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Impact of fertility on development in West Africa.

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Summary

West Africa is a geographical area where demographic dynamics and development challenges arise acutely. Rapid population growth is seen as a threat to economic progress with the increased need for access to health services, education and decent jobs. To confirm or refute this perception, this study aims to show the impact of fertility on development in West Africa. The data comes from sixty (60) demographic and health surveys, carried out from 1990 to 2024, in West African countries. These data were matched with those from the 2024 Human Development statistic report, for a diachronic analysis of fertility and human development index. This analysis reveals that despite the downward trend of fertility observed in the region over the past three decades, it remains early and high as adolescent girls contribute more than 7% of total fertility. In the region, there is a negative association between fertility and human development index. Indeed, for a country to go from a low development index to an average one, it must lower its fertility below four children per woman on average. The still high fertility rate in West Africa constitutes the major constraint to development.

Key words : Fertility, development, population growth, West Africa

Résumé

L'Afrique occidentale est un espace géographique où les dynamiques démographiques et les défis de développement se posent avec acuité. La croissance démographique rapide est perçue comme une menace pour le progrès économique avec la multiplication des besoins en termes d'accès aux services de santé, d'éducation et d'emplois décents. Pour confirmer ou infirmer cette perception, la présente étude ambitionne de montrer l'impact de la fécondité sur le développement en Afrique occidentale. Les données proviennent de soixante (60) enquêtes démographiques et de santé, réalisées de 1990 à 2024, dans les pays d'Afrique occidentale. Ces données ont été appariées avec celles du rapport statistique sur le développement humain de 2024, en vue d'une analyse diachronique de la fécondité et de l'indice de développement humain. Cette analyse révèle que malgré la tendance baissière de la fécondité observée dans la région au cours de ces trois dernières décennies, elle demeure précoce et élevée puisque les adolescentes contribuent à plus de 7% de la fécondité totale. Il existe une association négative entre la fécondité et l'indice de développement humain. En effet, pour qu'un pays passe d'un indice de développement faible, à un celui moyen, il doit baisser sa fécondité en-dessous de quatre enfants par femme en moyenne. La fécondité encore élevée en Afrique occidentale, constitue la contrainte majeure de développement.

Mots clés : Fécondité, développement, croissance démographique, Afrique occidentale

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Introduction

West Africa is bordered to the North by North Africa, to the East by Central Africa, to the South and West by the Atlantic Ocean (figure 1). With 16 countries forming a total area estimated at 6 144 620 km^2, it is the fourth largest region in Africa. Its population increased from 84 947 076 to 234 748 620 inhabitants between 1960 and 2000. While it has almost tripled over the past four decades, the annual growth rate of this population has decreased over the past two decades. In 2020, it was 2.7% compared to 2.5% for all African countries (Zah, 2024, p. 7).

Migration and fertility are the two main factors influencing, population growth. Due to the size of the population of childbearing age in each country, fertility contributes more to population growth than migration. In West Africa, this increase results for a large part of the fertility rate, which has long remained high (Vimard, Fassassi and Talnan, 2007, p. 172). Despite its decline since the 1990s, women living in these countries still have more than 4 children on average compared to less than three children for their sisters who live in North African countries. According to Bongaarts (2013, p. 7), the populations in this region exhibit slightly higher pre-transitional fertility rates, a much later onset of transition and a slower rate of fertility decline, compared to other regions. The lack of long-term economic security for women is a determining factor of fertility in the region (Donald et al., 2024)

Due to high fertility, West Africa has not experienced the hoped-for economic and social development despite the economic growth dynamic that began since 2015 with an average annual rate of 3.7%, in 2019. This growth was absorbed by the cost of social investment, particularly in education and health. It has not led a profound change in households living conditions and a significant reduction in poverty. According to the UNDP 2024 Report, only two (2) countries have a medium Human Development Index (HDI), while this index is high for North African countries (Algeria, Egypt, Libya, and Tunisia). The fourteen (14) other countries in the region, including Nigeria, which is one of the continent's leading economic powers, and Côte d'Ivoire, which represents nearly 40% of the GDP of the eight (8) WAEMU countries, have a low HDI.

From these observations, result this study, aiming to demonstrate the impact of fertility on development in West Africa. Studies reveal that fertility control has an undoubted impact on socio-economic sectors. Its decline can stimulate economic growth by promoting increased labor market participation, increased savings and human capital, and reduced pressure on the environment (Bloom, Kuhn and Prettner, 2025, p. 50). According to Bousnina (2016, p. 90), it has generated a slowdown in the pressure on the labor market in Tunisia, and contributed to improving the performance of the education system thanks, among other things, to the decrease in enrolment and the increase in schooling rates. Gbeto and Houngue (2020) show that in Benin, fertility decreases the probability that the woman participate in the labor market and reduces her working hours.

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Actually, Africa's socio-economic development depends on the ability of countries to redefine their development policy taking into account their national and regional demographic context (Sène, 2022, p. 44).

