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The Causes of Peasant Malnutrition in the Municipality of Aouda, Togo

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ABSTRACT

Malnutrition is one of the main health issues affecting populations. The aim of this study is to highlight factors explaining this phenomenon in the municipality of Aouda in central Togo. The methodology adopted is based on documentary research and participant observation, on the one hand, and on field surveys of a representative sample of 145 rural households, on the other. The processing software used was mainly Excel, QGis, SPSS and Word. The results show that socio-economic and demographic characteristics and environmental factors are the main determinants of household vulnerability to malnutrition. Thus, 64% of households surveyed confirmed food deficit during the months of April, May, and June. This deficit results from the insufficiency of farmland and lack of financial resources for agricultural production. In addition, 54% of households suffer from lack of electricity and 19% lack drinking water. This situation accentuates the vulnerability of households to malnutrition due to the lack of conservation of perishable foodstuffs.

Key words: factors, peasant malnutrition, health problem, Aouda-Togo

INTRODUCTION

Malnutrition is a universal problem that takes many forms. Defined as a lack, excess, imbalance, or poor quality of food intake, malnutrition affects a significant proportion of humanity. Regardless of geographic location, age group, wealth level or gender, everyone is affected. While it potentially concerns the whole of humanity, certain groups are more vulnerable, notably young children, adolescents, pregnant and breast-feeding women, the elderly, the sick or immunocompromised, and the poor. Migrants, displaced people and refugees from conflicts, droughts and floods are also at risk of malnutrition. According to UNICEF in a press release titled "Global Nutrition Report 2018 release", malnutrition causes around 45% of deaths in children under 5, mainly in low- and middle-income countries. The health consequences of overweight and obesity are estimated to be largely responsible for 4 million deaths (7.1% of all deaths). It increases deaths in children and disability in adulthood. According to former UN Secretary General Kofi Annan in 2018, "nutrition is one of the best drivers of development: it triggers a virtuous circle of socio-economic improvements, such as increased access to education and employment".

To free humanity from the poverty, hunger, climate change and inaccessibility to basic services that are the main causes of malnutrition, we need to start with the rural world. According to the International Fund for Agricultural Development (IFAD, 2018), three billion people or around 40% of the world's population live in rural areas in developing countries. Most of them derive their income and food from peasant and family farming. Rural populations produce the food that feeds their countries, but they suffer disproportionately from poverty: 80% of women, children and men affected by extreme poverty live in rural areas. Rural poverty accounts for almost 63% of poverty worldwide. It reaches 90% in some countries, such as Bangladesh, and between 65% and 90% in sub-Saharan Africa (Khan, 2001, p. 2).

Like other countries in sub-Saharan Africa, Togo has recorded many cases of malnutrition. A national survey of 6094 pre-school children carried out in 1998 by the FAO

showed that acute malnutrition (2%) was present throughout the country. In 2000, 17% of children had a birth weight of less than 2.5 kg (FAO), reflecting the precarious state of women during pregnancy (Djengle, 2014, pp. 1-2). In rural Aouda, the nutritional situation persists despite policies aimed at ensuring good nutrition for the population, especially for the mother-child pair. According to P. Bignandi, Director of the Marigot d'Aouda nutrition center, in 2013, mortality and morbidity rates linked to malnutrition and undernutrition mainly affected the rural population. It should be noted that only 20.5% of the population had access to drinking water in the municipality, as mentioned by H. Coulombe (2011, p. 121). Malnutrition is, therefore, a potential and real problem with devastating consequences. It weakens immune systems, aggravates disease, reduces learning capacity and consequently leads to low productivity in adulthood (Djengle, 2014, p. 4).

The aim of this study is to determine the explanatory factors of malnutrition in the municipality of Aouda. The recurrence of the phenomenon leads to the following main question: what factors predispose the populations of Aouda municipality to malnutrition? The work is structured around the geographical and methodological framework, the results, and an analytical discussion.

PRESENTATION OF THE STUDY AREA

The municipality of Aouda is one of the 11 municipalities forming the district of Sotouboua. It comprises 11 villages with an estimated population of 18,682 in 2020 (DGSCN/INSEED, 2020). It is bordered to the north by the district of Tchaoudjo, to the south by the municipality of Adjengré, to the west by the municipalities of Fazao and Kagnigbara and to the east by the district of Tchamba. The township is located between 0050' and 1010' east longitude and between 8040' and 9040' north latitude (Figure 1).

