# Human Capital for Sustainable Development: Where Does Nigeria Stand?

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**Abstract**

The third and fourth sustainable development goals (SDGs) deal directly with human resource issues, while about 90% of the remaining 15 goals are human resource related. The import of this is that the sustainability of development is people-centred. However, if people, who form the human resource stock of a nation, lack the requisite skills, they may be handicapped in their productive responsibilities towards the desired development. Available evidence suggests that Nigeria is yet to make much progress in the area of the SDGs. Currently, she ranks 145 out of 157 countries, having scored 48.6% in the SDG index. In the human-capital related SDGs — goal 3 (Good health and well-being) and goal 4 (Quality education) —the country recorded 27.6% and 42.0%, respectively. It is against this backdrop that the current study assessed the position of Nigeria vis-à-vis human capital for sustainable development. It reviews literature and facts relating to the human capital development process and concludes that Nigeria still lags behind with respect to the human capital required for sustainable development. Moreover, inadequate funding is one of the fundamental problems confronting human capital development activities in Nigeria. It is therefore recommended that appropriate

policies should be put in place to develop human capital to accelerate sustainable development in Nigeria, possibly through greater funding of education, health care facilities and services, training, apprenticeship, migration policies, and special programmes to develop the managerial capabilities required to improve the capacity of people, to enable them contribute meaningfully to human development.

**Keywords**: Human capital, Sustainable development, SDG index, Nigeria

**JEL classification:** I15, J24, O15, Q01

## Introduction

The Bruntland Commission defined sustainable development as, "development that meets the needs of the present without compromising the ability of future generations to meet their own needs" (WCED, 1987). This definition presupposes that whether in the present or in the future, sustainable development is about people and their welfare. It affirms the view of Angelo (2003) that, "sustainable development ensures a better quality of life for all human beings now, and in the future." On the basis of this, the third and fourth sustainable development goals focus exclusively and directly on human resource issues, while about 90% of the remaining 15 goals are human-resource related. An in-depth view of this revealed that the sustainability of development is people-centred. This is anchored on the fact that all activities relating to it are undertaken by people, are about people, and are meant for the people and their welfare. Therefore, it is evident that sustainable development cannot neglect human beings because it is about them and their welfare, both in the present and the future.

The people, who are essentially the human resource of a nation, may be handicapped regarding the extent to which their contributions in society can bring about the desired sustainable development. People without skills have limited capacity to contribute to individual and national productivity. According to Peters (2013), "people with the right skills, knowledge, competencies, frame of mind, attitude and motivation remain the most enduring strategy for the pursuit of sustainable development." It is therefore, necessary to develop them through education and training. And as noted by Dauda (2011), "the human capital components in man are the

skills, knowledge, capabilities, attitudes and the experiences, which are developed through education, health, on-the job training and other means." Thus, all activities, such as education, health, training, apprenticeship, migration policy, and special programmes to develop the managerial capabilities required to improve the capacity of people to enable them contribute meaningfully to human development are critical to the sustainability of development.

Ekperiware et al. (2017) argued that, "the modern way to secure the future is by securing the education and health of the people, which in turn would propagate the seeds of sustainable development in less-developed countries." Human capital, therefore, is fundamental to sustainable development. It is a significant factor employed in the transformation of all other resources for mankind's use and advantage (Ali et al., 2016), which enables individuals to create economic value (World Economic Forum, 2016) for themselves and the society as a whole.

According to Madubueze et al. (2015), the human resource is responsible for the "supply of labour, technical and professional skills, which are germane to the effective and efficient planning and implementation of development policies, programmes, projects and daily activities." Peters (2013) submits that building the requisite human capital, which comprises "people with the right skills, knowledge, competencies, frame of mind, attitude and motivation remains the most enduring strategy for the pursuit of sustainable development."

According to the World Economic Forum (2016), human capital could be described as a more important determinant of a nation's "long-term success than virtually any other resource", and as such, it "must be invested in and leveraged efficiently in order for it to generate returns for the individuals involved as well as an economy as a whole." The agency further argues that, "human capital is critical not only to the productivity of society but also the functioning of its political, social and civic institutions".

