Food Security and Coping Strategies of Migrants in Port Harcourt City, Rivers State, Nigeria

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Abstract

This paper examined the issue of migration and food security in Port Harcourt city. Port Harcourt is one of the fastest growing industrial centers in Nigeria. A sample of 200 respondents was selected using the purposive sampling technique. The study showed that as a result of development in the oil industry, the city attracts indigenes and nationals of other countries - both skilled and unskilled persons who come to look for employment. It was also found that unemployment, hunger and poverty is high in the city. Thus, as a coping mechanism, most migrants receive food from relatives in the rural area while others practice urban agriculture and petty trading. In order to reduce the economic pressure on the city, the paper suggests among other things that rural areas be developed in such a way that it will attract investments. This according to the paper will create job opportunities in the rural areas and reduce the movement of people to the urban centers and also provide enough food crops to the city.

Key Words: Agriculture, Coping Strategies, Migrants, Rural Development, Unemployment.

Introduction

According to International Organization for Migration (2018), both migration and food (in)security are multi-faceted, and migration poses both challenges and opportunities relevant to food security. They are both heavily influenced by negative factors such as conflict, climate change, natural hazards and disasters and poverty. In a positive way, the food industry relies upon migrants and migrants contribute to global food security through agricultural labour, while remittances can improve migrants' families' access to food and increase development opportunities. Nevertheless, while a certain level of correlation may exist, it is difficult to prove a direct causal link.

Migration is an adaptation option allowing food insecure individuals and households to access better employment and livelihood opportunities. However, mobility requires economic resources, which the poorest and often most vulnerable may lack, so extreme food insecurity coupled with poverty can lead to immobility. (IOM, 2018).

Migration is the movement of people, especially of groups from one place, region or country to another particularly with the intention of making permanent settlement in a new location. A group of people may migrate in response to a more favourable region or because of some adverse condition or combination of conditions in the home environment (Hing 1999).

The specific stimuli for migrations may be either natural or social. Among the causes are changes in climate, stimulating a search for warmer or cooler lands; volcanic eruptions or

floods that render sizable areas uninhabitable and periodic fluctuations in rainfall. Social causes are generally considered to have prompted many more migrations than natural causes. Social causes have included demographic issues; for example, an increase in population leading to an inadequate supply of food – defeats in war, searches for religious and political freedom, desire for material gain or for greater economic opportunity in the face of large-scale technological change (Cornelius 1995). According to the 1996 World Food Summit, food security is defined when all people, at all times, have physical and economic access to sufficient safe and nutritious food that meets their dietary needs and food preferences for an active and healthy life.

The four main dimensions of food security:

- Physical *availability* of food: Food availability addresses the "supply side" of food security and is determined by the level of food production, stock levels and net trade.
- ♦ Economic and physical *access* to food: An adequate supply of food at the national or international level does not in itself guarantee household level food security. Concerns about insufficient food access have resulted in a greater policy focus on incomes, expenditure, markets and prices in achieving food security objectives.
- ♦ Food *utilization*: Utilization is commonly understood as the way the body makes the most of various nutrients in the food. Sufficient energy and nutrient intake by individuals are the result of good care and feeding practices, food preparation, and diversity of the diet and intra-household distribution of food. Combined with good biological utilization of food consumed, this determines the nutritional status of individuals.
- ♦ Stability of the other three dimensions over time: Even if your food intake is adequate today, you are still considered to be food insecure if you have inadequate access to food on a periodic basis, risking a deterioration of your nutritional status. Adverse weather conditions, political instability, or economic factors (unemployment, rising food prices) may have an impact on your food security status.

For food security objectives to be realized, all four dimensions must be fulfilled simultaneously (FAO, 2021).

The United Nations (UN) recognized the Right to Food in the Declaration of Human Rights in 1948 (FAO, 2006), and has since said that it is vital for the enjoyment of all other rights (UN, 2022). The UN Millennium Development Goals were one of the initiatives aimed at achieving food security in the world. The first Millennium Development Goal states that the UN "is to eradicate extreme hunger and poverty" by 2015 (Braun, Swaminathan, & Rosegrant, 2003). The UN Special Rapporteur on the Right to Food, advocates for a multidimensional approach to food security challenges. This approach emphasizes the physical availability of food; the social, economic and physical access people have to food; and the nutrition, safety and cultural appropriateness or adequacy of food (DeSchutter, 2010).

