of 42.8 million people between 2013 and 2017, while Asia in 2013 recorded 526.1 million food-insecure people. The figure fell to 508.3 million in 2015 and 519.6 million in 2017, a decrease of 6.5 million people between 2013 and 2017.

Cameroon, a country located in this part of the world, is particularly affected by this situation. Indeed, Voumo (2021-2022) reports that in 2020, the WFP estimated that nearly one household in four is food insecure in Cameroon. Similarly, it states that a PNVRSA/FAO survey, 2021 shows that the food insecurity situation in Cameroon rose from 12.18% in 2019 to 20.4% in 2020. The harmonised framework (CH), 2023 reveals that 2940807 million people are acutely food and nutritionally insecure (phases 3 to 5) in Cameroon for the current period from October to December 2023, i.e. 10.6%, and 2504980 million people (9%) for the projected phase from June to August 2024. There has been a slight fall, but the situation remains as worrying as ever. Given the current social and economic situation, inflation on the international and local markets is likely to worsen the situation. Seen from this angle, it

becomes necessary to examine all the means likely to reduce this phenomenon. In our view, schools are a strategic tool for achieving food security in this country.

School is seen as a pillar of society in terms of human development. It is also an important social safety net for out-of-home food consumption. The literature shows that researchers have understood the importance of school food in achieving food security in a country and are showing a particular interest in it. A number of studies have been carried out on food supply in educational settings. The literature shows that some aim to assess the quality of supply and its evolution (Champion et al., 2019; Mekhanda, 2016; Langevin et al., 2013). Others focus on the definition of supply and strategies for improving it (Turcotte et al., 2019; Dioumé, 2012). In one way or another, these various studies aim to improve food supply in educational settings. Based on this literature, it is clear that very few studies have been conducted on food supply in general, and particularly in educational settings. Although some of these studies have been conducted in an African context, notably in Mali and Algeria, none has been conducted in Cameroon. The aim of this study is therefore to take stock of food provision at the University of Yaoundé I, Ngoa-Ekelle campus. In other words, it sets out to show the different foods present on this campus. According to studies by (Hamelin et al., 2009; Chénier, 2017; Tarasuk et al., 2019) cited by Morisette-Desjardins et al. (2019), food supply is one of the structural determinants of food insecurity. At the same time, it is a determinant of food security, one of its pillars. Hence the need to examine food availability in the University to ensure that it is effective.

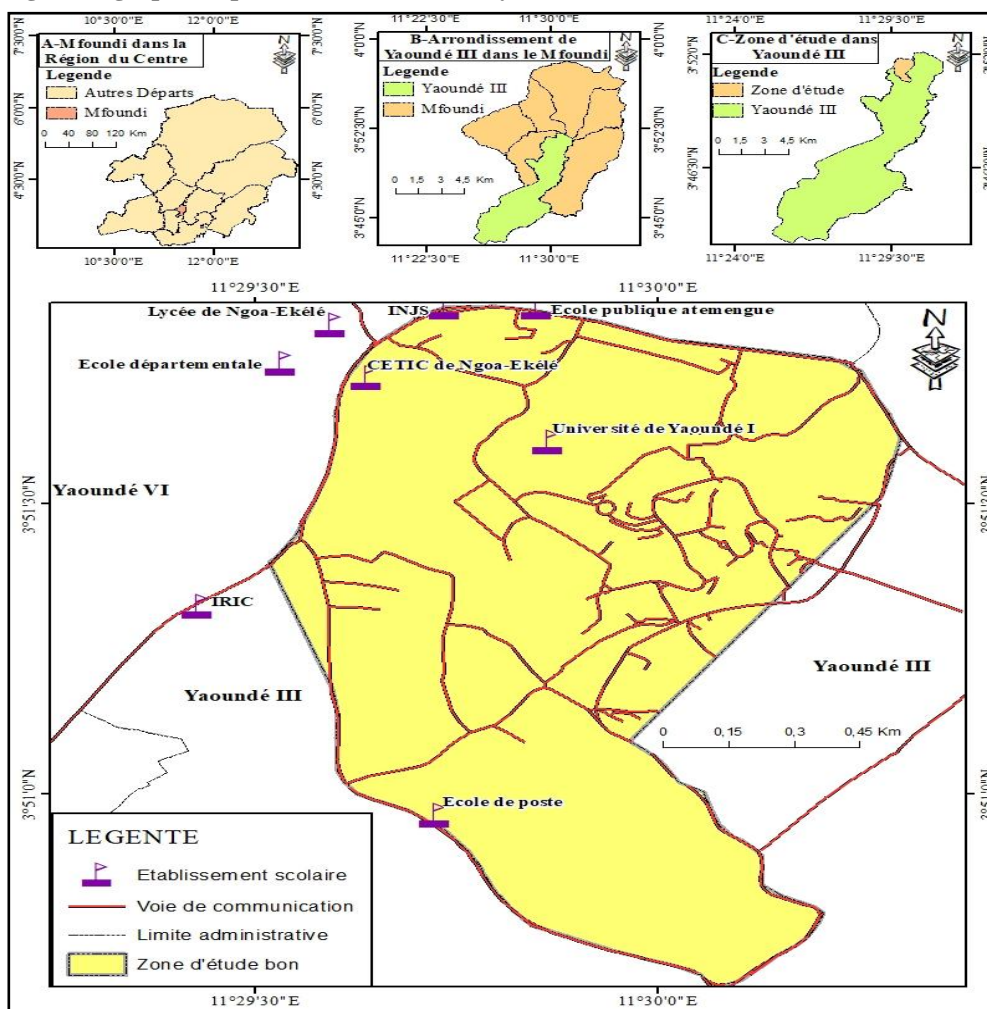
2. METHODOLOGY

The approach adopted in this study is essentially qualitative. The data collection tool is the observation guide.