The study tests the hypothesis that high fertility has a significant negative effect on economic and social development in West Africa. In fact, high fertility is associated with a deterioration of human capital, as measured by educational performance, life expectancy, women's participation in the labor market, and monetary poverty. To verify this hypothesis, the study adopts a deductive approach, based on the secondary exploitation of quantitative data. These data come from sixty (60) Demographic and Health Surveys (DHS), carried out from 1990 to 2024, in West African countries. They were matched with those in the 2024 Human Development statistic report, for a diachronic analysis of fertility and human development index.

This article is structured in three parts: methodology, results and discussion.

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1. Methodology

This study adopts a deductive approach aimed at analyzing the impact of fertility on development in West Africa, using quantitative data to produce scientifically robust results.

For the dependent variable (HDI), statistical data from the Human Development Report in the World, published by the UNDP in 2024, were used. The three indicators of this variable are: life expectancy index at birth, education level index and GDP index. HDI is the cubic root of these three indices (formula below). It allows countries to be classified on a scale of 0 to 1. When its value is less than 0.550, the country has a low development index. If it is between 0.550 and 0.699, the development index is average. This index is high when its value is between 0.700 and 0.799. Beyond this number (0.799), development index is very high.

$$IDH = \sqrt[3]{IESP \times INI \times IPIB}$$

For the explanatory variable (fertility), DHS surveys, carried out since the 1990s in West African countries, were used to describe fertility levels and trends. In total, there are sixty (60) surveys whose databases have been downloaded from the dhsprogram site. Their exploitation was done using the Statcompiler software. The indicator used to describe the fertility trend is the total fertility rate (TFR). It is the average number of children that a woman would give birth to if she knew throughout her fertilelife the fertility conditions of the moment. This indicator, which allows a diachronic analysis of fertility, measures its total intensity for a calendar year.

$$TFR = \sum_{15}^{49} FRA$$

This is an analysis of the joint evolution of fertility and human development index. It allows to better understand the interactions between the two (2) variables, by highlighting the threshold from which the effect of fertility on development is more significant

2. Results

Diachronic analysis of fertility and the human development index made it possible to organize the results into two sections: Levels and trend of fertility in West Africa, and the impact of fertility on human development index.

2.1. Fertility levels and trend in West Africa

2.1.1. A fertility rate that has decreased in all countries but remains high

In this subsection, it is a question of describing the evolution of the TFR in West African countries from 1990 to 2024. Figure 2 shows that it has continuously decreased in the region during the period under consideration. The United Nations (2019) places the beginning of this decline in the mid-1980s since the average number of children per woman increased from 6.7 in 1985 to 6.4 in 1990. This decline continued in the following decades so that in 2020, women who lived in West Africa had an average of 5.2 children. For most countries, the pace of fertility curves is on a slightly

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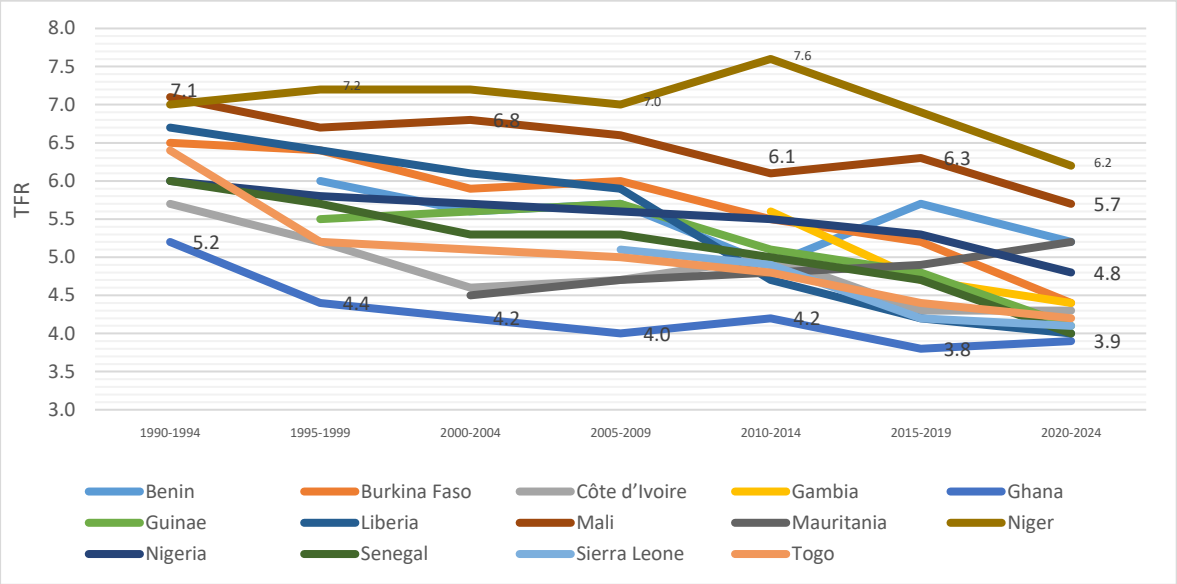
inclined downward slope. It indicates that over the past three decades, this decline at the regional level is small and varies from one country to another.

