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INTRODUCTION

Republic of Benin is West-African Country. This country is dependent on subsistence agriculture, cotton production, and regional trade as the basis of its food security as well as economic development [1]. Its agricultural development is hindered by factors such as lack of modern farming technology, poor soil, high food prices and inadequate storage, preservation and food processing. The country is also highly vulnerable to climate changes and recently Covid-19 pandemic, which contribute further to food insecurity and nutritional instability [1] [2] [3] [4] [5] [6] [7]. In Benin, the number of Covid-19 cases was 597 at the 17th of Jun 2020. A severe pandemic causing more than a 25% reduction in labor availability could lead on great food shortages [6;7]. The quick identification of the most critical threats of Covid-19 pandemic to the food systems of Benin is necessary to implement sustainable mitigation measures.

AIM OF THE STUDY

The study aimed to determine the dietary behaviors, food accessibility and handling practices during SARS-CoV-2 pandemic in Benin and the relationship between these components. Specifically, it is to:

- Describe the status of food security and nutrition in Benin before the Covid-19 pandemic;
- Evaluate the food accessibility of the households during SARS-CoV-2 pandemic in Benin;
- Characterize the dietary behaviors and the food handling practices in the homes and restaurants during SARS-CoV-2 pandemic in Benin..

METHODOLOGY

Study area

The survey was carried out in the Departments of Alibori, Atacora, Atlantic, Borgou, Collines Couffo, Donga, Littoral, Mono, Ouémé, Plateau and Zou. This study area covered all the 12 Department of the Republic of Benin affected by the SARS-CoV-2 pandemic.

Analysis of food security and NCDs occurrence in Benin before the pandemic of Covid-19

The analysis of food security and NCDs occurrence in Benin before the pandemic of Covid-19 from 2000 to 2019 was made from the data collected and adapted from the database of FAOSTAT [17] on the food security indicators values of Benin (2020) and from the review paper of Tougan and Thewis [1].

Characterization of dietary behaviors, food accessibility and handling practices

For the study of the dietary behaviors, food accessibility and handling practices during SARS-CoV-2 pandemic in Benin, data collection was carried out among households by using a survey guide. The survey guide gathered the following information: socio-demographic profile of the respondents, government measures observed during COVID-19, food access, dietary changes during the COVID-19, food handling changes during SARS-CoV-2 pandemic, food quality management standards used, and adaptation mechanisms. During the survey, the respondents were invited to remember themselves the different changes in their food environment, food handling practice and dietary behaviors since the occurring of the SARS-CoV-2 pandemic and the coping measures used. A sample of 124 households and 600 respondents were surveyed throughout the country. After interview, the answers obtained from the survey guide were encoded and analyzed.

Statistical analysis

After examination of the database, the collected data were analyzed using R and SAS software [18]. The Proc corresp procedure of SAS was used for factor analysis (CFA). For quantitative variables, an analysis of variance at single factor was used and the type of food handling practice was the only source of variation. The means were calculated and compared by the student T test. The frequencies were calculated by Proc freq procedure of SAS (2006) and a confidence range (ICP) was calculated for each frequency,

RESULTS AND DISCUSSION

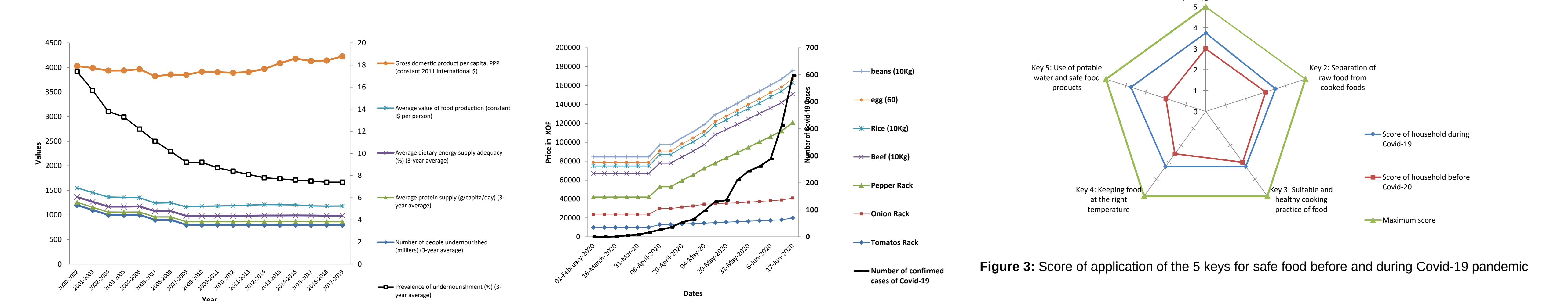


Figure 1: kinetics of Hunger and food insecurity indicators in Benin from 2000 to 2019

Figure 2: Price changes of food products with the Number of confirmed cases of covid-19

About Food security, NCDs occurrence the dietary changes in households during Covid-19, it appears that the situation had been exacerbated by the new coronavirus pandemic. About food access during COVID-19, 80% of respondents found that their dietary needs had been challenged by the COVID-19 restriction measures. This challenge affects infants as well as children, pregnant women, breastfeeding women, elderly people and people with a chronic disease. Overall, the price of the food products had increased on the local market and this change in the price limit the ability of 80% of household to acquire sufficient and safe food. The main non-communicable diseases (NCDs) reported during the study were diabetes, cardiovascular disease, obesity and some cancers. Similar impacts of Covid-19 on food security et dietary behaviors are also reported in the literature [1] [2] [3] [4] [5] [6] [7].

