

The household consumption in Algeria, Behavioral transition towards expenditure after 2000

تطور الاستهلاك الأسري في الجزائر، التحول السلوكي نحو الإنفاق بعد عام 2000

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Abstract

The North African countries have, since their independence, known great economic and social upheavals. These changes constitute a privileged observation platform for food policy analysts. Studies by agronomists, epidemiologists, sociologists and economists have shown that food consumption habits and patterns are a precise mirror and well reflecting the socio-economic level of a population. Important socio-economic changes have affected the population's choices towards consumption and nutrition with consequences for the resurgence of non-communicable diseases and obesity the daily ratio of the Algerian citizen which is determined by his social, economic and cultural level, should be revisited and redirected to his benefit for the long term. Other factors such as health, lifestyle, activity etc. Can be taken into consideration, but as a major determinant, the economic factor plays a fundamental role in the consumption of the citizen and in his classification based on his priorities.

Keywords: Nutritional transition; Income; Household consumption; housing sector; expenditures.

ملخص:

شهدت دول شمال إفريقيا، منذ استقلالها، اضطرابات اقتصادية واجتماعية كبيرة. تشكل هذه التغيرات أرضية مراقبة مميزة لمحلي السياسة الغذائية. أظهرت الدراسات التي أجراها علماء الزراعة وعلماء الأوبئة وعلماء الاجتماع والاقتصاديون أن عادات وأنماط استهلاك الغذاء هي مرآة دقيقة وتعكس جيدًا المستوى الاجتماعي والاقتصادي للسكان. أثرت التغيرات الاجتماعية والاقتصادية الهامة على خيارات السكان تجاه الاستهلاك والتغذية مع ما يترتب على ذلك من عواقب على عودة ظهور الأمراض غير المعدية والسمنة. يجب إعادة النظر في النسبة اليومية للمواطن الجزائري التي يحددها مستواه الاجتماعي والاقتصادي والثقافي وإعادة توجيهها. لصالحه على المدى الطويل. عوامل أخرى مثل الصحة ونمط الحياة والنشاط وما إلى ذلك يمكن أن تؤخذ في الاعتبار، ولكن كمحدد رئيسي، يلعب العامل الاقتصادي دورًا أساسيًا في استهلاك المواطن وفي تصنيفه بناءً على أولوياته.

كلمات مفتاحية: انتقالية غذائية؛ دخل؛ استهلاك أسري؛ سكن؛ نفقات.

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1. Introduction

Barry M Popkin in his famous study about nutrition transition and specifically in low-income countries has highlighted that the problem of under and overnutrition often coexist reflecting the trend in which an increasing proportion of people consume the type of diets associated with a number of chronic diseases creating an over consumption and undernutrition and precisely linked this global health problem to poverty. (POPKIN, NG, Norton, & Guilkey, 2012)

But as mentioned M Ag BENDECH in his study of food consumption in urban environment it is largely limited to budgets which provide fairly accurate information on family consumption and trends in general. The rate of urbanization in Algeria is low according to urban population growth but still high based on its land area especially since it's at the expense of agricultural lands and led to a shift to administrative and industrial activity for the majority of human resources directly effecting economy and self-sufficiency, than somehow result in a loophole in terms of consumption. (Bendech, Chauliac, Gerbouin Rérolle, Naveen , & Malvy, 2000)

In his article, Ahmed Boyacoub has studied consumption in the year 2007 more economically than behavioral and compared it with the previous years before the black decade. He focused on income in particular and comparing Algeria with other countries. We have studied the subject by focusing on the important expenses with high rates, especially food expenses according to the latest survey which was carried out and published by the National Bureau of Statistics in 2014. We did not neglect the previous surveys to better observe the evolution of consumption behavior and the changes according to the pattern and living conditions in Algeria. (Bouyakoub, Croissance économique et développement 1962-2012: Quel Bilan?, 2012)

Low income is often associated with poor quality dietary intake and consumption outside home has become one of the common habits that are necessary and imposed by contemporary conditions which result in an imbalance in the traditional healthy food pattern leading to food related chronic diseases. We will try to analyze consumption as a behavior and how it has changed in the 21st century especially after the dark decade crisis and shift in economy pattern and demographic changes as we respond to this main problematic:

What are the determinants and extends of Algerian population consumption behavior?