The current state of human capital in Nigeria needs more attention if development in the country is to be sustainable. Available data from the World Factbook (2017) indicates that her net migration rate as at 2016 was -0.2 per 1,000 population, while her literacy rate in 2015 stood at 59.6%. Furthermore, the maternal and infant mortality rates in 2015 were 814 per 100,000 and 71.2 per 1,000 live births respectively. This makes the country

the 11th and 10th globally as regards maternal and infant mortality rates respectively, while under-five mortality as at 2015 was 108.8 per 1,000 live births based on World Bank (2017) estimates. Her life expectancy at birth was 53.4 in 2015, and physicians density in 2009 stood at 0.41 physicians per 1,000 population. Globally, Nigeria occupied the 20th, 2nd and 1st positions in terms of HIV/AIDS adult prevalence, number of people living with the disease and AIDS-related deaths respectively, with the corresponding data put at 3.17%, 3.5 million and 180,300 as at 2015, while the degree of risk of major infectious diseases has remained very high.

The foregoing situation is highly detrimental to the sustainability of development in Nigeria. Against this backdrop, this paper reports Nigeria's human capital nexus with her sustainable development drive.

## Overview of Human Capital and Human Development Activities in Nigeria

### *Indicators of Human Capital*

There are various indicators of human capital in literature; such as education, health, training, migration policy, study programmes, and recently, human capital index. Some of these are considered in this section as they affect Nigeria in comparison with selected countries across the globe. The first measure examined in this section is the human capital index (HCI) presented in Table 1.[1] As is evident from the table, Nigeria's performance is not inspiring. Out of 130 countries, Nigeria occupies the 127th position, having obtained 48.86%, placing her among the nations with the least or lowest HCI. Countries such as Finland, Norway, Switzerland and Japan ranked 1st, 2nd, 3rd and 4th globally, with their respective scores being 85.86%, 84.64%, 84.61% and 83.44%. In Africa, Ghana, Egypt, South Africa, and

[1] Human capital index, according to the World Economic Forum (2016), takes "a life-course approach to human capital" by evaluating "the levels of education, skills and employment available to people in five distinct age groups, starting from under 15 years to over 65 years." The "index" ranks 130 countries on how well they are developing and deploying their human capital potential "in the area of education, skills and employment" and thereby tries to assess "learning and employment outcomes on a scale from 0 (worst) to 100 (best) across five distinct age groups" (0–14, 15-24, 25-54, 55-64, and 65 and above years) "to capture the full demographic profile of a country." The main "aim is to assess the outcome of past and present investments in human capital and offer insight into what a country's talent base will look like in the future."

Zambia, among others, are far ahead of Nigeria. In fact, out of about 30 African countries covered in the study, 27 come before Nigeria.

An age group analysis of the index on Nigeria revealed the highest for 15-24 years, followed by 0-14 years, and then 25-54 years, with their HCI being 56.58%, 53.19% and 46.96%, respectively. The least is found among the age category 65 years and above, having scored 32.62%. For countries such as Finland, Norway, Switzerland and Japan among others, the performance among the different age categories showed the least at 72.95 for the age group, 65 years and above. Others recorded as high as 98.17% for ages 0-14 and 85.35% for 15-24 years in Finland. For Ghana, Egypt and South Africa, the age group 0-14 years posted a HCI of 75.28%, 80.25% and 73.89%, respectively, while the index for the age group 15-24 years shows the countries correspondingly scoring 60.65%, 62.41% and 59.47%; indicating a better performance than what obtains in Nigeria.

