Food consumption and nutrient deficiencies trends in the Democratic Republic of the Congo rural areas

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Introduction

The objective of this research is to assess the nutritional status of the population in DRC rural areas and to identify the possible measures to take in order to improve it. The study used two independent rounds of data from the National Household Surveys (Enquête 123 or 123 survey) collected in 2005 and 2012. The numbers represent the phase of the survey: “1” for employment, “2” for informal sector and “3” for consumption. Data on consumption were used. The sample size 17,412 households (6,228 – 2005 and 11,184 – 2012). The country has 25 provinces plus Kinshasa the capital (no rural area). Country: size 2,345,000 km². Population: 80 millions, 2019 Growth Rate: 3.24%.

Methods

The study adopted a historical research design. The design makes it possible to make predictions and inference on the relationship between economic characteristics and the nutritional trends of households.

Food consumption and data source

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Empirical Framework

Objectives 1, 2 and 3 descriptive analysis and the inferential analysis.

1) Food budget share

Food expenditure shares (%)=(food expenditure)/(total expenditure)≥100 (1)

2) Food consumption:

Food expenditure shares: Food budget shares (2)

Food consumption: trend=trend_wx

3) Nutrient Intake:

To evaluate the consumption nutrient deficiencies, we estimated the Adult Male Equivalence (AME) scales for calories, protein, vitamin A, folate, zinc, calcium, iron and vitamin B12 based on the recommended intake levels by sex and age. We considered a 30-year-old male as reference for the AME scale. We assumed his physical activity as a moderate lifestyle. The daily intake requirements were therefore 2700 Kcal, 50 g, 600 mcg, 1000 mg, 14 mg, 27.4 mg, 400 mcg and 2.4 mcg for calories, protein, vitamin A, calcium, zinc, iron, folate and vitamin B12 respectively. These nutrients were selected because they are more problematic in developing countries.

Results

1) Food expenditure shares

Provinces 2005 2012 Change
Mean (%) Mean (%)

Kasai Central 70.4 83.5 13.1***
Maniema 67.6 78.2 10.6***
Kwale 73.8 76.0 2.2***
Equateur 68.7 81.7 13.0***
South Ubangi 65.4 84.0 18.6***
North Ubangi 65.9 86.2 18.2***
Mongala 72.8 78.9 6.1***
Tanganyika 69.3 80.5 8.8***
Tshopo 68.9 74.0 6.1***
Kasai, Kasai Centrale and Lualaba
Haut Uele 70.8 78.3 9.5***
Uele 76.2 74.8 1.5
North Kivu 74.0 78.0 10.0**
South Kivu 79.3 83.5 4.2*
Ona 83.6 81.3 2.3
Luvungi 69.6 81.8 5.8***
Roat Lomami 76.1 84.0 5.9***
Kasai Oriental 75.7 78.4 2.7***
Kasai Central and Lualaba
Sinka 70.9 73.2 2.7***
Kasai Central 72.0 80.0 5.0***
Kasai Central 72.0 76.6 4.6***

Note: Statistical significance levels: *** p<0.01, ** p<0.05, * p<0.1.

2) Households food consumption

Cluster 1 composed of: Kasai Oriental, Lomami, Tanganyika and Haut Kongo.
Cluster 2 composed of: Kwango, Kwil, Mal-Ndombe, Tshuapa, Equateur, Mongala, Tshopo and Haut-Lomami.
Cluster 3 composed of: Kwango, Haut Uele, Haut Uele and Haut.
Cluster 4 composed of: Kwango, Kasai Central and Lualaba.
Cluster 5 composed of: Kasai, Kasai Central and Haut Kivu.

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3) Nutrient Intake

- Energy intake
- Protein intake
- Vitamin A intake
- Calcium intake
- Zinc intake
- Iron intake

17 provinces were deficient in calcium intake. The intake decreased in 16 provinces.

Discussion and Conclusion

Overall, households allocated a huge amount of their income on food, implying that any shock such as the loss of a parent, an epidemic disease, a price shock, etc. can lead to severe food security and nutrition issues. This because household are highly vulnerable. Households spend about 80 per cent of their budget on cereals, root and tubers as well as meat and fish. This is because they are the food group available on the market. However, the high consumption of meat and fish is more cultural. Although a considerable share of the budget is allocated to meet the deficiency in vitamin B12 show that the consumption remains insufficient. Furthermore, the diet composition is not balanced all over the country, and exposes households to nutrient deficiency. Nutrient deficiency suggests a hidden hunger all over the country and it is manifested in micronutrient deficiencies. Finally, to satisfy nutritional needs, the promotion of multi-stakeholder partnership in the food system is needed. It is important for stakeholders to understand that the government alone cannot be able to ameliorate the nutrition status of the population. International organisations, community-based organisations and social movement, non-governmental organisations, donors, researchers and academics, private and public sectors need to be involved in all the dimension of the food system. Programs to raise the awareness of the population about nutrition security should be encouraged.

Recommandation

Policies should to stimulate economic growth and lead to poverty reduction. Food policy should consider the aspect of nutrition-sensitive food systems. Any public campaigns or programs aimed to improve the nutritional status of the population should look at the nutrition composition of indigenous foods. Finally, nutrition security should be introduced in schools curriculum from primary school.

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