2. Overview on the concepts

2.1. Household United Nations definition

A household is a small group of persons who share the same living accommodation, who pool some, or all, of their income and wealth and who consume certain types of goods and services collectively, mainly housing and food. (Nations, UN data a world of information, 1993)

2.2. Income United Nations definition

Income is the maximum amount that a household, or other unit, can consume without reducing its real net worth provided the net worth at the beginning of the period is not changed by capital transfers, other changes in the volume of assets or real holding gains or losses. (Nations, UN data a world of information, 1993)

2.3. expenditure definition

Household spending is the amount of final consumption expenditure made by resident households to meet their everyday needs, such as food, clothing, housing (rent), energy, transport, durable goods (notably cars), health costs, leisure, and miscellaneous services. (OECD, Organisation for Economic Co-operation and development, 2022)

2.4. consumption United Nations definition

Income Consumption is an activity in which institutional units use up goods or services; consumption can be either intermediate or final. It is the use of goods and services for the satisfaction of individual or collective human needs or wants.

Alternatively, a consumption of a good or service is one that is used (without further transformation in production) by households, non-profit institutions serving households (NPISHs) or government units for the direct satisfaction of individual needs or wants or the collective needs of members of the community. final individual consumption consists of goods and services that individual households may acquire in order to satisfy their own needs and wants. (OECD, Organisation for Economic Co-operation and Development, 2013)

3. The main consumption theories

In the history of social economy consumption was studied as a variable affected by variable factors as it changes based on them, the elite of economists summarized the consumption behavior with determinants and measurements tools in four most important theories , the Keynesian theory (The absolute income hypothesis), and it's about how the disposable income is divided between consumption and saving, the Friedman Theory (The permanent income hypothesis) pays more attention to population future expectations of income, the life cycle hypothesis developed by Franco Modigliani, it focuses

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on the motives of savings , and the relative income hypothesis by James Duesenberry, which we're highlight as it more suitable for the available data and hypothesis we have from the National survey we're using in this analytical study

3.1. Duesenberry relative income hypothesis

Consumption is divided to three categories; durable goods, nondurable goods and services. The relative income hypothesis states , based on certain statistical data, that the individual's consumption and saving behavior depend mainly on income, where the percentage allocated to consumption directed to expenditures depends on Its proportionality in the division of income. The hypothesis included that consumption is also affected by the consumption factor in the previous period and the highest level of income reached before, in addition of the "Demonstration effect" that the awareness of consumption habits tends to inspire imitation of certain practices so that consumption level of services and goods, especially certain foods categories would not likely to drop from what it reached previously. Any possibility of an increase and stability of the consumption level is higher than its decline, meaning that the proportion of the share of consumption depends on the percentage allocated from the previous income, also based on habits and social reasons. (Duesenderry, 1949)

4. Method and tools

In this article we drew on the latest survey executed by the national statistics office and provided a perspective on consumption research aspects for a comprehensive analysis and review on it.

Using the last exhaustive survey and the one before we attempted to compare different observational periods (during and after the dark decade) and accurately treat consumption behavior related data as a specific target. The reason we started by the year 2000 is that the latest national survey was in 2011 and the one that preceded it dates back to 2000 so for the purpose of comparison we used the most recent available data.

The ten-year survey on consumer spending and household living standards carried out by the office in 2011 covered a representative sample of 12,150 ordinary households. The collection of the information on the 900 products included in the goods and services nomenclature lasted a year in the field in order to deal with the effects of seasonality in consumption.

5. Results

5.1. Evolution of household spending by housing sector between 2000 and 2011

The National Statistics Office devoted a ten-year survey on consumer expenditure and standard of living in 2011, it took a representative sample of

12150 ordinary families. information was collected on 900 consumer products and the survey continued for a full year in the field to take in consideration the seasonality effect of consumption.