Multiple different international agreements and mechanisms have been developed to address food security. The main global policy to reduce hunger and poverty is in the Sustainable Development Goals. In particular Goal 2: Zero Hunger sets globally agreed targets to end hunger, achieve food security and improved nutrition, and promote sustainable agriculture by 2030 (UN, 2019). Although there has been some progress, the world is not on track to achieve the global nutrition targets, including those on child stunting, wasting and overweight by 2030 (FAO, IFAD, UNICEF, WFP & WHO, 2020).

One of the negative effects of migration on the receiving environment is inadequate supply of food. Nutritional studies confirm that a 50 to 60 percent reduction in the required calorie intake for a period of up to six months can reduce body weight by 25 per cent source. If such under-nutrition continues, an individual may not even have enough to maintain a basal metabolic rate and if this is widespread amongst the population, it can lead to a sharp rise in mortality and morbidity rates, vulnerability to disease and even serious problems of public discontent and disorder. (Ezeh 1988).

In the developing world, poverty and hunger have long been regarded as a rural problem. This is no longer so, between 1990 and 2025 the number of urban dwellers in the world is

expected to double, reaching more than 5 billion and 90 per cent of these people will be living in the south (UNFDA 2000). In the sub-Saharan Africa alone, the number of city dwellers is expected to triple over the same period (Smith, Leah & Gabriel 1996). Precipitating factors include environmental stress, declining agricultural yield, structural adjustment and trade liberalization including export-oriented agricultural policies and reductions in wage employment and welfare, as well as war and natural disasters (Potter & Lloyd-Evans, 1998). How do poor household survive these pressures and effects of growing urban poverty? It is worthy to note here that migrants in most urban centers in the developing countries are living below poverty. http://www.idrc.daxen/ev.

Port Harcourt the study site of this paper was a creation of the British colonial administration of Nigeria between 1912 and 1914. This was when the need arose for the establishment of a modern sea port to aid among other things, the evacuation of the agricultural produce of southeastern Nigeria, the coal from Udi hills and tin from Plateau states. In this light, a system of railway was planned along with a seaport. This new development resulted in the movement of human and economic activities into the area.

It also brought a very high rate of movement of businesses from all over the world into the area. Today, Port Harcourt is the capital of Rivers State and one of the most rapidly developing urban-industrial areas in Nigeria (Akpogomeh 2003). This study therefore seeks to examine the problem of migration and food security in Port Harcourt city.

Area of the study

Port Harcourt which is the study area is the capital and largest city of Rivers State in Nigeria. Port Harcourt is the fifth most populous city in Nigeria after Lagos, Kano, Ibadan and Benin (Population of Cities in Nigeria, (2021) & Statista. 2021). It lies along the Bonny River and is located in the oil rich Niger Delta. As of 2023, Port Harcourt's urban population is estimated at 3,480,000 (Port Harcourt Population 2023). The population of the metropolitan area of Port Harcourt is almost twice its urban area population with a 2015 United Nations estimate of 2,344,000 (WUP, 2023). In 1950, the population of Port Harcourt was 59,752. Port Harcourt has grown by 150,844 since 2015, which represents a 4.99% annual change (Port Harcourt, 2021).

The area that became Port Harcourt in 1912 was before the farmland of the people of Rebisi (Ikwerre). However, the colonial administration of Nigeria created the port to export coal from the collieries of Enugu located 243 kilometers (151 miles) north of Port Harcourt (Quisumbing, Brown, Feldstein, Haddad, & Peña, 2023), to which it was linked by a railway called the Eastern Line, also built by the British (FAO, 2006; NCSO, 1933 & Udo, 1970).

Port Harcourt's economy turned to petroleum (PH, 2022) when the first shipment of Nigerian crude oil was exported through the city in 1958 (Ogbuigwe, 2018). Through the benefits of the Nigerian petroleum industry, Port Harcourt was further developed, with aspects of modernization such as overpasses, city blocks, and taller and more substantial buildings (FAO, 2013). Oil firms that currently have offices in the city include Shell and Chevron (Ekende, 2010).

There are a number of public and private tertiary institutions in Port Harcourt. These institutions include Rivers State University, University of Port Harcourt, Ken Saro Wiwa Polytechnic, Captain Elechi Amadi Polytechnic, Ignatius Ajuru University, Rivers State College of Health Science and Technology, Madonna University, PAMO University of Medical Sciences, National Open University of Nigeria. Port Harcourt's primary airport is Port Harcourt International Airport, located on the outskirts of the city; the NAF base is the location of the only other airport and is used by commercial airlines Aero Contractors and Air Nigeria for domestic flights (Williams, 2008).