**Table 1: Human capital index for selected economies, 2016**

| Country | Overall index | | Age 0-14 | Age 15-24 | Age 25-54 | Age 55-64 | Age 65 and Above |
|---|---|---|---|---|---|---|---|
| | Score | Global Rank | | | | | |
| Nigeria | 48.86 | 127 | 53.19 | 56.58 | 46.96 | 45.71 | 32.62 |
| The First Fifteen Countries | | | | | | | |
| Finland | 85.86 | 1 | 98.17 | 85.35 | 81.24 | 83.9 | 72.95 |
| Norway | 84.64 | 2 | 94.69 | 84.72 | 80.11 | 85.34 | 74.53 |
| Switzerland | 84.61 | 3 | 95.76 | 83.35 | 80.51 | 83.54 | 73.28 |
| Japan | 83.44 | 4 | 95.78 | 77.26 | 79.13 | 85.72 | 75.61 |
| Sweden | 83.29 | 5 | 93.25 | 81.03 | 80.17 | 84.58 | 70.43 |
| Denmark | 82.47 | 7 | 91.77 | 81.89 | 78.17 | 83.99 | 74.04 |
| Netherlands | 82.18 | 8 | 92.81 | 83.7 | 77.58 | 81.06 | 69.59 |
| Canada | 81.95 | 9 | 93.46 | 77.74 | 77.61 | 84.22 | 73.04 |
| Belgium | 81.59 | 10 | 95.29 | 78.25 | 77.55 | 78.33 | 68.32 |
| Germany | 81.55 | 11 | 89.56 | 79.78 | 78.39 | 83.31 | 73.54 |
| Australia | 81.52 | 12 | 92.29 | 82.41 | 76.75 | 79.06 | 72 |
| Singapore | 80.94 | 13 | 95.81 | 76.12 | 78.7 | 75.17 | 60.59 |
| Selected African Countries Ahead of Nigeria | | | | | | | |
| Ghana | 64.26 | 84 | 75.28 | 60.65 | 60.77 | 65.64 | 52.42 |
| Egypt | 63.72 | 86 | 80.25 | 62.41 | 58.09 | 62.62 | 43.17 |

| Country | Overall index | | Age 0-14 | Age 15-24 | Age 25-54 | Age 55-64 | Age 65 and Above |
|---|---|---|---|---|---|---|---|
| | Score | Global Rank | | | | | |
| South Africa | 62.97 | 88 | 73.89 | 59.47 | 63.08 | 62.42 | 35.43 |
| Zambia | 62.06 | 90 | 68.06 | 61.94 | 60.29 | 63.17 | 50.93 |
| Botswana | 60.5 | 96 | 78.69 | 57.23 | 55.29 | 54.08 | 42.06 |
| Morocco | 59.65 | 98 | 77.36 | 57.1 | 51.88 | 58.6 | 48.38 |
| Tunisia | 58.24 | 101 | 83.89 | 58.21 | 48.55 | 48.19 | 35.82 |
| Kenya | 57.9 | 102 | 67.94 | 54.64 | 56.47 | 56.75 | 40.94 |

*Source:* World Economic Forum (2016).

In the same vein, information on other human capital measures such as education and health is not encouraging. With respect to education, the nation's literary rate shows a very wide gap when compared to the achievements of many other countries, within and outside Africa. For example, in 2015, the adult literacy rate for the nation as depicted in Table 2 stood at 59.6%. Meanwhile, the male group appears to be doing better than the female. While the literacy rate for the former was 69.2%, that of the latter was 49.7%. In the most advanced economies, the adult literacy rate as presented in the table is very close to 100%. For instance, the rates for countries like Italy, Israel, Singapore, China and Malaysia, among others were 99.2%, 97.8%, 96.8%, 96.4%, and 94.6%, respectively. Even in some African countries such as South Africa, Libya, Botswana, Cape Verde, Tunisia, Kenya, and Ghana, the rate of literacy stood at 94.3%, 91.0%, 88.5%, 87.6%, 81.8%, 78.0%, and 76.6%, in that order.

**Table 2: Literacy rate (%) age 15 and above, 2015 in some selected economies**

| Country | Total Population (%) | Male (%) | Female (%) |
|---|---|---|---|
| Nigeria | 59.6 | 69.2 | 49.7 |
| Italy | 99.2 | 99.4 | 99 |
| Israel | 97.8 | 98.7 | 96.8 |
| Singapore | 96.8 | 98.6 | 95 |
| China | 96.4 | 98.2 | 94.5 |
| Malaysia | 94.6 | 96.2 | 93.2 |
| South Africa | 94.3 | 95.5 | 93.1 |
| Libya | 91.0 | 96.7 | 85.6 |
| Botswana | 88.5 | 88 | 88.9 |
| Cabo Verde | 87.6 | 92.1 | 83.1 |
| Tunisia | 81.8 | 89.6 | 74.2 |

| Country | Total Population (%) | Male (%) | Female (%) |
|---|---|---|---|
| Kenya | 78.0 | 81.1 | 74.9 |
| Ghana | 76.6 | 82 | 71.4 |

*Source:* Compiled by Author from *CIA World FactBook* (2017).