The expenditure has increased since the year 2000 with a very high figure due to behavioral change and the high prices of the consumed products, and it is much higher in urban than in rural areas by a gap of 30% in 2000 and 42% in 2011.

Table (2): Evolution of household spending by housing sector between 2000 and 2011

Year \ Housing sector	2000		2011		Multiplier
	Value	%	Value	%	
Urban	995.6	65	3194.1	71.1	3.2
Rural	535.8	35	1295.4	28.9	2.4
National	1531.4	100	4489.5	100	2.9

Source: ONS, survey on consumer spending in Algerian households in 2011, N° (183) March 2014

Table (3):

Structure of total annual household expenditure by housing sector and product groups in 2011 (unit: billion DZD)

housing sector	urban		rural		total	
	value	%	value	%	value	%
products						
food and drink	1281	40	594.3	45.9	1875.3	41.8
clothing and footwear	261.9	8.2	101.6	7.8	363.5	8.1
housing and charges	703.9	22	211.7	16.3	915.5	20.4
furniture and household items	90.1	2.8	32.1	2.5	122.2	2.7
health and hygiene	158.2	5	55.9	4.3	214.2	4.8
transport and communications	366.8	12	173.2	13.4	540	12
education, culture et recreation	113.6	3.6	29.1	2.2	142.7	3.2
miscellaneous and other expenses	218.5	6.8	97.5	7.5	316.1	7
total	3194	100	1295.4	100	4489.5	100

Source: ONS, survey on consumption expenditure of Algerian households in 2011, April 2013

the proportion of food and beverages is the highest among all products in both categories but the value of rural exceeds those of urban areas by a gap of 5%. The values of other products are lower except for those of transport and

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communications and this is due to the lack of public equipment and services and the difficulty of accessing them from the suburbs.

The data in Table No. 03 represent in detail the annual food consumption of the population in 2011 through the total expenditure allocated to food, which varies from rural to city, and proves the validity of the hypothesis of the difference in income, as 594 275 DA represents 45.9% of the total income, but the urban share, which is more than the double of the previous share, it represents 40%, and the difference here lies in the family income itself, which is an indicator of inequality in the social level of the two groups and disapproves the fact that rural population consumes a certain amount of products more than the urban households. As we dig in the table details we observe that the three ranking proportion for both housing areas were cereals products, fresh vegetables and red meat with a rate of 17.5% , 13.4% and 13.3% respectively indicating that the Algerian population as it is close to the Mediterranean diet and we can say that red meat consumption isn't excessive although the product is expensive in addition of cereals which represented mostly in the bread subsidized by the state, as for protein from animal sources would rank the highest if we combine the three proportions (poultry, rabbit, eggs, red meat and fish) we would obtain a ratio of 23%, obviously the income factor plays a role in defining consumption dominants because relatively to their difference in costs, there is a very excessive consumption of cereals products compared to vegetables and animal source protein, meaning high sugar consumption which is an unhealthy pattern reflecting the lack of access to diversity in nutrition because it's unaffordable leading to overconsumption with undernutrition including degenerative diseases. (Barry M, 2008)

Table (4): distribution and structure of the global annual food expenditure by sub-groups of products and housing sector (in millions of DZD)

housing sector	urban		rural		Total	
product	Value	%	value	%	value	%
cereals products	209449	16.3	117994	19.9	327443	17.5
red meat	176592	13.8	72454	12.2	249046	13.3
poultry, rabbit and eggs	112022	8.7	43902	7.4	155924	8.3
fish	19783	1.5	6666	1.1	26449	1.4
milk and dairy products	111977	8.7	46058	7.8	158035	8.4
oils and fats	86198	6.7	47240	7.9	133438	7.1
fresh vegetables	170720	13.3	80140	13.5	250860	13.4
dried and canned vegetables	42051	3.3	20509	3.5	62560	3.3
fresh fruits	69150	5.4	25896	4.4	95046	5.1

dried fruits	22924	1.8	13317	2.2	36241	1.9
sugars and sweet	51214	4	23718	4	74932	4
coffee, tea and stimulants	39336	3.1	21798	3.7	61134	3.3
soft drinks	52855	4.1	17183	2.9	70038	3.7
spices, salt and condiments	20108	1.6	11406	1.9	31514	1.7
other food expenses	96715	7.5	45994	7.7	142709	7.6
Total	1281093	100	594275	100	1875368	100