The growth of Port Harcourt both in population (1915 – 500; 1944 –30,200; 1963 – 180,000; 1973 – 231,000; 1982 – 911,731 [estimate]; growth rate of 8.45% *per annum* between 1963 and 1982) and area extent has been very fast (Izeogu, 1989; Izeogu and Salau, 1985). In terms of population composition, by 1973, migrants to the city of Port Harcourt accounted for about 72% of its population. Out of these, 66% migrated from the rural areas. This lends credence to

the fact the rural – urban migration contributed substantially to the city's rapid rate of urbanisation. Apart from rapid population growth as a result of migration, Port Harcourt expanded physically at a fast rate too. This growth was, nonetheless, associated with uncontrolled urban development, especially in the rural – urban fringe to the north and the waterfronts to the south (Izeogu, 1989). The 2006 census puts the population of Port Harcourt at 541, 115 (NPC 2006).

A good percentage of the people who come to Port Harcourt are unskilled persons who came to look for jobs. Thus, the rate of unemployment is high in the city of Port Harcourt especially among the unskilled persons. (David 2004). Consistently high unemployment rates have been reported and migrants face highest levels of unemployment in the city. The question now is what kinds of coping and survival mechanisms are employed by these groups of people? This study therefore tries to examine food security and coping strategies of migrants in Port Harcourt city.

Theoretical Perspective

The coping strategy of the urban poor cloud is viewed from the functionalist perspective and equity theory. Two basic assumptions stand as fundamental postulates underlying functionalism. One is the organismic analogy. That is the idea that social life resembles biological life. The second one is the notion of social structure. The organismic analogy is a basic analytical tool of the functionalists. It argued that society maintains its existence through functional dependence (interdependence) of the various parts, that is, human beings have certain primary needs for survival, for example the need for food, shelter, clothing and security. Also, human populations live and work together in social organization to satisfy these needs. The notion of social structure goes Pari Passu with the notion of social function. It derived from the idea that society is a system and that there is functional unity between the parts (Okeibuno and Anugwom 2005). One of the paramount functions performed by the family is protection (Schaefer 2006) unlike the young of other animal species human infants need constant care and economic security. The extremely long period of dependency for children places special demands on older family members. In all cultures, it is the family that assumes ultimate responsibility for the protection and upbringing of children. Thus when young men and ladies leave the rural areas to urban centers in search for job, the families take the responsibility for the provision of food for them until and even after they have secured a job.

The equity theory explains why most of the migrants are young men and women. The equity theory is built on the assumption that social beings have an inherent tendency towards comparing their situations with those of significant others, i.e. other people who they see as similar in most respects to themselves. Such comparison invariably produces a feeling of satisfaction or dissatisfaction, as the case may be. In fact, people usually use such evaluation to measure their benefits from the social groups or organizations vis-à-vis their contributions and the rewards of other people with equal or approximate contributions.

In this case, people generally believe that equality should underline social groups and to that extent people with equal contributions or stakes should benefit equally. In fact a perception of inequality invariably breeds dissatisfaction and may engender action towards achieving equality (Dittrih and Carrel 1979). The young men and women in the rural areas try to compare themselves with their urban counterparts and perceive that they are disadvantaged. Most rural areas are not developed so they move to the urban centers in order to have better opportunities.

Methodology

The methodology consisted of one data collection technique. The standardized questionnaire survey. A total of 200 questionnaires were distributed through a standardized survey. We used only adult respondents who are 18 years of age and above. The purposive sampling technique was used for sample selection. In this type of sampling, specific elements which satisfy some pre-determined criteria by a researcher are selected (Ezeah 2004). Thus, the researchers purposively selected only migrants as the research respondents. Questions were designed to

collect information at the household and individual level. The questionnaire was divided into five sections namely Demographic and socio-economic characteristics, migration and household arrangements, food and commodity transfers, between rural and urban households, social linkages and urban agriculture.

Research Findings

Table one showed the demographic characteristics of the respondents. Majority of the respondents (70%) are within the age range of 25-31 years, 16% are within the age range of 18-24 years. Only 0.5% are 53 years and above. More of our respondents are female (56%), 44% are male. Majority of them are unmarried people (74%), 16% are widows, only 8% are married. Most of the respondents had secondary education (74%); also most of them are employed in the private sector. Their income level is very low, only 5% of the respondents earn fifty one thousand naira (NGN51, 000) and above.