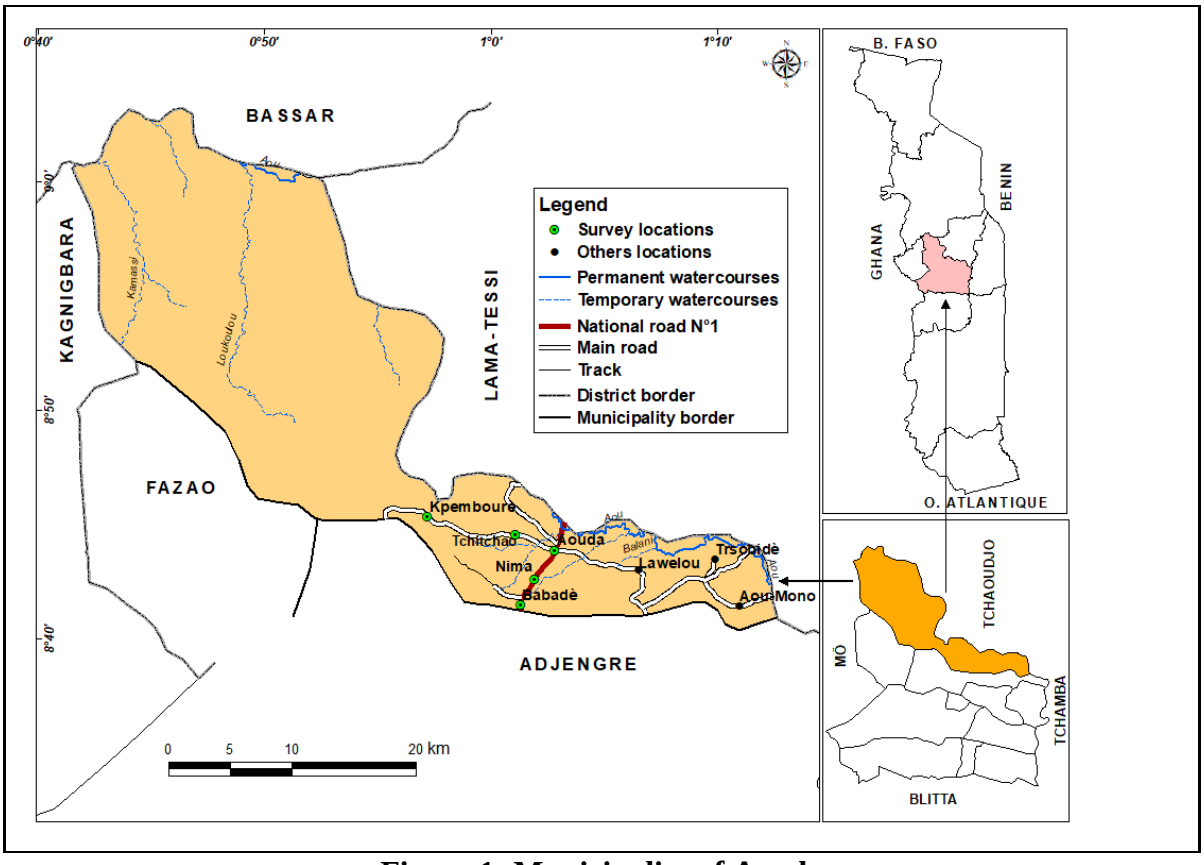

Figure 1: Municipality of Aouda
Source: IGN base map, produced by the authors, 2021

With a growth rate of 2.7% (Togo Ministry of Health, 2019, p. 31), the municipality remains one of the most populous in the Sotouboua district. This demography frequently leads to food problems in Aouda.

MATERIALS AND METHODS

The methodology adopted for this research includes data collection, processing and analysis of results.

Data Collection

This consisted of documentary research and field surveys. The data collected relate to the social, demographic and economic characteristics of households, their knowledge of diet and their daily nutritional behaviours.