Source: ONS household expenditures on food and beverages in 2011
N° (195) (Enquete, 2015)

The decrease between the two years is due to the increase in income and female activity and her contribution in the family pensions sum which makes that the costs of food and health and hygiene seem proportionally less than those of the year 2000, otherwise the change of priorities by moving from the classic way of life to a mode that tends towards independence (eg: nuclear family) they reduce the quality of food and hygiene in order to save or devote this share to housing transport and communication which justifies the increase in the costs of these groups of products .

Table (5): Evolution of the share of annual expenditure between 2000 and 2011 by product group

products	year	
	2000 (%)	2011 (%)
food and drink	44.6	41.8*
clothing and footwear	8.6	8.1
housing and charges	13.5	20.4*
furniture and household items	3.4	2.7
health and hygiene	6.2	4.8
transport and communications	9.4	12
education, culture et recreation	3.9	3.2
miscellaneous and other expenses	10.4	7
total	100	100

Source: ONS, survey on consumer spending in Algerian households in 2011, April 2013

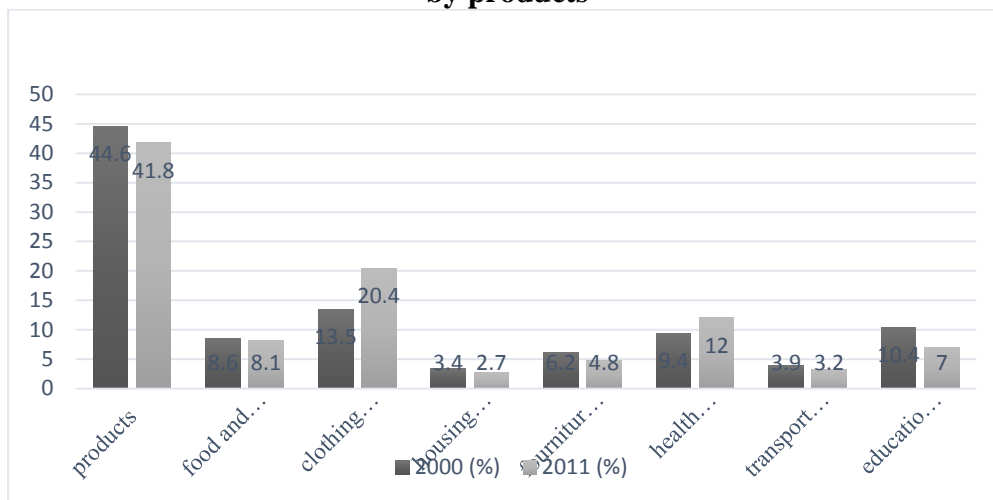
() These two proportions are very different depending on whether or not fictitious rents are included in the total expenditure. The given structures in the table above are calculated with the notional rents included in the total expenditure for either 2000 or 2011. Excluding rents fictitious, the budget coefficient for 2011 for food is 47.8%, that of the housing and utilities group is 8.9%. For others groups the differences are not as*

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important.

Imputed rents: this is the estimate of the rent that the owners would have had to pay (and housed them for free) if they were tenants of the housing they inhabit.