Figure 2 : Evolution of the TFR in West african countries from 1990 to 2024



Source : The DHS Program STATcompiler. Funded by USAID, http://www.statcompiler.com, september 18, 2023

Ghana has the lowest fertility level in the region with 3.9 children per woman. It stands out from other countries with its curve which is well below. On the contrary, Niger has the highest fertility rate so as to question the beginning of the fertility transition in this country. The average number of children per Nigerian rose from 7 to 7.6 between 2006 and 2012, an increase of 8.6% in six years. In almost a decade (2012-2021), this fertility has decreased by 22.6% since Nigerians had an average of 6.2 children in 2021. In Mali, on the other hand, the average number of children per woman increased from 6.1 to 6.3 between 2013 and 2018, an increase of 0.2 children per woman in 5 years.

For all West African countries, fertility has continuously decreased since 1990. As this decrease is small, fertility remains high compared to countries in southern and northern Africa where women had fewer than three children on average in 2023: South Africa (2.22), Algeria (2.77), Botswana (2.73), Egypt (2.75), Lesotho (2.69), Libya (2.36), Morocco (2.23) and Tunisia (1.83). It maintains the differences in fertility between social groups, and in particular between the environments of residence.

2.1.2. A fertility decline that has weakly affected rural areas

In countries that have not completed their transition, there are significant differences of fertility between social groups. One of the most relevant differences is those that exist between rural women and their urban sisters. In fact, the urban environment, characterized by the increase in the

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cost of living in general, and particularly that of children, negatively influences fertility (ZAH, 2007, p. 155).

Box 1 presents the evolution of fertility according to the environment of residence in West African countries. It shows that the fertility decline in rural areas was less important since it is less than 1 child in almost all countries. We can attribute this slight decline to the persistence of traditional standards of high fertility as observed among Beninese who live in rural areas. Their fertility increased from 6.3 to 6.1 children between 2006 and 2018, a decrease of only 0.2 children in twelve years. The same observation is made among Nigerian women who decreased their fertility by 0.3 children in five years (6.2 and 5.9 children per woman between 2013 and 2018). Among Sierra Leonese and Gambian women who live in rural areas, the fertility decline is respectively 0.6 and 0.9 children in almost seven years.

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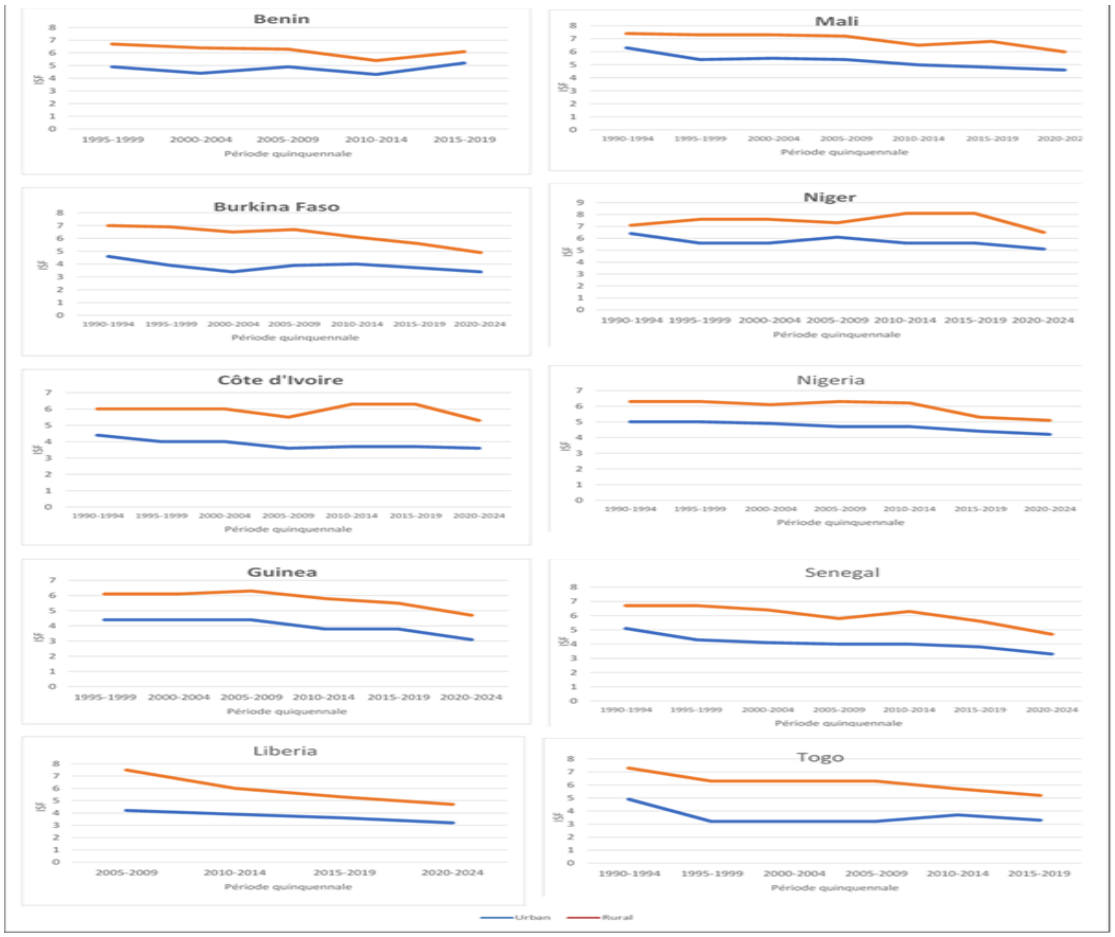
Box 1: Evolution of the TFR according to the environment of residence in West Africaine