Documentary research

Documentary research consisted in making critical use of general and specialized works, dissertations, theses, articles, newspapers, reports, statistical databases and official texts relating to the problem of malnutrition. The documentation centers of the municipality, the WHO, the District Health Directorate, the library of the Geography Department as well as the central library of the University of Kara were visited.

Field surveys

This phase is devoted to the tools and techniques used and to sampling.

- Data collection techniques and tools

To achieve the objectives of this study, data collection techniques such as the *Méthode Active de Recherche Participative* (MARP) or Active Participatory Research Method, direct observation and interviews were used. With the help of an interview guide, we gathered information on people's knowledge and perception of the problem of malnutrition in the area. As for direct observation, it enabled us to identify the areas where the phenomenon is most keenly felt, and the factors that explain the situation. To gain a better understanding of the factors behind the phenomenon, interviews were also conducted with resource persons at the selected sites (2 village notables, 2 lead doctors, 4 medical assistants and the District Health Director). They provided information on the manifestations of malnutrition. The questionnaires were addressed to a target population essentially made up of households practicing agriculture as their main income-generating activity, and in most cases having a traditional livestock herd.

- Sampling

The purposive sampling method was adopted. The choice of sites (villages) was based on a number of criteria, including geographical and cultural location, and the availability of community facilities. On this basis, 5 villages out of the 11 making up the municipality were selected: Babadè, a village located on National Road No. 1, Kpambouré, a landlocked village located in the western part of the municipality, Aouda, the headquarters of the municipality, Nima, a village made up mainly of Muslim households, and Tchitchao, a landlocked village located approximately 5 kilometers from Aouda. With a sampling rate of 5%, 145 households were surveyed out of a total of 2897. The number of households surveyed varied from village to village. Thus, 40 households were surveyed in Aouda, 22 in the village of Tchitchao, 23 in Kpambouré, 25 in Nima and 35 in the village of Babadè (Table 1).

Table 1: Distribution of respondents by village

Village	Sample	Frequency (%)
Aouda	40	28
Babade	35	24
Kpamboure	23	16

Tchitchao	22	15
Nima	25	17
Total	145	100

Source: Field survey, September 2021

FINDINGS

Poverty, food availability in terms of quality and quantity, household equipment, geographical location and household structure are among the variables likely to predispose the target population to malnutrition. What is the current state of agricultural production in Aouda municipality?

Brief Overview of Agricultural Production Factors

Food insufficiency in terms of quality and quantity has been a serious concern for populations in low-income countries for several decades. Yet these people live in rural areas, and their main activity is farming. In the municipality of Aouda, many factors contribute to malnutrition, namely the natural environment and the size of farms.

Physical environment hostile to farming activities

Based on observations and data collected in the field, food shortages in some households are attributable to climatic hazards and soil infertility. Delayed growing season, heavy rainfall and early end of rainfall were cited by 61.5% of households surveyed, while 38.5% cited over-exploitation of the land as the main cause of poor crop yields. Due to a lack of irrigation and drainage techniques, agricultural production in the canton of Aouda, like in most other Black African countries, is closely dependent on weather conditions, which are highly capricious. As a result, the lack of agricultural credit reinforces household food shortages due to the small amount of land under cultivation.

Low household planted area

The lack or insufficiency of arable land is a major problem in the study area. It is one of the factors contributing to low yields and, in turn, to malnutrition among the population (Figure 2).