Figure (2): Evolution of the annual expenditure between 2000 and 2011 by products



Source: ONS, survey on consumer spending in Algerian households in 2011, N° (183) March 2014

6. Discussion

The decrease between the two years is due to the increase in income and female activity and her contribution in the family pensions sum which makes that the costs of food and health and hygiene seem proportionally less than those of the year 2000, otherwise the change of priorities by moving from the classic way of life to a mode that tends towards independence (eg: nuclear family) they reduce the quality of food and hygiene in order to save or devote this share to housing transport and communication which justifies the increase in the costs of these groups of products

In more than 10 years the proportion of expenditure varies between the groups of products that increase and those that decrease, which explains the change in priorities, difference in needs between the two decades.

The share of food and beverages, clothing, education, health and hygiene have decreased over ten years, while housing, transport have increased knowing that the rates have not decreased but the needs and the importance has changed according to the lifestyle and mentality.

The expenditure has doubled in ten years, for a period characterized by the high costs of the various services that meet the needs according to lifestyle

and security stability after the dark decade, this could explain the increase since 2000.

expenditure on education and culture has increased considerably in ten years, for the urban population by three times, according to the multiplier (2.9). As for the rural area the number has increased by a slight change, which reflects that life has not changed much in the countryside, unlike in the city the lifestyle has been affected by educational system yet somehow developed new needs in terms of necessities such as babysitting, kindergarten and the extra classes or additional courses fees for children also courses in foreign languages.

6.1. Average annual expenditure per capita on health and personal hygiene by stratum between 2000 and 2011 (Unit DZD):

Regarding health, through the multiplier it is estimated about 1.5 whether in 2000 or 2011, which means that the relative importance of health and hygiene in terms of expenditure has not changed at all levels except for women's hairdressing costs it has increased to more than 2, which reflects the difference between the two periods. But in general, the difference of other subgroups of product and especially medical care due to degenerative diseases and the awareness of people to the need to take more care of themselves more than before.

The fact that health does not occupy second place in income expenditures can be considered as a good indicator of the population's health status and the infrastructure of the health system so far, thanks to social security that pays large chunk of the health fees in order to provide this to the citizen.

Figure (3): Evolution of the average monthly expenditure per household on health and personal hygiene by housing sector (unit DZD)



Source: ONS: National Survey of Consumer Expenditure and Household Level 2011 No. 716

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Table (6): Average annual expenditure per capita on health and personal hygiene by stratum between 2000 and 2011 (Unit DZD)

year	2000	2011
Urban	3547	6502
rural	2529	4519
Total	3122	5833

Source: ONS, survey on consumer spending in Algerian households in 2011, N° (183) March 2014

6.2. Transport and communication

In 2011, households spent 540 billion DZD in transport and communications which represents 12% of the global. The average monthly expenditure per household was 7,183 DZD and the average annual expenditure per capita of 14,707 DZD.

Table (7): Evolution of annual household expenditure on transport and communications between 2000 and 2011

year	2000	%	2011	%	multiplier
Urban	94603	65.7	366830	67.9	3.9
rural	49376	34.3	173167	32.1	3.5
Total	143979	100	539997	100	3.8

Source: ONS: Survey of Consumer Expenditure and Household living standard 2011 N°183

Ten years is considered very short for the leap that transportation and communication rate took in this period, as it has quadrupled from what it was before, and this is due to the high rate of urbanization after the dark decade, plus the shift of activity from agricultural to administrator, not to mention the movement of the educational bracket, which constitutes the largest segment of the population, and this same category requires a huge amount of the budget since the digitization and information technology became the most informative and dominant way of communication.

6.3. Housing expenditure and utilities

In 2011, Algerian households spent 915.5 billion DZD on housing costs and charges, an average monthly expenditure per household of 12,178 DZD. Expenditure on the "housing & utilities" represents the most important item in non-food expenditure and accounts for an estimated share of almost 20.4% of the total household budget.

The overall expenditure on "housing & expenses" for the year 2011 is estimated at 915.5 billion DZD, with 703.8 billion DZD in urban and 211.7 billion DZD in rural areas. Each Algerian household spent an average of 146,133 DZD per year or 12,178 DZD per month to cover the housing costs and charges. This expenditure is much higher in the city with 13,709 DZD per month against 8,879 DZD in the suburbs.