2.1. The study site

The study site is the University of Yaoundé I, located in the Ngoa-Ekelle district of Yaoundé III. This district is home to several institutions such as the University of Yaoundé 1 and leading schools such as the Institut National de la Jeunesse et des Sports (INJS), the Institut des Relations Internationales (IRIC) and the Ecole des Postes et Télécommunications. There are also secondary schools such as the Lycée de Ngoa-Ekelle and the CETIC de Ngoa-Ekelle. Primary schools such as the departmental school and the Atémengue public school. Figure 1 shows a map of the study area.

Figure 1: graphic representation of the study area.



Source: shapefile national mapping institute (2020), google earth (2024) and GPS survey (2024).

2.2. Data collection

Data collection began on 22 October 2024. To begin with, the entire Ngoa-Ekelle campus was criss-crossed to identify the various food supply points. These points were then categorised. The number of visits to each point was multiplied in order to collect all the foodstuffs on offer. Direct observations were made at the various categorised outlets.

At the start of the survey, a category was chosen and then observed over a period of one week. The following week, another category was chosen for observation. This phase lasted four weeks.

Once all the categories had been observed, we carried out alternating observations, starting in the morning with one or two categories and ending with the other two in the afternoon, depending on the dynamics of the food outlets. These observations took place between 7.30am and 6pm. What facilitated the alternating observation was the concentration of the majority of sales outlets in three main locations, namely at the entrance to the university campus, behind lecture theatres 501 and 502 and the restaurants located a few metres from lecture theatre 1002 in the Faculty of Science (FS).

From 22 October to 20 December, an observation guide was used to record the different foods on offer in these restaurants. Vendors were asked a number of non-predefined questions to supplement the information gathered in their places of service. With their consent, photos of some of the food items were taken using an Infinix note 9 smartphone for illustrative purposes. The map of the study site was produced by a cartographer with whom we did the fieldwork in October. This stage involved GPS surveying.

Data analysis uses the information gathered in the field to produce a report.

3. RESULTS

Generally speaking, the data from the fieldwork shows that there is a single type of offer on the campus, namely sales, which take place in different environments. These environments were classified into four categories: university restaurants, private canteens, street vending and open-air vending.

University restaurants are sales outlets that fall within the remit of the University. There are two types. Dishes cost 100 FCFA.

Private canteens are outlets owned by individuals who rent these spaces for commercial purposes. This category includes restaurants (housed in a building, or an iron kiosk that looks like a house). Prices for ready-made meals range from FCFA 500 to FCFA 2,000. As for breakfast foods, prices depend on the consumer's choice. Also in this category are back-turners, which are open spaces protected by a roof and offering seating. Prices here range from 500-700 for ready-made meals.

Shops are also sheltered by a building or kiosk. Here the price depends on the consumer's choice of bread load.

Open-air sales are where the shopkeeper usually just has a parasol to protect himself and his goods from the sun. Prices depend on the product chosen. It's a place where you can buy a sweet or biscuit for as little as 25 FCFA.

Street vending is a business in which the trader has no fixed point of reference; it's an immobile business, as he moves around with his goods. In contrast to October and November, the number of street vendors has fallen considerably since December. This is probably due to the new Rector's desire to improve the organisation of the University and the services that go with it. The University's offer follows a seasonal pattern. In total, around 50 outlets were open. Some were under seal for insolvency, according to a press release from the director of the university works centres, which set the deadline for payment of rental charges at 13 December 2024. These sales outlets will be counted on 19 December.

Specifically, two main types of catering have been identified on campus: morning catering and midday catering.

3.1. Morning catering (breakfast)

The morning catering service starts at 8am, or sometimes earlier, depending on when the vendor arrives on campus. It provides breakfast for students and is offered by private canteens, tournes-dos and shops. Several foods are offered for breakfast. These foods are illustrated in Table 1.

Table 1 Breakfast foods

Basic foods	Supplements
Pastry (bread, cake)	-Fried eggs - Hard-boiled eggs - Eggs filled with spaghetti, processed sardines or meat - Cup of milk - Cup of milk mixed with coffee or tea - Butter, chocolate or mayonnaise - Beans, minced meat or fish, spaghetti, processed sardines and minced beef. - Avocado purée
Starch (potato, plantain and manioc stick)	- Eggs simple or topped with spaghetti - beans
Fruit and vegetable salad	

Figures 2 and 3 illustrate some of these foods.