Source : https://www.statcompiler.com/en/, September 18, 2022

For more than a decade, the average number of children per rural woman has not really decreased in Côte d'Ivoire. It went from 6.4 to 6.3 between 1999 and 2012, a decrease of only 0.1 child per woman. But after this period, rural fertility was reduced by one child since it was 5.3 children in 2021. Burkina Faso remains the only country where rural fertility has decreased by more than one child. It went from 6.7 in 2010 to 4.9 in 2021, a decrease of 1.8 children. This rapid decline implies a certain caution in the interpretation of this result, which refers to the analysis of the quality of demographic surveys.

Note that fertility has not decreased significantly in rural areas. This maintains the fertility gaps between urban and rural areas, and consequently, national fertility at a high level. In Niger, for example, the differences of fertility between the settings of residence are very clear. The average number of children per woman remains high in rural areas (8.1 children) while in urban areas, it has decreased to 5.6 children per woman. This represents a difference of 2.5 children between these two residence environments.

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2.1.3. High adolescent fertility rates

In diets where fertility is not controlled, girls have their first child early, especially at adolescence, which is the period when they should continue their studies. This fertility, which occurs outside the legal age of marriage, is early and contributes to the general level of fertility.

Table 1 shows the fertility rates of adolescents (10-19 years old) as well as their contribution to the TFR. Fertility at these ages, described as precocious, influences general fertility because girls have enough time to have other children and have numerous offspring if they wish.

Table 1 : : TFR of West African countries and contribution of adolescents

Countries	TFR with fertility of adolescent girls	TFR without fertility of adolescent girls	Contribution of adolescent girls to the TFR (%)
Benin	5,7	5,1	9,5
Burkina Faso	4,4	4,0	10,5
Côte d'Ivoire	4,3	3,8	11,2
Gambia	4,4	4,1	7,4
Ghana	3,9	3,6	9,6
Guinea	4,9	4,2	13,1
Liberia	4,2	3,5	15,3
Mali	6,2	5,5	11,7
Mauritania	5,2	4,8	8,6
Niger	7,4	6,6	10,2
Nigeria	5,3	4,8	9,8
Senegal	4,0	3,7	8,5
Sierra Leone	4,2	3,7	12,1
Togo	5,3	4,9	8,3

Source: https://databank.worldbank.org/source/world-development-indicators and author calculations, 2024

With 15.3%, Liberian women have the highest contribution of adolescents to total fertility. They are followed by Guineans women (13.1%), Sierra Léonnaises (12.1%), Malians (11.7%), Ivorians (11.2%), Burkinabes (10.5%) and Nigerians (10.2%). The contribution of adolescents to total fertility is less than 10% for other countries.

Variations in the level of TFR in the region result not only from adolescence fertility, but also from that of older age groups. Thus, despite the low contribution in Benin, Gambia, Mauritania, Nigeria