An analysis of the housing situation of Algerians and its relationship to the results of the data, we believe that this is due to the inequality of housing with the number of residents and the need to meet the need for housing in the city due to the advantages available in it with regard to the new lifestyle.

This category ranks second among the income priorities after food despite the social and co-operative real estate projects, but relatively speaking, the multiplier coefficient between the two periods ranks first, with a value of 5 between 5.4 in urban areas and 2.7 in rural areas, which means that the population's need and interest in housing has become totally different, especially with the increase in nuptiality, embracing the nuclear family structure and according to lifestyle and preferences due to the activity location, it has become necessary to resort to independence even if by rented housing, not to mention the expenses that accompany it such as bills, repair and cleaning in general.

Table (8): Annual housing expenditure and expenses by housing sector and product subgroups (in million DZD)

sector	urban		rural		Total	
	Value	%	value	%	value	%
Rents and charges	603519	85.7	161251	76.2	764770	83.5
Imputed rents	454850	64.6	110560	52.2	565410	61.8
Housing Amenities Repair Products	22954	3.3	17337	8.2	40291	4.4
Housing repair costs	26459	3.8	12983	6.1	39442	4.3
Maintenance and cleaning articles	5598	0.8	2335	1.1	7933	0.9
Cleaning and care products	42937	6.1	16567	7.8	59504	6.5
Housing-related costs and expenses	913	0.1	512	0.2	1425	0.2
home lighting	1457	0.2	715	0.3	2172	0.2
Total	703837	100	211701	100	915538	100

Source : ONS National Survey of Consumer Expenditure and Household living Standard 2011 No. 696

Imputed rent: an estimate of the rent that the owners (and the housed for free) would have had to pay if they were tenants of the dwelling, they live in.

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Table (9): Evolution of housing expenditure and charges by housing sector between 2000 and 2011 (in million DZD)

Year	2000		2011		
stratum	Value	%	value	%	multiplier
Urban	130486	62.8	703837	76.9	5.4
Rural	77176	37.2	211701	23.1	2.7
National	207662	100	915538	100	4.4

Source: ONS National Survey of Consumer Expenditure and Household living standard 2011 No. (696)

6.4. Education and recreation expenditures

The table shows that expenditure on education and culture has increased considerably in ten years, for the urban population by three times, according to the multiplier (2.9). As for the rural area the number has increased by a slight change, which reflects that life has not changed much in the countryside, unlike in the city the lifestyle has been affected by educational system yet somehow developed new needs in terms of necessities such as babysitting, kindergarten and the extra classes or additional courses fees for children also courses in foreign languages.

Table (10): Evolution of annual expenditure on education, culture and recreation by housing sector (DZD)

year	2000	%	2011	%	multiplier 2011/2000
Urban	39085	66.3	113613	79.6	2.9
rural	19910	33.7	29066	20.4	1.5
Total	58996	100	142679	100	2.4

Source: ONS, survey on consumption expenditure of Algerian households in 2011, March 2014

7- Conclusion

The changing needs of population with the increase in the prices of most services has led to the concession of certain consumer goods due to the burden of the population on prices and the need to fill the necessities. Based on the survey's data, we find that some services did not occupy an important position among the expenditure shares twenty years ago and became occupying a position describing their necessity and indispensability at the present time. we can't fully rely on the national survey's data, nor the GNI per capita to measure consumption accurately and precisely deduct the determinants of choices in consumption behavior and especially in terms of food as it doesn't include the

prices upheavals as a measurement and price/ income ratio, and they don't provide any data about savings proportion, simple services or goods can be expensive in a way that the overload of salary and income can't cover, all what we can conclude about whether the Algerian food consumption behavior is healthy or not relies on hypothesis based on the available data that it is close to the Mediterranean diet but dominated with alternative cheap unhealthy options, or insufficient products from the same category as the healthy original diet meaning consumption choice is relatively related and dominated by prices and purchasing ability.