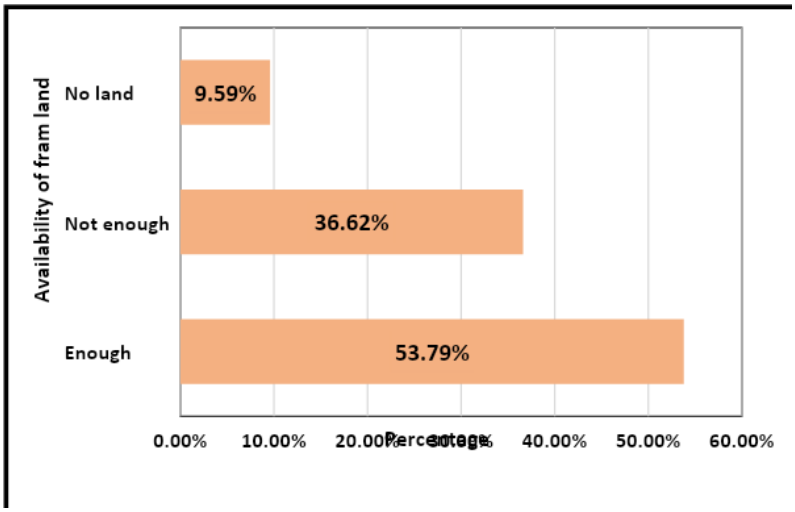

Figure 2: Distribution of households based on availability of farm land

Source: Field survey, September 2021

According to Figure 2, more than one in three households attributed food shortage to insufficient farmland. Half of the households surveyed have sufficient farmland for the production of food crops and cash crops such as cotton, soybeans, etc., compared with 9.59% who have no farmland but farm full-time. Analysis of these results shows that lack of

agricultural land is a predisposing factor in the food shortage situation, given that 46.21% of households are willing to cultivate the land, but their possibilities are limited. To remedy this situation, some people practise indirect farming, while others request plots from their neighbors. Consequently, the fragmentation of cultivated plots (Figure 3) is seen as an explanatory factor in the food deficit phenomenon, given that the main activity of households is agriculture.

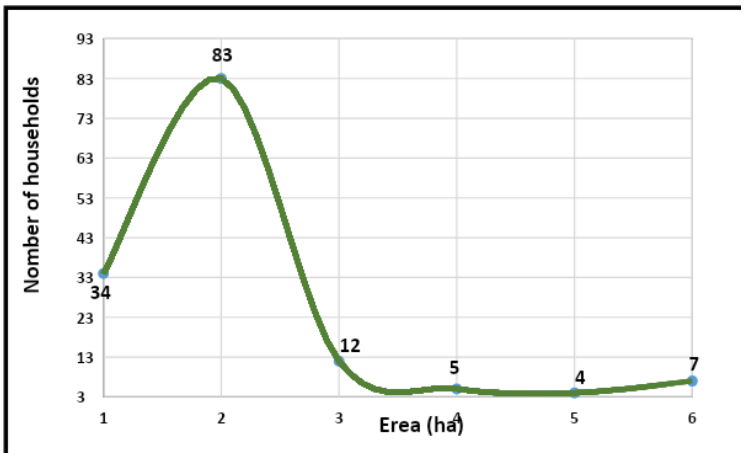

Figure 3: Distribution of farm size by number of households
Source: Field survey, September 2021

Figure 3 shows that only 28 households have farmland larger than 3 ha, while 117 have fields of less than 3 ha. Given that yields are inextricably linked to farm size in a context of traditional farming, the quantitative food shortage of households in the municipality can be explained above all by the small size of their farms. This low productivity, which threatens food security, and the absence of production surpluses mean that households are unable to meet all their essential needs. In addition, many socio-economic and demographic conditions contribute to the shortage of food resources in the study area.

Socio-Economic and Demographic Constraints on Agricultural Production in Aouda

A lack of quality due to low-quality production

In Aouda, as in most of Togo's municipalities, people are forced to opt for quantity rather than quality of food. Their primary goal is to eat a lot to alleviate their hunger (Figure 4).

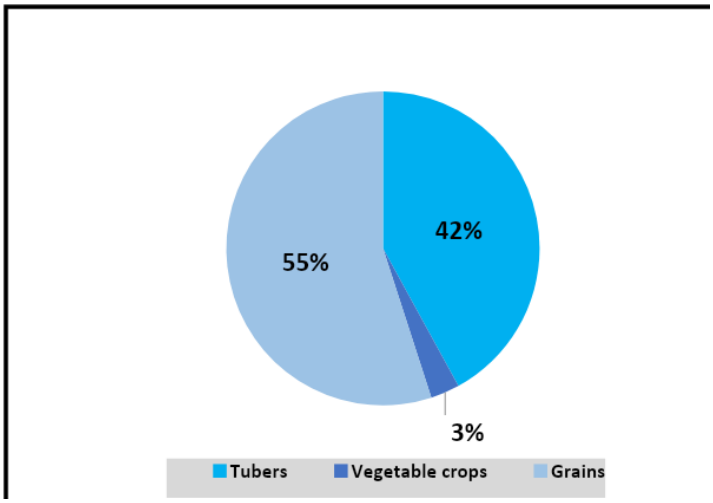

Figure 4: Crops planted by type of household
Source: Field survey, September 2021