Table 1: Demographic Characteristic of Respondents

Demography Characteristic	Frequency	Percentage	
Age			
18 - 24	32	16.00	
25 - 31	140	70.00	
32 - 38	8	4.00	
39 - 45	6	3.00	
46 - 52	13	6.50	
53 – Above	1	0.50	
Total	200	100	
Sex	-		
Male	88	44.00	
Female	112	56.00	
Total	200	100	
Martial Status		- • •	
Single	148	74.00	
Married	16	8.00	
Separated	3	1.50	
Divorced	1	0.50	
Widow	32	16.00	
Total	200	100	
Educational qualifications	200	100	
No formal education	8	4.00	
Primary	32	16.00	
Secondary	148	74.00	
Post Secondary	12	6.00	
Total	200	100	
Occupation			
Civil Servant	10	5.00	
Business men/women	16	8.00	
Private company workers	140	70.00	
Traders	22	11.00	
Unemployed	12	6.00	
Total	200	100	
Annual Income	200	100	
Below 10, 000	104	52.00	
11, 000 – 20, 000	40	20.00	
21, 000 – 30, 000	10	5.00	
31, 000 – 40, 000	26	13.00	
41, 000 – 50, 000	10	5.00	
51, 000 - Above	10	5.00	
Total	200	100	

The tension between migration, urbanization and urban poverty has often been described as an urban crisis and has been conceptualized as a transfer of rural poverty to the urban context (Tvedten and Nangulah 1999). This line of argument is supported by the data collected. For instance 67 percent of the respondents reported lack of employment as 'a serious problem' they face in Port Harcourt. In the same vein, 70 percent of the sample reported food shortages as a serious problem.

Table 2: Respondents view on why people move to Port Harcourt

Responses	Frequency	Percent
To look for jobs	102	51
To stay with relatives	28	14
For vacation	20	10
Foe Education	50	25
Others	0	0
Total	200	100

Results from the study showed that most migrants came into Port Harcourt because of the popular saying that the tendency to get job in the "Oil City" is high. For example, 51 percent of the respondents stated that they migrated from neighbouring rural areas in search for job in the city, 25% migrated because of education while 10% migrated for vacation.

Table 3: Response on how long respondents stayed before or without getting a job

Responses	Frequency	Percentage
One month to two years	60	30
Two years to four years	78	39
Four years and above	62	31
Total	200	100

Table 3 above showed that thirty nine (39%) percent of the respondent stated that they have stayed in Port Harcourt for the past two to four year without getting a job. Since seventy four (74%) percent of the respondents have secondary education as their highest level of education thus; the possibility to fit into most of the advertised jobs was slim. This also reflected on their perception on whether there is job in Port Harcourt or not as shown in table 4.

Table 4: Respondents view on whether there are job opportunities in Port Harcourt

Response	Frequency	Percentage
Yes	60	30
No	134	67
Don't know	6	3
Total	200	100

Responses from the above table clearly show that respondents rejected the notion that there are job opportunities in Port Harcourt with 67% majority. 30% agreed with it while 3% did not know.

Table 5: Response on where respondents were living before they got a job

Responses	Frequency	Percentage
Under the bridge	0	0
Uncompleted buildings	114	57
Slums and shanties	70	35
With relatives	6	3
Rented houses	10	5
Total	200	100

On their coping mechanism in the city, most migrants live in uncompleted houses and others live in the slums. Though 3 percent of the respondents stated that they are living with relations until when they will get a job that will enable them to rent an apartment.

Table 6: Response on	how the	respondents	got their	food s	supply

Responses	Frequency	Percentage
From relatives in the rural areas	124	62
Members of religious groups/associations	28	14
Friends in the urban area	8	4
Growing of crops in the compound	40	20
Total	200	100

On how they got food for survival, the study showed that migrants survive in the urban area in part because of the food they receive from the rural areas. Some 62 percent of the respondents receive food from relatives in the rural area, a further 14 percent receive from members of the religious groups they belong to; while 4 percent receive from friends.

Migrants also engage in trading and urban agriculture in order to improve food security. Twenty (20%) percent of the respondents are involved in some form of urban agriculture and a further 4 percent know of someone else in the city who grew some food crops. A general observation in the slums show that most household sell food items in the front of their house.