Nigeria's performance in the area of activities relating to health as a measure of human capital is not different from her performance in education. In any country where the health sector is functioning well, mortalities in all ramifications should be very low and approaching zero. This is not the case with Nigeria. For example, as contained in Table 3, infant and under-five mortality rates in the country stood at 125.9 and 212.5 per 1,000 live births respectively in 1990. These values correspondingly reduced to 123.4 and 207.8 per 1,000 live births in 1995, and by 2000, they further declined to 112.0 for infant mortality and 186.8 for the under-five rate of mortality. The rates for both in 2015 were respectively 69.4 and 108.8 per 1,000 live births. It is quite reassuring that both rates have maintained a consistent declining trend over the years; however, more improvement can be recorded because the current rates are still very high when compared to what obtains in many other African and non-African countries.

From Table 3, both the infant and under-five mortality rates in some countries are below 3 per 1,000 live births. In Norway, Japan and Singapore, infant mortality in 2015 stood at 2.0, 2.0 and 2.1 per 1,000 live births, while under-five mortality rates for the three countries were 2.6, 2.7, and 2.7 per 1,000 live births respectively. Some African countries like Libya, Tunisia, Cape Verde, and South Africa have succeeded in reducing their infant mortality to 13.4, 14.0, 24.5, and 40.5 per 1,000 live births in that order, while under-five mortality in the same countries stood at 11.4, 12.1, 20.7, and 33.6 per 1,000 live births respectively in 2015.

Life expectancy at birth is one of the significant measures of human capital in the area of health. Countries with better health care facilities and services, and better nutrition, among others, enjoy very high life expectancy. The achievement of Nigeria in this area has improved tremendously compared to what it was in the 1960s, when her average life expectancy was less than 40 years; and in the 70s-90s, when it was less than 50 years. Figure 1 shows Nigeria's life expectancy in 1990 as 46.11 years. This rose slightly to 46.62 and 48.67 in 2005 and 2010 respectively. It later surged to 51.33 and 53.05 years in 2010 and 2015, in that order.

**Table 3: Infant and under-five mortality rates for selected countries (per 1,000 live births), 1990-2015**

| Countries | 1990 | | 1995 | | 2000 | | 2005 | | 2010 | | 2015 | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Inf | Unf | Inf | Unf | Inf | Unf | Inf | Unf | Inf | Unf | Inf | Unf |
| Nigeria | 125.9 | 212.5 | 123.4 | 207.8 | 112 | 186.8 | 96.6 | 158.1 | 81.5 | 130.3 | 69.4 | 108.8 |
| Norway | 7 | 8.7 | 4.6 | 5.7 | 4 | 4.9 | 3.2 | 4 | 2.6 | 3.2 | 2 | 2.6 |
| Japan | 4.6 | 6.3 | 4.1 | 5.7 | 3.3 | 4.5 | 2.7 | 3.7 | 2.4 | 3.2 | 2 | 2.7 |
| Singapore | 6.2 | 7.7 | 4.1 | 5.2 | 3.1 | 4 | 2.3 | 2.9 | 2.2 | 2.8 | 2.1 | 2.7 |
| Sweden | 5.8 | 6.9 | 4 | 4.8 | 3.4 | 4.1 | 3 | 3.6 | 2.5 | 3.1 | 2.4 | 3 |
| Germany | 7 | 8.5 | 5.3 | 6.5 | 4.4 | 5.4 | 3.9 | 4.7 | 3.5 | 4.2 | 3.1 | 3.7 |
| Netherlands | 6.8 | 8.3 | 5.7 | 6.9 | 5.1 | 6.2 | 4.5 | 5.4 | 3.7 | 4.4 | 3.2 | 3.8 |
| Israel | 9.7 | 11.6 | 7.2 | 8.7 | 5.6 | 6.9 | 4.5 | 5.6 | 3.7 | 4.6 | 3.2 | 4 |
| Libya | 35.5 | 41.6 | 28.4 | 33.1 | 24.2 | 28.1 | 19.8 | 23.1 | 14.3 | 16.6 | 11.4 | 13.4 |
| Tunisia | 44.3 | 57 | 35.9 | 44.9 | 26.3 | 31.7 | 19.6 | 23 | 14.9 | 17.4 | 12.1 | 14 |
| Cabo Verde | 48.2 | 62.7 | 43.7 | 56.1 | 29.1 | 35.5 | 23.2 | 27.7 | 23.3 | 27.8 | 20.7 | 24.5 |
| South Africa | 47.4 | 59.9 | 48.2 | 62.1 | 54 | 75.3 | 51.5 | 75.2 | 38.2 | 53.8 | 33.6 | 40.5 |
| Senegal | 70.3 | 140.4 | 70.8 | 142.1 | 68.5 | 134.9 | 56.3 | 96.2 | 46.7 | 64.8 | 41.7 | 47.2 |
| Kenya | 65.8 | 102.3 | 71.9 | 114.8 | 66.5 | 107.9 | 54.3 | 85.5 | 42.4 | 62.1 | 35.5 | 49.4 |
| Ghana | 79.8 | 127.4 | 72 | 113.4 | 64.9 | 100.7 | 56.8 | 86.5 | 50.2 | 74.7 | 42.8 | 61.6 |