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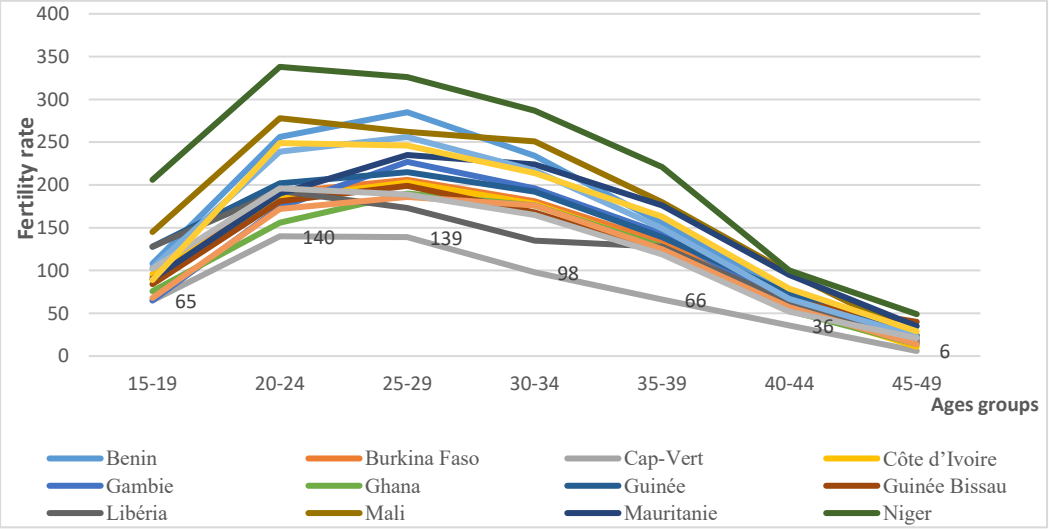
and Togo, the average number of children per woman in these countries is higher than that of countries with a higher contribution (Côte d'Ivoire, Ghana, Senegal and Sierra Leone). The situation in these countries is such that the fertility lost in adolescence is made up in the older age groups.

Except for Ghana, which has less than 4 children per woman on average, Côte d'Ivoire, Liberia, Senegal and Sierra Leone could reach this level of fertility if they manage to erase adolescent fertility. Indeed, West African countries must strengthen their policy of combating early motherhood in order to achieve this very relevant objective to accelerate the fertility transition.

The analysis of fertility rates by age groups shows that the fertility transition began in West Africa (Figure 3). In traditional diets of high fertility, it is girls aged 20-24 who hold the fertility record. But when the fertility transition begins, it is their 25-29 year olders who become the most fertile because of social changes, including the increase in marriage age. In West Africa, the fertility transition is observed by the maximum fertility shift observed in Benin, Burkina Faso, Côte d'Ivoire, Gambia, Ghana, Guinea, Guinea-Bissau, Mauritania, Nigeria and Senegal. This gap in these ten countries results from the postponement of the fertility of girls aged 20-24 who wish to complete their university cycle before having their first child. This desire to succeed in the university career means that the desire to have a child before the age of 25 fades.

Figure 3: Fertility rate by age group in West African countries



Source: EDS in progress in West African countries at the time of writing

2.2. Impact of fertility on human development index

2.2.1. Human development index continues to rise in West Africa

Figure 4 shows the evolution of Human Development Index in West African countries from 1990 to 2024. It shows that unlike fertility, which is experiencing a downward trend in all countries during the period under consideration, human development index is experiencing an upward trend.

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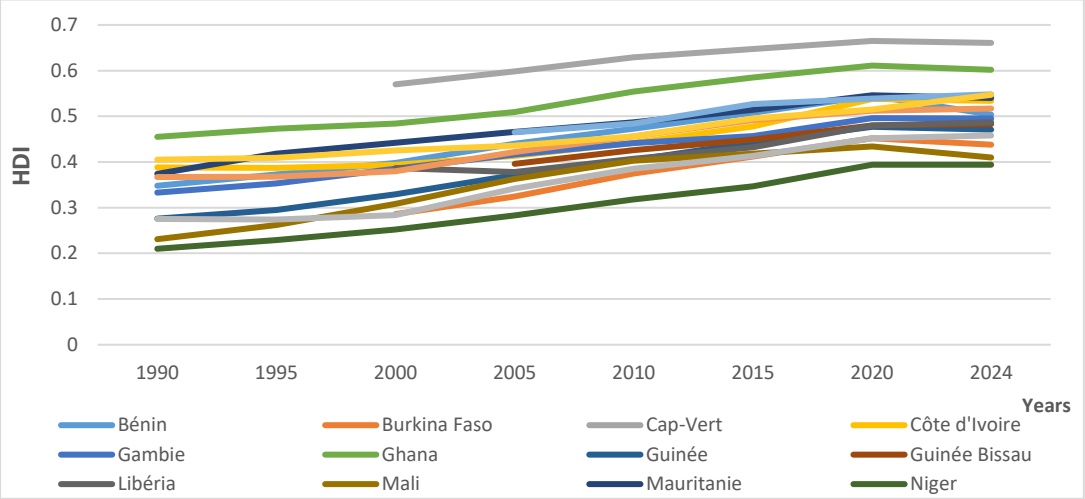
There is therefore a negative association between these two indicators because the lower the fertility, the higher the level of human development index. Despite the increase in the value of the latter over time, it remains low for most countries. Only Cape Verde and Ghana have an average development index. The gray curve of Cape Verde, which is well above the other curves, attests that it is the first country in the region in terms of human development. Below this curve is that of Ghana, which is the second country in terms of the level of human development.