Table 7: Respondents views on the benefits of their activities they engage in

Responses	Frequency	Percentage
Help to reduce money spent on food	186	93
Help people to cope with hard times	12	6
It is good enough	2	1
Total	200	100

Ninety three (93%) percent of the respondents accepted that these activities help to reduce the amount they spend on food. Less than 2 percent of respondents reported keeping urban livestock, but this activity may be underreported. When asked whether they knew of any neighbours or friends who keep livestock, none said they did. But goats and chickens were observed within the city. However, the fact that the municipal and health by-laws are strict in this regard might explain the reluctance of people to identify themselves as having urban livestock.

The study also showed that there is a strong linkage between rural and urban households and that coping strategies are based on these urban-rural relationships. Food flows from rural to urban while money and other commodity flow from the urban areas to the rural areas. This findings is in agreement with the findings of Devereux (1999) in his study of the coping strategies of rural urban dwellers in Ithaca. This assertion was supported by data collected in this study. All the respondent experience economic stress and food scarcity, sending children and adults to live with rural relatives is a common practice.

Table 8: Coping Strategies of the Migrants in Port Harcourt city

Responses	Frequency	Percentage
Sending adults and children to live with relatives in the rural	124	62
areas		
Withdrawing children from school	46	23
Sending children to the streets to sell things	20	10
None of the above	10	5
Total	200	100

Up to 62 percent of the respondents indicated that they had sent their children to stay with relatives. The primary reason given was that they could not support these children financially in school.

Another demographic adjustment strategy of the struggling urban respondents is to send adult members to the rural areas, either as returnees or in some cases as new migrants to the rural homestead. In this case, the burden of providing the daily food requirements for an extended household where few are employed is reduced. This strategy of returning adults to the rural areas helps to minimize the need to ration food, sell off assets, borrow food or money or to engage in crime or anti-social activities in order to survive.

Conclusion

According to Henderson and Turner (2020), the process of urbanization is slower in the developing countries than the developed ones. This slow industrial growth has limited employment opportunities as it is in Port Harcourt. Although the city continues to develop industrially, the pressure on the economy of the city is also on the increase. This could be observed in the face lift of the city, the increasing number of unemployed persons roaming the streets and the level of hunger and poverty experienced by people living in the city. The problem of hunger and poverty could only be solved by the decongestion of human traffic which flow into it on a daily basis.

Recommendations

Considering the fact that migrants very often do not have better living condition in the urban centers. This paper suggests that:

- 1. Government, in line with their commitments to millennium development goals and the right to food, must design strategies and implement programmes for income generation and access to food for all whether they are living in the rural or urban centers.
- 2. Development partners should step into the rural areas, to make them attractive to foreign investors. This will create favourable job opportunities in the rural areas.
- Enough funds accruing from oil production should be used for agriculture and rural development projects and programmes. This will attract investors to the rural areas.
- 4. There should be a government policy mandating oil producing companies to site their head offices very close to the oil fields. This will create jobs for both skilled and unskilled workers in the rural areas.
- 5 Government and non-governmental organizations should create awareness of the dangers of migration on food security through public enlightenment campaign. This will help to reduce the number of people moving to the cities.

References

Akpogomeh, O.S. (2003). A Guide to Port Harcourt Metropolis and its Environs Ibadan: Kraf book ltd.

Bavier, J. (2022). Hunger-struck Africa needs liquidity, debt relief. Reuters.

Braun, J., Swaminathan, M.S. & Rosegrant, M. W. (2003). Agriculture, Food Security, Nutrition, and the Millennium Development Goals: Annual Report Essay. IFPRI.

Cornelius, W. A. (1995) Controlling Immigration: A Global perspective. Standford University press

David, B.A. (2004) Waste Deposit in Port Harcourt City. PhD Seminar paper in the Department of Sociology, University of Port Harcourt. (Unpublished)

De Schutter, O. (2010). Report submitted by the Special Rapporteur on the right to food. United Nations. pp. 1–21.

Devereux, Q. (1999). *Urban and Regional Planning Dimension:* Ithaca: Cornel University Press. Dittrich, J. & Carrel, M. (1979) Organizational equity perceptions, employee job satisfaction, absence and turnover rates. Organizational behavior and human performance, Vol 24 no. 1 (August).