*Source:* World Bank (2017).

Notwithstanding this feat, the country can still improve if necessary policies are put in place. Life expectancy in many African and non-African countries is far ahead of that of Nigeria. Evidence provided by the World Bank (2017) shows that the average life expectancy in some countries is above 80 years, while others have recorded well above 70 years. In fact, in some African countries like Tunisia, Cape Verde and Libya, the average life expectancy as at 2015 was 74.98, 73.36 and 71.83 years respectively, while in Senegal, Kenya, and Ghana it was 66.80, 62.13, 61.49 years, in that order.

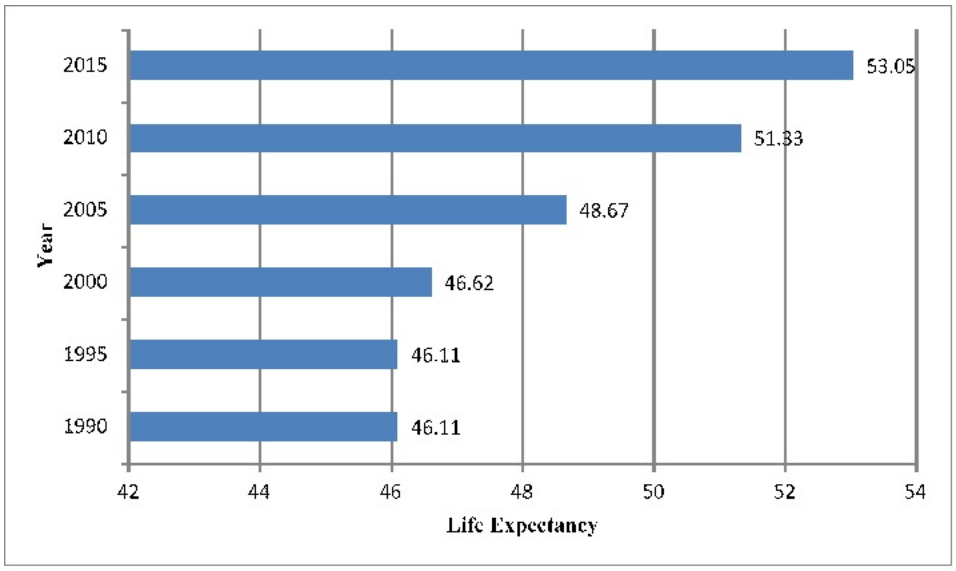


**Figure 1: Life expectancy for Nigeria, 1990-2015**

*Source:* Generated by Author from World Bank (2017).

The majority of the human capital measures considered above are outcome indicators, which reflect the level of investment of the countries cited in human capital-related activities. The evidence provided on the indicators reveal that Nigeria's investment in human capital over the years is not cheering. The information contained in Figure 2 confirms this position. The percentage of the nation's budget set aside for the health sector has been very low and declining over the years. In 2000, 6.15% of her budget went to the health sector. This rose slightly to 6.99% in 2005, but reduced thereafter to 5.49% in 2010. In the 2017 budget, the percentage earmarked for the health sector further fell to 4.15%. This does not augur well for the sustainability of development. To show commitment to sustainable

development, the budgetary allocation to the health sector of the nation must rise above the African Union's recommendation of 15%.