Figure 4: Evolution of HDI in West African countries from 1990 to 2024



Source: https://www.undp.org/sites/g/files/zskgke326/files/2024-10/hdr23_full_report_0319_fr_v2_0.pdf

The fourteen other countries of the region, previously identified as a higher fertility, have weak human development indices. Niger where the highest fertility rate occupies the last place since its curve is clearly below that of the other countries. According to the ranking of the 193 countries for the UNDP in 2024, it have the lowest level of human development index at the regional level (0.394). In the world, it occupies the 190th, just before the Central African Republic (191st), the South Sudan (192th) and Somalia (193th). The second country with the lowest development index in 2024 is Mali (0.410).

We estimated the growth rate of human development index, by the five-year period to assess the impact of the socio-economic development policy conducted at the national level. This rate has been generally positive for all countries until 2019 (Table 2). Each country reaches the highest level for one five-year period, the effectiveness of health, educational and economic growth policy. Six countries have even exceeded a growth rate of 10% during the five-year period: Côte d'Ivoire (2015-2020), Mali (1990-2004), Mauritania (1990-1994), Niger (2000-2009 and 2015-2029), Senegal (200-2004) and Sierra Leone (2000-2009).

While the growth rate of human development index was positive during the five-year periods until 2019, during the period 2020-2024, it was negative for some countries: Benin (-8.1%), Mali (-

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5.9%), Burkina Faso (-3.2%), Ghana (-1.5%), Guinea (-1.3%), Mauritania (-1.1%), Côte d'Ivoire (-0.7%), Cape Verde (-0.6%) and Gambia (-0.2%). This decrease is explained by the covid-19 pandemic which has led to the deterioration of the socioeconomic situation, including the decrease in life expectancy at birth, the average duration of schooling and gross national income per capita.

Table 2 : HDI growth rate by five-year period in West Africa

Pays	1990-1994	1995-1999	2000-2004	2005-2009	2010-2014	2015-2019	2020-2024
Benin	7,2	6,3	9,5	7,0	6,9	6,8	-8,1
Burkina Faso			11,7	13,6	9,0	8,8	-3,2
Cape Verde			4,7	4,9	2,8	2,7	-0,6
Côte d'Ivoire	-0,3	1,8	4,6	6,6	7,5	11,2	-0,7
Gambia	6,0	8,3	7,5	5,7	3,5	7,9	-0,2
Ghana	4,0	2,3	4,9	8,1	5,3	4,3	-1,5
Guinea	6,9	10,3	11,3	8,2	8,8	7,1	-1,3
Guinea Bissau				7,0	5,1	6,5	0,6
Liberia			-2,4	7,1	5,8	10,0	1,4
Mali	13,4	14,9	15,2	9,9	3,6	3,7	-5,9
Mauritania	11,8	5,4	5,2	4,3	5,3	5,9	-1,1
Niger	9,0	9,1	11,0	11,0	8,4	11,9	0,0
Nigéria				3,9	8,2	2,2	1,6
Senegal	0,3	3,2	10,0	7,5	7,3	3,9	1,0
Sierra Leone	-0,4	3,5	17,0	11,2	6,8	8,6	1,3
Togo	1,0	3,8	2,5	4,4	7,9	3,9	5,9

Source: author's estimate from UNDP data

2.2.2. Countries with less than four TFR are those with an average HDI

After describing the evolution of the development index, it is appropriate in this subsection to place the countries by level of human development. Figure 5 shows the values of the Human Development Index and the TFR for West African countries. It shows that conversely in Cape Verde and Ghana which have the lowest fertility rates and the average development index, Mali and Niger have high fertility levels and the low development index. Indeed, whenever fertility is high, development index is low.

These results allow us to affirm that fertility is a determining factor for the socio-economic development of West African countries. When it is high, it generates higher public spending on

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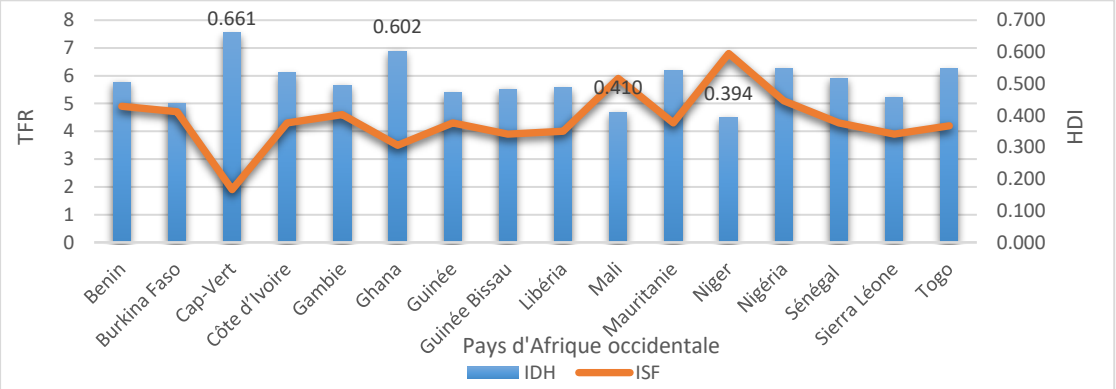
education, health and other social services. If the resources are not available to finance this expenditure, it can slow economic growth and increase the risk of child mortality. On the other hand, when fertility drops significantly, it stimulates economic growth and improves the performance of the education and health system due to the decrease in the number of children in the total population.