Looking at the data in Figure 4, we can see that production is not qualitative, since only 3% of households surveyed grow market garden produce, while 20% claim to have a garden plot. Certainly, there is no shortage of prized vegetables such as greater nightshade and cortea, but their high cost means that they are less represented in household food rations. More than half of production is made up of cereals (corn, beans, etc.) and 42% of tubers (yams, cassava).

From this observation, it emerges that the dominant products are low in lipids and proteins (83.2%), while products rich in carbohydrates and proteins occupy a low proportion (9%). This situation justifies the qualitative deficiency of food consumed in the households surveyed. This lack of food quality is at the root of the anthropometric indices reported by the interviewed resource persons. According to the lead physician at the Aouda hospital, analyses carried out in the municipalitry's hospitals and clinics have revealed mismatches between weight and height, as well as between height and age. The problem is particularly acute among pregnant women, but also and above all among children under the age of five, 32% of whom are underweight, he added. Inadequate consumption of protein-rich foods in households is a reality, despite the fact that livestock farming is considered the municipality's second-largest economic activity.

Contrast between livestock farming and animal protein intake

Livestock farming is identified as a related activity often associated with agriculture in rural households in sub-Saharan Africa. However, it plays an insignificant role in household consumption in Aouda municipality (table 2). It is dominated mainly by poultry and small ruminants.

Table 2: Type and frequency of meat consumption in the 3 months preceding the survey

Type of meat consumed	**Number of households**		**Total**
	Once a week	At least twice	
Goat/Sheep	3	2	5
Duck	6	3	9
Gunea fowl	12	5	17
Chicken	17	6	23
Other	41	50	91
Total	79	66	145

Source: Field survey, September 2021

According to the data in this table, 35 households surveyed (24.13%) consumed poultry meat once a week in the 3 months preceding the investigation, compared with 14 (9.65%) who did so at least twice. Consumption of other meats, in this case fish or wild animals, was relatively average, with 41 households (28.2%) consuming them once a week in the 3 months preceding the study, and 50 households (34.48%) twice. Analysis of these results shows a lack of consumption of protein-rich meals. This leads to stunted growth and other vitamin-deficiency diseases in children. It should be pointed out that in Aouda township, the number of households raising livestock for family consumption is very low (25.51%) compared with households whose produce is destined for the market (59.31%). Those without livestock are less represented (15.18%).

According to these results, the correlation between the practice of livestock farming and the consumption of its products by those involved is contrary to previously known hypotheses, insofar as the proportion of livestock farmers who consume meat is low. There is every reason to believe that the more livestock farmers there are in the canton, the less meat they consume. This suggests that livestock rearing in these households is another income-generating activity, rather than a practice aimed at feeding household members. A household head said:

"My aim in raising poultry was not to sell them, but given the economic circumstances, I have deprived the household of consumption to the detriment of sales. As for the goats and cattle, they are essentially destined for the market to provide a second source of household income".

The low standard of living and lack of interest (51.60% of those surveyed were unaware of the benefits of meat consumption) in protein foods are increasing malnutrition among the poorest sections of the municipality. The quality of household meals is not necessarily linked to food availability, as cooking and storage conditions are also necessary for good food hygiene.

Poor household equipment and malnutrition

According to field surveys, poor nutrition in Aouda households is often proportional to the level of household equipment (Figure 5).