Concerning investment in education, even though government initiatives in this area over the years have led to some progress, such as improvements in gross enrollment ratios for primary and junior secondary schools, as well as "gross and net enrollment ratios for girls, . . . the education system in Nigeria remains weak, especially in Northern Nigeria" (Nwoko, 2015). Moreover, statistics on out of school children is about 9 million, which is the highest globally. Government's funding for education also remains below expectation. In fact, the percentage of the annual budget earmarked for education has never reached the 26% suggested by UNESCO. From Figure 2, the nation's budgetary allocation to the sector in 2000 was 12.24%. By 2005, it had reduced to 8.56%, while in 2010 and 2017 only 6.95% and 6.0% respectively of the total budget were allocated to education. Nwoko (2015) reported that between 2010 and 2014, only 7.8% of total federal government (FG) expenditure went to the education sector annually, which represents just 0.5% of total real GDP.

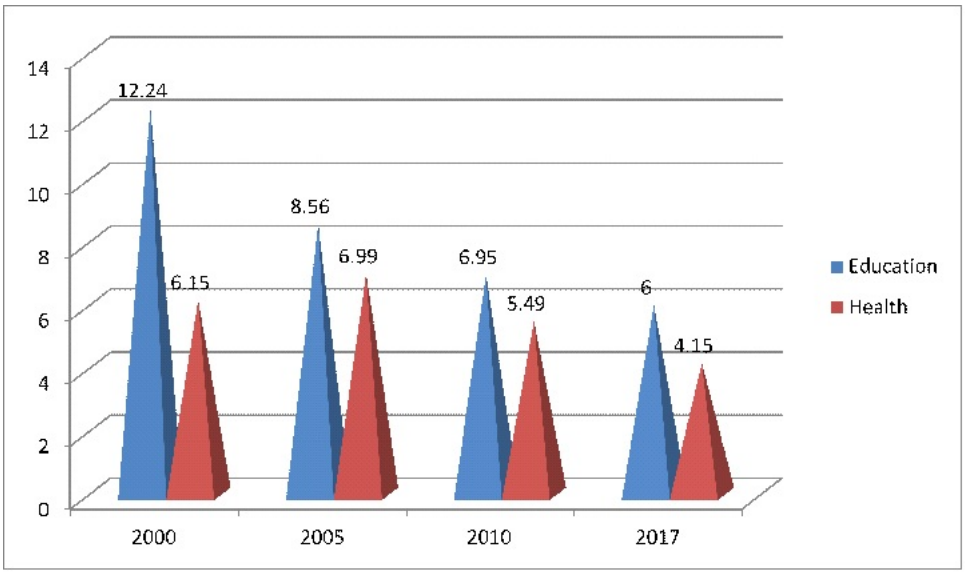


**Figure 2: Percentage of total budget allocation to education and health sectors in Nigeria, 2000-2017**

*Source:* Generated by Author from Nwagwu (2014), Oyedeji (2016), and *The Guardian* (2017).

**Human Development Index**

The human development index (HDI) is one of the important indicators employed to measure levels of human development in countries of the world. According to the United Nations Development Programme, (UNDP) (2016a), it is, "a summary measure of key dimensions of human development," focusing on three basic dimensions, which are, "a long and healthy life, access to knowledge and a decent standard of living." With this, it becomes easier to measure how well a country is performing in the area of human development and the well-being of its citizens. This enhances the identification of deprivation in these three basic dimensions. According to the UNDP (2016b), the HDI value ranges between 0 and 1, defined as very high (0.800 and above), high (0.700- 0.799), medium (0.550-0.699), and low (less than 0.550).

Although Nigeria has made some progress in her HDI over the years, the nation is yet to get out of the low human development category as is evident in Table 4. In 1990, her HDI was 0.423. This rose marginally to 0.455 in 1995 before it declined slightly to 0.447 in 2000. It picked up a little when it increased to 0.466 in 2005, and later to 0.500 in 2010; and since then, it has maintained a rising trend, with the latest being 0.527 in 2015. This was however below the achievements of several countries in Africa and beyond. For instance, African countries such as Tunisia, Libya, Botswana, South Africa, Cape Verde, Ghana, Kenya, and a host of others are far ahead of Nigeria in their HDI performance. Tunisia has made steady progress since 1990 as shown in Table 5. In 1990, the country's HDI value was 0.567, putting her among the medium category. The index continued to increase within the medium group until 2010, when it moved to the high class. The position of Libya is highly inspiring. The country, which was classified under the medium set in 1990 suddenly jumped to the very high category in 1995, when it scored 0.806. Even though it could not maintain this position thereafter, it has remained in the high category since 2000 till date. Botswana, South Africa, Cape Verde, Ghana, and Kenya are all currently grouped under the medium category.