CONCLUSION AND PERSPECTIVE

The results of the current survey reveal that hunger and food security level from 2000 to 2019 in Benin, remain unsatisfying. This situation had been exacerbated by the new coronavirus pandemic. About food access during COVID-19, 80% of households found that their dietary needs had been challenged by the COVID-19 restriction measures. Benin's governments must develop new strategies to improve food and nutrition security governance, to mitigate the impacts of any pandemic on food security. In perspective, the dietary determinants of non-communicable disease in Benin may be investigated and addressed.

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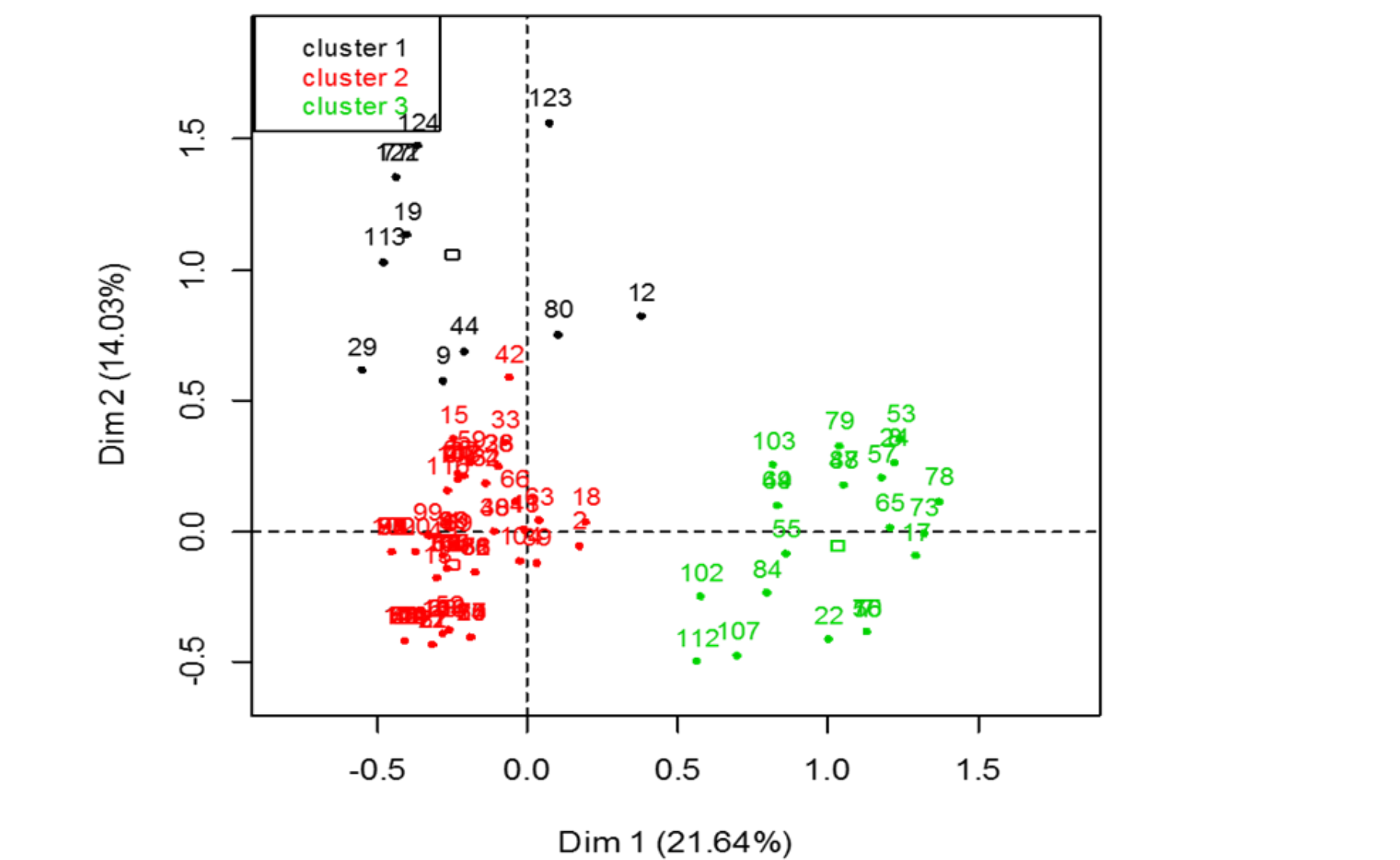


Figure 4: Typology of Dietary behaviors and food handling practices during SARS-CoV-2 pandemic in Benin