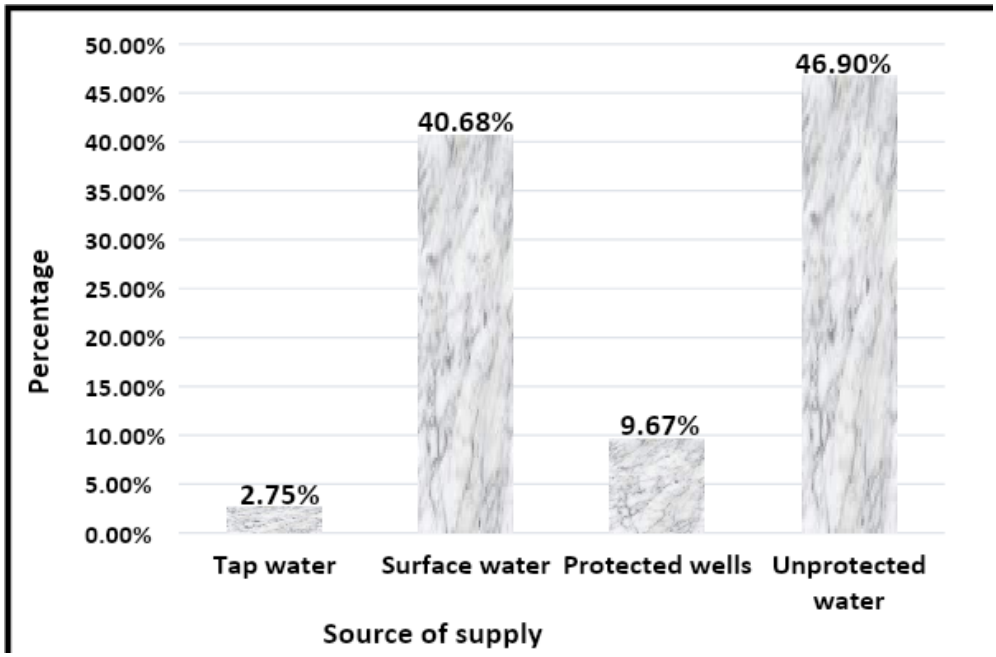

Figure 5: Water sources of supply
Source: Field surveys, September 2021

Figure 5 shows that around half of all households (46.90%) obtain their water from unprotected wells, and 9.67% from protected wells (boreholes). More than two out of five households (40.68%) use surface water, while only 2.75% use tap water. This result shows that over 87% of households do not have access to clean water.

It is important to emphasize that the distance and availability of drinking water determine the type of household water supply. As one household interviewed put it: "Boreholes are rare and the distance to cover is great. Sometimes we can't get water from a borehole for several days because of load shedding. We prefer to go to the nearest river for water". As water is essential to the body, a lack of it or its poor condition can be likened to a real problem of malnutrition. This situation highlights the risks of food contamination, diarrhoeal diseases and malnutrition, which are recurrent in households in the canton. According to the Prefectural Health Director, over 65% of diarrhoeal diseases diagnosed in children are due to the consumption of water of dubious quality. Malnutrition is also affected by the availability or non-availability of lighting and energy. In Aouda township, household electrification is low (Figure 6).

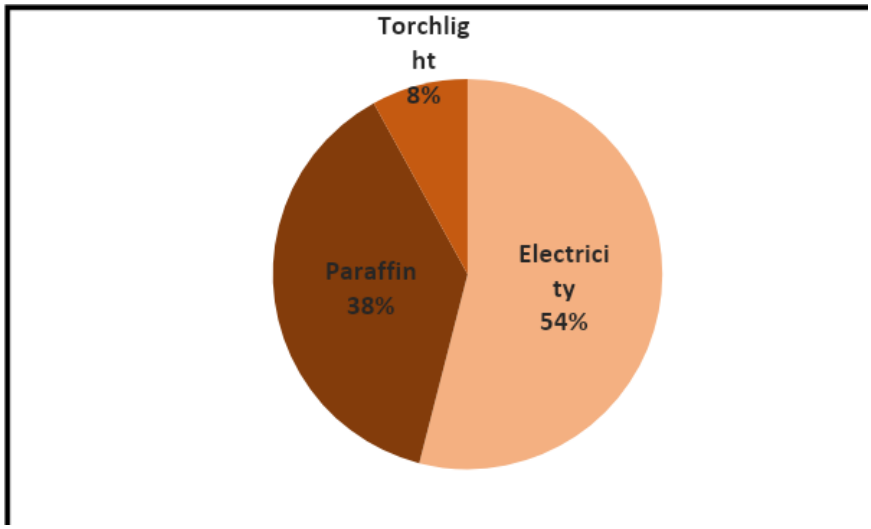

Figure 6: Distribution of households by lighting mode
Source: Field surveys, September 2021