Figure 2: Sliced beef, spaghetti, boiled eggs and cassava sticks



Source: Tiakouang, field data

Figure 3: beans and cooked sardines



Source: Tiakouang, field data

3.2. Midday catering (lunch)

It mainly consists of cooked dishes which are available from 11 a.m. Table 2 presents the different foods identified at the different points of sale. Indeed, cooked meals are found in private canteens, university restaurants and to a lesser extent outdoor sales (only one point has been identified). While some private canteens offer both types of catering, others offer only one. Those offering dishes where frying is the main cooking method, such as fried pasta with fried plantain, or French fries extend their offerings throughout the day. This classification is flexible and is based on generalities. Otherwise it is possible to identify breakfast foods at lunch time, because supply depends on demand. The observation from observation is that all these restaurants have practically the same offers on a daily basis. Table 2 shows the different foods identified in these places.

Table 2: cooked meals sold on campus

Food groups	Names of cooked dishes
Cereals	<ul style="list-style-type: none"> • Corn couscous with okra sauce, • Rice with various sauces (peanut, tomato, black sauce called bongo, sliced beef, and beans) • Sanga • Pan-fried spaghetti • Sautéed macaroni and bread
Vegetables	<ul style="list-style-type: none"> • Vegetables sautéed with pistachio • Cati-cati • Eru • Okay • Dolè • Zom

Starchy vegetables	<ul style="list-style-type: none"> • Ripe bongo plantain • Taro • Crushed apples • Fried plantain and apple fries
Meat/fish	<ul style="list-style-type: none"> • Roast chicken • Roasted fish or pan-fried fish • DG Chicken • Minced meat • Beefsteak • Beef faith • Omelets
Vegetables	<ul style="list-style-type: none"> • Bean • Pistachio dishes

Looking at this table, the dishes seem varied, but not very diversified to the extent that they are mostly made up of a basic food with various additions. This is the example of rice with its various sauces. Sometimes these supplements fall into the same category as supplements. This is the case of spaghetti and macaroni which are eaten with bread, even though they are all made from the same product, namely wheat flour.

However, it should be noted that a dish results from the combination of several foods as shown in the following figures. Which makes categorization a bit difficult.

Figure 4: Dolè accompanied by cassava stick



Source: Tiakouang, field data

Figure 5: bongo accompanied by ripe plantain



Source: Tiakouang, field data

In addition to these traditional cooked dishes, we distinguish dishes from modernity as illustrated in the following figures:

Figure 6: pasta sautéed with chicken,



Source: Tiakouang, field data

3.3. Snack foods

Apart from these two main types of catering, we also distinguish snack products which also represent a significant part of the offer, especially when it comes to sweets and biscuits. For this purpose, we distinguish: donuts, croquettes, fresh peanuts and roasted salted peanuts, grilled corn, caramel, pancakes and fresh foods such as peanuts and bananas. Grilled foods like braised fish. These products are sold throughout the day and are mainly found in shops, open-air sales and among some street vendors.

Figure 8: grilled corn, caramel, rusk, salted peanut and fresh peanut



Source: Tiakouang, field data

3.4. Drinks

As for drinks, there are several categories, namely: soft drinks (soda) and water which dominate the offer. Artisanal drinks (foléré, kossam, tchai), fruit juices, ice creams, milk, coffee. Except for university restaurants, drinks can be found in all other points of sale. Figure 8 shows the images of these different types of drinks.

Figure 8: water, soft drink, fruit juice and craft drink



Source: Tiakouang, field data

4. DISCUSSION

The aim of this article was to take stock of the food on offer on the campus of the University of Yaoundé I, Ngoa-Ekelle. This inventory consisted of a census of the various foods sold. However, it should be stressed that this study did not assess the nutritional and health quality of the food available. Nor did it dwell on the composition of the various dishes served. Future research, following the example of that used in the literature (Dioumé, 2012; Langevin et al., 2013; Mekhanda, 2016; Turcotte et al., 2019), could assess the nutritional and health quality of these foods, and even their evolution. To go further, they will be able to look at the other three dimensions of food security, i.e. the accessibility, stability and use of food, in order to determine the level of food security or food insecurity in this educational environment. This seems all the more significant in view of the link between food and school performance established by several studies (Critch, 2020; Egede, 2021).

5. CONCLUSION

This study highlighted the current state of food provision at the University of Yaoundé I. Direct observation enabled us to identify two main types of catering, morning catering (breakfast) and midday catering (lunch). These types of catering offer a variety of foodstuffs, including dairy products, drinks (water, soft drinks and craft drinks, tea, coffee), meat and fish, starchy foods, fruit and vegetables, cereals and vegetables. Apart from these, there are snack foods (caramel, salted peanuts) available at any time of day. However, this categorisation of the different foods shows that the offer is varied, but not very diversified insofar as most dishes are made up of a basic food and various supplements. What's more, these foods are sometimes in the same category. Future research should therefore assess the nutritional and sanitary quality of these foods, and explore other remaining pillars of food security, namely accessibility, stability and use, in order to measure food security in the Yaoundé I university environment.

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