**Table 4: Nigeria's HDI trends based on consistent time series data, 1990-2015**

| Year | Life Expectancy at Birth | Expected Years of Schooling | Mean Years of Schooling | GNI Per Capita (2011 PPP$) | HDI Value |
|---|---|---|---|---|---|
| 1990 | 46.1 | 6.7 | | 2743 | 0.423 |
| 1995 | 46.1 | 7.2 | | 2529 | 0.455 |
| 2000 | 46.6 | 8 | | 2378 | 0.447 |
| 2005 | 48.7 | 9 | 5.2 | 3606 | 0.466 |
| 2010 | 51.3 | 9.6 | 5.2 | 4834 | 0.5 |
| 2011 | 51.7 | 9.7 | 5.5 | 4940 | 0.507 |
| 2012 | 52.1 | 9.8 | 5.7 | 5036 | 0.514 |
| 2013 | 52.4 | 10 | 5.9 | 5173 | 0.521 |
| 2014 | 52.8 | 10 | 5.9 | 5443 | 0.525 |
| 2015 | 53.1 | 10 | 6 | 5443 | 0.527 |

*Source:* UNDP (2016a), and various UNDP *Human Development Reports*.

Other advanced economies, few of which are presented in Table 5, are operating in the very high class, with Norway occupying the first position, scoring 0.949 in 2015. Australia is second globally, while Switzerland is in the third position, with Germany coming fourth. Other countries like Singapore, Netherlands, United States, Canada, and Hong Kong obtained the following indices in 2015: 0.925, 0.924, 0.920, 0.920, and 0.917 respectively. The performance of these countries points to the possibility of sustainable development in such nations.

**Table 5: Human development index for selected countries across the globe, 1990-2015**

| Country | 1990 | 1995 | 2000 | 2005 | 2010 | 2015 |
|---|---|---|---|---|---|---|
| Nigeria | 0.423 | 0.455 | 0.447 | 0.466 | 0.492 | 0.527 |
| Norway | 0.841 | 0.935 | 0.91 | 0.935 | 0.939 | 0.949 |
| Australia | 0.866 | 0.932 | 0.898 | 0.912 | 0.926 | 0.939 |
| Switzerland | 0.829 | 0.918 | 0.886 | 0.901 | 0.915 | 0.939 |
| Germany | 0.782 | 0.911 | 0.854 | 0.887 | 0.904 | 0.926 |
| Singapore | 0.744 | 0.859 | 0.800 | 0.84 | 0.894 | 0.925 |
| Netherlands | 0.826 | 0.927 | 0.874 | 0.888 | 0.904 | 0.924 |
| United States | 0.858 | 0.926 | 0.883 | 0.897 | 0.908 | 0.92 |
| Canada | 0.848 | 0.933 | 0.867 | 0.892 | 0.896 | 0.92 |
| Hong Kong | 0.775 | 0.879 | 0.81 | 0.839 | 0.882 | 0.917 |

| Country | 1990 | 1995 | 2000 | 2005 | 2010 | 2015 |
|---|---|---|---|---|---|---|
| Sweden | 0.807 | 0.928 | 0.889 | 0.887 | 0.895 | 0.913 |
| Tunisia | 0.567 | 0.696 | 0.653 | 0.687 | 0.715 | 0.725 |
| Libya | 0.684 | 0.806 | 0.745 | 0.772 | 0.799 | 0.716 |
| Botswana | 0.583 | 0.666 | 0.56 | 0.61 | 0.672 | 0.698 |
| South Africa | 0.619 | 0.735 | 0.628 | 0.608 | 0.638 | 0.666 |
| Cabo Verde | 0.611 | 0.675 | 0.573 | 0.589 | 0.622 | 0.648 |
| Ghana | 0.502 | 0.532 | 0.487 | 0.511 | 0.556 | 0.579 |
| Kenya | 0.471 | 0.52 | 0.455 | 0.479 | 0.522 | 0.555 |

*Source:* Compiled by Author from UNDP Human Development Report (Various Issues).