According to the data in Figure 6, more than half (54%) of households are electrified, while 8% use torchlights and 38% kerosene lamps. In the municipality of Aouda, as in most rural areas of Togo, the lack of electricity and consequently of electrical equipments means that people are unable to preserve perishable foodstuffs such as tomatoes, onions, mangoes and bananas. Households produce a lot of these products, but one month after harvest, they are virtually absent from their food intake. There is a global consensus and a growing body of evidence that access to clean household energy for cooking, heating, and lighting is essential to achieving a range of global priorities such as improved health, gender equality, equitable economic development and environmental protection, MICS6 Togo (2017, p. 198). In the municipality, population malnutrition depends not only on socio-collective facilities, but also on household size or structure.

Household size

Household size is a very important factor in the analysis of malnutrition in the municipality of Aouda. Most households are polygamous (Figure 7).

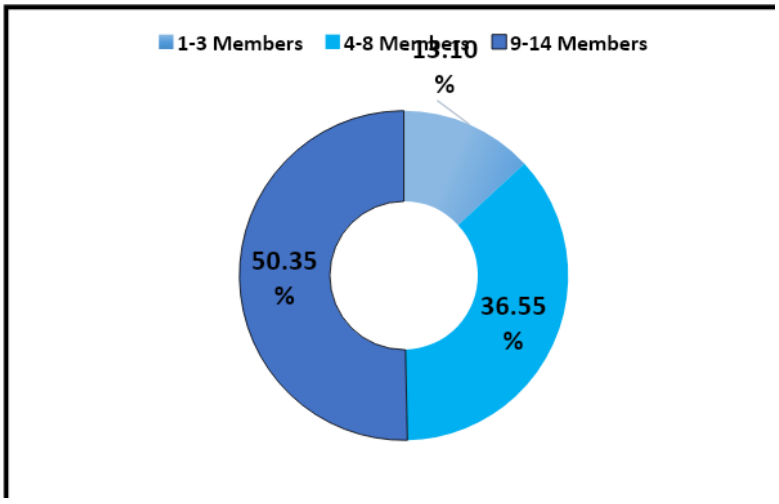

Figure 7: Distribution of households by size
Source: Field survey September 2021

From the data in Figure 7, out of the 145 households surveyed, half have very large families (9-14 members). Medium-sized families (4-8 members) account for 36.55%,

compared with 13.10% of small-sized households (1-3 individuals). Analysis of the results reveals that the majority of families are of the extended type, due to polygamy, which is still in vogue in the municipality. In the past, large families were an essential factor in agricultural production. But with the promotion of education for all, young people are kept in school all week. Saturdays or sometimes Sundays set aside to help parents with farming activities are not enough to achieve high yields. What's more, vacations coincide with the off-season, which is devoted to cultural activities. As a result, households desperately focus on the quantity rather than the quality of the food they consume. This reduces milk production for breastfeeding mothers and poor nutrition for children. Of the 145 households surveyed, only 97 have a three-meal-a-day diet, compared with 48 households whose members eat twice in 24 hours. The incidence of poverty in the municipality was estimated at 81.8% in 2011. This is well above the average poverty rate (76%) for the central region (Coulombe, 2011, p. 95). Given that poverty is the daily experience of the population, the adequate number of calories is difficult to achieve because the composition of foodstuffs does not comply with dietary standards. Malnutrition in the canton is, therefore, a reality.

DISCUSSION

The issue of malnutrition in sub-Saharan Africa is no longer new to scientific debates. These debates target a large number of factors, including socio-economic and demographic characteristics, to which are grafted determinants of the physical environment. The quantitative and qualitative food deficit is proving to be a central theme in the debate surrounding the phenomenon of malnutrition. Particularly in developing countries, malnutrition is caused by low household productivity. An abundant literature has raised the qualitative insufficiency of production in many households as a factor contributing to the risk of malnutrition.