Figure 5: Comparative values of TFR and HDI for West Africans



Source : The DHS Program STATcompiler. Funded by USAID, http://www.statcompiler.com
https://www.undp.org/sites/g/files/zskgke326/files/2024-10/hdr23_full_report_0319_fr_v2_0.pdf

The analysis of the trend of human development index, shows when a country goes from a low to an average development index. Currently, Cape Verde and Ghana have the average development index. According to data available since 2000, Cape Verde reached this index when Cape Verdean women had less than four children on average. He left this group for the one with the average development index in the 2010s, due to the decline of fertility, and remains there until the last ranking published in 2024. According to the multi-indicator survey, the average number of children per Ghanaian fell below four in 2016.

The other fourteen countries in the region are still in the group of countries with a low human development index. Even Nigeria, which is one of the first economic powers in Africa, is in this group because of the still high fertility rate. With fertility being the main factor in population growth, the population is growing rapidly in West Africa. The population growth rate in this region is 2.7% while in North Africa it is only 1.91% compared to 0.94 for Latin America and 0.92 for Asia. The rate of 3.82% in Niger (United Nations, 2019) means that this country will probably double its population in less than 20 years.

The above observations suggest that the transition to a medium development index means that each West African country will have to significantly reduce its fertility, even to below four children per woman on average, as in Cape Verde and Ghana. To support this assertion, we have chosen

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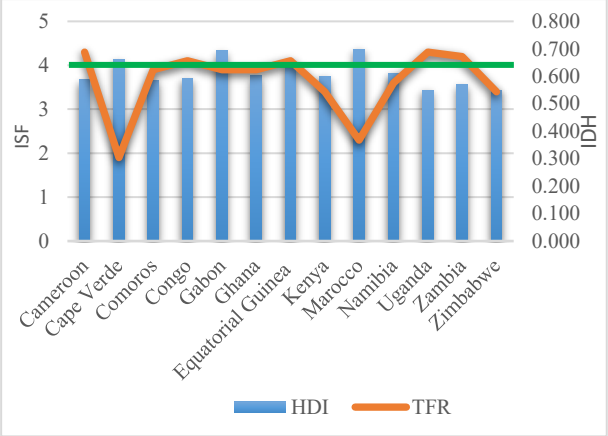
African countries with a medium development index (Figure 6) and those with a high development index (Figure 7) to examine their fertility levels.

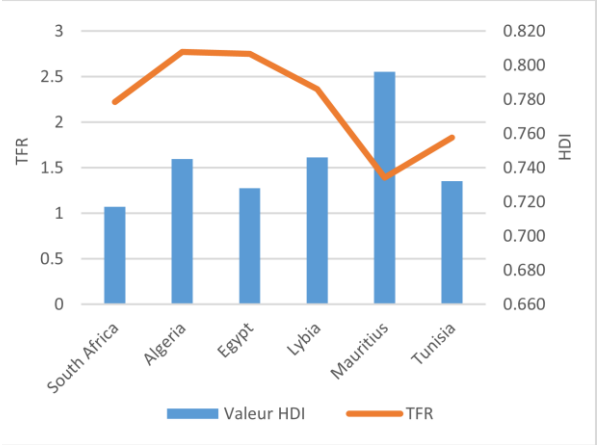
Of the thirteen African countries with an average human development index, eight have fewer than four children per woman. The green right on figure 6 shows that fertility in Cape Verde, Comoros, Gabon, Ghana, Kenya, Morocco, Namibia and Zimbabwe is below this value. In Congo and Equatorial Guinea, women have an average of 4.1 children while in Cameroon and Uganda, they have 4.3. The slight increase in the fertility threshold for the latter countries reveals the intervention of other factors in explaining the level of development. Among these factors is the regional context and the effectiveness of development policy with a better distribution of the fruits of economic growth. The fact that African countries with a high development index belong to other regional areas with different economic realities reinforces this thesis (Figure 7). Of the six countries that have reached this level of development, four are from North Africa: Algeria, Egypt, Libya and Tunisia. The other two countries are South Africa and Mauritius.

Figure 6 : TFR of African countries having an average HDI in 2024



Source : The DHS Program STATcompiler. Funded by USAID

Figure 7 : TFR of African vountries having high HDI in 2024



Source : UNDP, 2024

The impact of fertility on development is clear when we consider African countries with high HDI. For all these countries, women have on average less than three children. Mauritius, which has the low fertility rate (1.39 children per woman in 2023) also has the highest development index (0.796), an index that even exceeds that of a European country like Albania. It completed its demographic transition more than two decades ago. In fact, having less than three children per woman on average is the requirement condition for a country to reach a high level of human development. Mauritius and Tunisia, which very early integrated population policies into development planning in the 1960s, reached fertility rates below the generational replacement threshold.