This whole study firmly states that when it comes to food expenditure as in general, it remains the priority regardless of the change in pattern or lifestyle and mentalities, and even with the change in circumstances between the two periods, we notice the change in the ranking of other needs and this indicates that the lifestyle will change Sooner or later as long as technology globalization and propaganda world are affecting the population society, residents priorities and needs are created with the creation of new needs such as travel, gym, and the acquisition of leisure-related equipment in addition to clothing which changes according to the potential demand of families for nutrition, housing and health (given their purchasing ability).

Standard tools used to measure food systems in low- and middle-income countries are insufficient to assess dietary changes in the context of nutrition transition, as they do not provide appropriate judgments in response to food groups. until now we have generally been able to measure consumption in Algeria and the priority of spending based on socio-economic level, income and lifestyle without forgetting to take into account mainly housing sector Which in turn determines the nature of the activity of the population.

References

1. Bank, T. w. (2022, January 25). *The world bank Group*. Retrieved from <https://data.worldbank.org/indicator/NY.GDP.MKTP.KD.ZG?end=2020&locations=DZ&start=1999>.
2. Barry M, P. (2008). the Nutrition Transition and Its Relationship to Demographic Change. In M. W. Bloem, R. Semba, & P. Piot , *Nutrition and health in Developing countries* (second edition ed., pp. 601-616). Totowa, New Jersey: Humana Press.
3. Bendeck, M., Chauliac, M., Gerbouin Rérolle, P., Naveen , K., & Malvy, D. (2000, April 1). Food consumption pattern in the urban milieu of Bamako. *Santé Publique*, pp. 45-63.
4. Bouyakoub, A. (2012). Croissance économique et développement 1962-2012: Quel Bilan? *Insaniyat Revue Algerienne D'anthropologie et de sciences sociales*, pp. 91-113.

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5. Bouyakoub, A. (n.d.). *Le paradoxe de la consommation inégalitaire en Algérie*. Larege, CREAD, université d'oran.
6. Duesenderry, J. S. (1949). *Income, Saving, and the theory of consumer behavior*. Cambridge: Harvard University Press.
7. Enquete, D. t. (2015). *Dépenses des ménages en alimentation et boissons en 2011*. Alger: Office National des Statistiques.
8. Kellou, M. (2005). *Profil Nutritionnel de l'Algérie Division de l'Alimentation et de la Nutrition*. Algeria: FAO Organisation des Nation Unies pour l'alimentation et l'agriculture.
9. Lord, I. (2011). *Gestionnaires inspirants : les 10 règles de communication des leaders*. Montréal, Québec: Éditions Logiques.
10. Merklings, J. e. (2010). *Psychologie, sociologie, anthropologie*. Retrieved from books.google.fr/books?id=j1ilcF5JwcC&printsec=frontcover&dq=2010+sociologie&hl=fr&ei=L5dKTomqH4.
11. MICS3. (2007). *The National Multiple Indicator Survey 2006*. Algeria: preliminary report.
12. Nations, U. (1993). *UN data a world of information*. Retrieved from <https://data.un.org/Glossary.aspx?q=household>.
13. Nations, U. (1993). *UN data a world of information*. Retrieved from <http://data.un.org/Glossary.aspx?q=income>.
14. OECD. (2013, April 16). *Organisation for Economic Co-operation and Development*. Retrieved from <https://stats.oecd.org/glossary/detail.asp?ID=429>.
15. OECD. (2022, January 25). *Organisation for Economic Co-operation and development*. Retrieved from <https://data.oecd.org/hha/household-spending.htm>.
16. office, N. s. (2004). *PAPFAM Algerian Family Health Survey 2002*. Arab league, MSP, Main report.
17. ONS. (2011). *Dépenses de consommations des ménages Algériens en 2011*. Algiers: Office national des statistiques.
18. POPKIN, B., NG, S. W., Norton, E., & Guilkey, D. (2012). *Estimation of Dynamic Model of Weight*. North Carolina Chapel Hill: National Bureau of Economic Research.