Ekeinde, A. (2010). Slum demolition plan ups tension in Nigeria oil hub. Reuters Africa. p. 2. Ezeah, P.C. (2004 *Foundations of social research methods*. Enugu: John Jacobs's Classic publishers Ltd

Ezeh, E.E.(1988) Editorial Comment on Daily Times 20th August.

FAO Agricultural and Development Economics Division. (2006). Food Security.

Food and Agriculture Organization. (2013). The State of Food Insecurity in the World. The multiple dimensions of food security. 26 November.

Food and Agriculture Organization. (2020). FAO at 75 – Grow, nourish, sustain. Together. Rome: p. 31. doi:10.4060/cb1182en. ISBN 978-92-5-133359-4. S2CID 243674342.

Food and Agriculture Organization of the United Nations (2021). The State of Food Security and Nutrition in the World 2021: Transforming food systems for food security, improved nutrition and affordable healthy diets for all. In brief (2021 ed.). Rome.

FAO, IFAD, UNICEF, WFP & WHO. (2020). The State of Food Security and Nutrition in the World 2020, In brief. Rome: p. 8. doi:10.4060/ca9699en. ISBN 978-92-5-132910-8. S2CID 243701058.

Henderson, J. V. & Turner, M.A (2020). Urbanization in the Developing World: Too early or Too slow. Working Paper 27201 http://www.nber.org/papers/w27201 NATIONAL BUREAU OF ECONOMIC RESEARCH

Hing, B. (1999) Immigration and the Law: A Dictionary-ABC-CLO

International Organization for Migration (2018). Regular and Irregular Migration

Izeogu, C.V. & Salau, O. (1985) Port Harcourt city profile. Cities: International Quarterly on urban policy. Vol 2. No.1

Izeogu, C.V. (1989) Urban development and the environment in Port Harcourt. *Environment and Urbanization*. Vol.1 no.59

Mathias, B.A. (2007). Preventive Medicine in Nigeria: A Comparative Study of Port Harcourt and Owerri .Nnamdi Azikiwe University *Journal of Sociology* vol 3. no.1

National Population Census figure 2006

Nigeria, Chief Secretary's Office (1933). The Nigeria handbook (10 ed.). Eastern Line: Government Printer, Lagos. p. 83.

Ogbuigwe, A. (2018). Refining in Nigeria: history, challenges and prospects. Applied Petrochemical Research. 8 (4): 181–192. doi:10.1007/s13203-018-0211- z. ISSN 2190-5533. S2CID 170015640.

Okibunor, J.C. & Anugwom, E.E. (2005). Sociological Theory. Nsukka. Great AP Express Publishers Ltd.

Port Harcourt, (2021) Nigeria Metro Area Population 1950-2021". macrotrends.net.

Port Harcourt (2022). dentons.com.

Port Harcourt (2022). Location, Facts and Population. Britannica

Port Harcourt (2023). Population.

Population of Cities in Nigeria (2021) . World population review.com.

Potter J.O. & Lloyd-Evans, J.N. (1998) *Urban Agriculture*. Baltimore: John Hopkins University Press.

Quisumbing, Q.R., Brown, L.R., Feldstein, H.S., Haddad, L.J. & Peña, C. (2023). Women: The key to food security. at the Wayback Machine International Food Policy Research Institute (IFPRI) Food Policy Report. 26 pages. Washington.

Schaefer, R.T.(2006). Sociology Toronto: McGraw-Hill Company.

Smith, E. Leah, A. & Gabriel, P. (1996) Survival of the Poorest: Environmental Stress *Agropolis* Vol 1. No. 3 Ithaca: Cornel University Press.

Statista (2021). Nigeria: cities with the largest population. Retrieved 19 November 2021.

Tvedten, U. & Nanguluh, O. (1999). *Manpower development and planning*. Boston: DC Health and Co.

Udo, R. K. (1970). Geographical Regions of Nigeria. University of California Press. p. 85.

United Nations (2019). Goal 2: Zero Hunger. United Nations.

United Nation food production agency workshop (2000).

United Nations (2022). Food. United Nations. Retrieved 17 June 2022.

- Williams, L. (2008). Nigeria: The Bradt Travel Guide. Bradt Travel Guides. p. 203. ISBN 9781841622392.
- World Urbanization Prospects (2023). Annual Population of Urban Agglomerations with 300,000 or more. population.un.org.
- 1996 Summit on World Food Security Report (1996). Summit on World Food Security Report.