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3. Discussion

This study showed the link between fertility and development in West Africa. To examine this link, we chose human development index as a measure of economic progress. This is a relevant indicator since it combines life expectancy at birth, level of education and the level of wealth, measured by GDP per capita. As a composite indicator, the human development index has the advantage of taking into account economic growth and that of well-being.

The results of the study show that fertility has continuously decreased in all West African countries over the past three decades. This transition of fertility, which takes place at variable rates, has been described by Vimard, Fassassi and Talnan (2007, p. 202) as malthusianism of poverty since it results from the economic crisis and the worsening living conditions of the populations. The decline in household income and the increase in the costs of education and child care have forced households to adopt survival strategies consisting of postponing the arrival of an additional child so as not to endanger the household economy.

In a study on the relationship between the economic crisis of the 1980s and the fertility trend, Picouët and Sandron (2014, p. 207) showed that the upper and middle classes of the population reacted more to the recession by falling in their fertility. This result is consistent with ours, which show the persistence of fertility differences between urban and rural women. Not only has the decline of fertility in rural areas been less than 1 child for almost all West African countries for three decades, but also adolescent fertility persists. In these countries, the latter still contributes more than 7% to total fertility, which keeps their fertility at a high level. Bongaarts (2013, p. 7) showed that the pace of fertility decline is slower in sub-Saharan Africa compared to other regions. Depending on the level of fertility, two groups of countries are distinguished. Countries where women have on average fewer than four children (Cape Verde and Ghana) and those where they have more. These different levels of fertility affect socio-economic development. Countries where women have more than four children on average have a low development rate. Following a study of about a hundred countries, Myrskylä, Kohler and Billari (2009, 742) showed that countries with a low development index have high fertility, and those with an intermediate development index have low fertility. For Sène (2022, p. 49), the African countries with the highest fertility rates have the highest natural growth rates and total dependence rates. On the other hand, they recorded the lowest indices of GDP per capita and rates of access to electricity. The author notes that there is no clear correlation between population growth indicators and social indicators related to health and life expectancy.

Another study of thirty OECD countries over the period 1960-2007 shows that higher GDP per capita is associated with lower fertility (Luci and Thevenon, 2011, p. 3). This relationship becomes positive from a certain level of development where fertility increases with GDP. This is not what

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has been observed in African countries with a high human development index where there is a correlation between fertility and this index. Having less than three children per woman on average is the prerequisite for having a high human development index. The significant decline of fertility acts indirectly on economic and social variables, and Tunisian performance in human development is subsequently facilitated to a large extent by the control of population growth (Bousnina, 2016, p. 72). Following a study covering 54 countries, Osakede et al. (2023) show that reducing the fertility rate has a positive impact on the HDI in Africa. For middle-income countries, the fertility rate had induced a significant negative effect on the HDI and human development, but only in the long term.

In doing so, the relationship between fertility and development index is complex. In West Africa, it is negatively associated with development index because of its still high level. As a result, its decline represents an opportunity for the government to save on health services, improve the quality of education and skills to support development, to strengthen economic productivity and to create the wealth necessary for its emergence. It can thus stimulate economic growth with a decrease in spending on housing and childcare, thus freeing up resources that can be reallocated to research and development and the adoption of advanced technologies (Bloom, Kuhn and Prettner, 2025, p. 50). By estimating the effect of fertility reduction on GDP per capita, ASHRAF et al. (2023, p. 119) showed that a TFR reduction of 0.5 children leads to an increase GDP per capita of 5.6% after 20 years, and of 11.9% after 50 years. Income can almost double if the TFR decreases by one child (Karra et al., 2017, p. 259).

Our results confirm that fertility undoubtedly has an effect on development. Nevertheless, other factors such as the socio-political context, good governance, and the effectiveness of development policies must be considered.

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Conclusion

The present study made it possible to describe the trend of fertility in West Africa from the 1990s until 2024 from the exploitation of demographic and health surveys. It shows that fertility has continuously decreased in the sixteen countries of the region. Despite this decline, which is taking place at varying rates from country to country, differences persist between women living in rural areas and their urban sisters. Indeed, fertility remains early and high since adolescence still contribute more than 7% of total fertility.

In fourteen countries of the region, women have more than four children on average. By relating their fertility and their human development index, it appears that the latter is low. On the other hand, in Cape Verde and Ghana, where women have fewer than four children on average, the development rate is average. Indeed, fertility influences the development of West African countries. For each country, reducing its fertility below four children per woman on average is the necessary condition for moving from a low to an average development index. But to achieve a high development rate, women must have fewer than three children on average. This result reveals that the high level of fertility in West Africa constitutes a constraint, to socioeconomic development.

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