In Aouda, central Togo, findings show that only 20% of households surveyed have a plot of land on which they grow garden produce and legumes, which means that food rations are of low quality. Similar findings were reached at by FAO (2010, www.fao.org). According to the institution, food consumption in Togo is characterized above all by low protein and lipid intakes, a small proportion of which is of animal origin. According to food availability figures, around a third of the population is malnourished.

In the municipality, livestock farming is practiced by a significant number of households (84.83%). However, the survey revealed that the meat consumer is not necessarily the farmer. Livestock products are often used for other purposes, rather than as food for the producing household. Thus, of the 84.83% of households with a livestock herd, only 9.65% claimed to have consumed meat at least twice a week in the 3 months preceding the survey. This finding is shared by S. Noheli (2007, p. 23), who estimates that, in general, over 95% of the population of Ruhengeri in Rwanda have a livestock herd. The characteristic feature of this herding is that it is traditional and associated with agriculture. He also noted a low level of meat consumption among the households surveyed.

Household equipment has been identified by numerous studies as a predisposing factor in the problem of malnutrition. Based on the results of this investigation, it emerges that the majority of households use water from unprotected wells (46.90%) and surface water (40.68%), which is often contaminated and therefore of poor quality, for drinking, cooking and eating. These results corroborate those of the UNDP (2011, p. 121), which revealed that in 2011, only 20.5% of the population had access to drinking water in the municipality of Aouda. D. Agalatoki (2014, p. 59) also reached a similar conclusion, revealing that the type of water supply is an indicator of the socio-economic level of the household. What's more, WHO and UNICEF (2017, p. 21) report on progress in sanitation and water supply shows that 11% of the world's population, or 844 million people, lacked access to safe drinking

water in 2015. They go on to say that drinking water is, along with food and housing, an essential pillar of quality of life. Because one cannot live without drinking water, those who do not have access locally are forced to devote much of their time and energy to sourcing it from random sources of dubious quality. This situation reinforces the problem of corporate malnutrition.

According to the findings of this research, 54% of households are electrified, 8% use flashlights and 38% use kerosene lamps. This reveals that the level of electrification is very low in the municipality. These findings are similar to previous studies carried out in a number of Central African countries. Rural Africa has been the subject of debate in terms of electrification. Clearly, 79% of rural Cameroon has no access to electricity. The country thus ranks behind Gabon, which, within the Central African Economic and Monetary Community (CEMAC), stands out with respective rates of 92% nationwide, 98% in urban areas and 49% in rural areas (www.electric.cameroun.com). According to UNDP (2011, p. 24), with the exception of Togo's various urban communes, access to electricity remains extremely low (less than 20% of individuals) throughout the country, and is therefore negatively correlated with poverty levels. The study data point an accusing finger at the precariousness of household equipment as a determinant of malnutrition in the municipality. The lack of electricity, and consequently of electrical equipment, means that people are unable to preserve perishable foodstuffs, in this case fruit and vegetables.

CONCLUSION

Following the example of Black African countries, the results of this study confirm that low productivity and insufficient quality of production are among the causes of household malnutrition in the canton of Aouda. Inadequate or non-existent farmland makes the poorest segments of the population even more vulnerable to this phenomenon. The research also revealed the lack of consumption of protein foods in households. The foods that dominate people's diets are rich in carbohydrates (83.2%), while products rich in lipids and proteins account for a small proportion (9%).

More than four out of five households (81%) have no access to drinking water. The use of water from ponds and unprotected wells of dubious quality is also indicative of the phenomenon of malnutrition in the canton. One of the socio-economic characteristics of the population is a low standard of living. This situation of poverty prevents households from properly equipping their homes. Over half (54%) of households have electricity, 8% use flashlights and 38% kerosene lamps. This lack of equipment has a direct impact on the preservation of perishable foodstuffs. To grasp the full extent of the lack, excess, imbalance or poor quality of food intake in Aouda township, we also need to analyze household structure, as malnutrition varies from one household to another. The larger the family, the more acute the problem, and vice versa.

In short, the battle against malnutrition has been waged for many years. Whether in the countries of the South or the North, many people are involved. The response to malnutrition, whether in rural or urban areas, requires a clear diagnosis, as socio-economic, demographic and environmental factors predispose households to malnutrition.

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