**Human Capital and Sustainable Development: Brief Literature**

The concept of development has been viewed from various angles by different people based on their perceptions of the term and their fields of endeavour. The traditional definition of development presents it as "achieving sustained rates of growth of income per capita to enable a nation to expand its output at a rate faster than the growth rate of its population", while the modern definition argues that development should be able to reduce or eliminate "poverty, inequality, and unemployment within the context of a growing economy" (Todaro and Smith, 2012). The current viewpoint is that development should be sustainable. Implying that whatever objective development is meant to achieve, such should be long lasting and should not hurt the coming generation. However, whether development is being viewed as a process, or a state or condition, one thing is certain, human capital is at the heart of development.

Although empirical evidence in the literature appears mixed regarding the contribution of human capital to development, a greater proportion of the evidence supports the positive and substantially significant influence of human capital on development. For instance, Romer (1990), Barro (1991), and recently Obialor (2017), have all reported on the significant impact of human capital on the growth process, while Briggs (1987), Birdsall et al. (1995), Weil (2007), Mottaleb and Sonobe (2012), and Aderemi (2014) also found that human capital is one of the important drivers of economic and industrial development. In the same vein, studies have also reported greater contributions of human capital to poverty alleviation (Alagba, 2011; Janjua and Kamal, 2014; Khan et al, 2016; and Paraschiv, 2017) as well as a decline in inequality in different nations of the

world (Qazi et al, 2016; and Castelló-Climenta and Doménecha, 2017). The findings, therefore, confirm the centrality of human capital in the development process. Omojimite (2011) noted that the contribution of human capital to development manifests in its ability to impact "general attitudes, specific skills, reducing fertility and improving living standards." These are all critical to sustainable development.

Furthermore, the sustainability of development is more about human capital than any other issue, therefore, it cannot occur in isolation of human capital. Diaconu and Popescu (2016) reiterate that the "sustainable growth and development of a country relies not on a large number of people but on a large amount of human capital" because, "a healthier and better educated society involves more productive people, who are able to efficiently evaluate the opportunities and to take the right decisions." According to Šlaus and Jacobs (2011), human capital with social capital inclusive is, "the central determinant of resource productivity and sustainability" because "all forms of capital derive their value, utility and application from human mental awareness, creativity and social innovation." In the study, which focuses on human capital and sustainability, the authors reported that the "development of human capital is the critical determinant of long-term sustainability."

**Human Capital for Sustainable Develpoment: Where Does Nigeria Stand?**

Although empirical findings on the implication of human capital for economic growth and development in Nigeria are mixed, a good number of them support the positive and significant influence of human capital on economic outcomes (Isola and Alani, 2012; Eigbiremolen and Anaduaka, 2014; Osoba and Tella, 2017). However, the most pressing question to ask is, 'how effective is human capital development activities in Nigeria for the sustainability of development?' Available evidence from the literature, in the area of sustainable development, shows that the nation is yet to enjoy considerable positive effect of human capital formation on sustainable development (Omojimite, 2011; Akintayo and Adiat, 2013; Ekperiware et al., 2017). The explanation for this is clear; Nigeria has not developed her human capital to the level that will enable it to stimulate sustainable development. Omojimite (2011) examined the effectiveness of the Nigerian education sector in meeting the human capital needs for economic development, with focus on funding, rate of return on investment in education, human development index (HDI) ranking, expenditure on

research and development (R&D), among others and found that the Nigerian education sector still lags behind in all the indicators used to assess its effectiveness.

Moreover, virtually all the evidence examined earlier on human capital measures in Nigeria showed the country as being very far behind all the advanced and the majority of African countries. The nation's position with respect to the progress made so far in the achievement of the specific human-capital-related SDGs (3&4), 27.6 and 42.0 respectively, revealed very poor performance, which is partly why the country's ranking in the 2017 sustainable development index (SDI) placed her among the least (145 out of 157 countries), giving her an index value of 48.6.

Furthermore, Nigeria's expenditure in the areas of health and education has been low, and is in fact dwindling. In the 2017 budget, only 4.15% and 6.0% were allocated to the health and education sectors, in that order, while the percentages of the nation's GDP that went to both sectors were just 3.7% and 0.85% respectively in 2014.

Table 6 presents information on Nigeria's global ranking with respect to SDG index and other indicators that enhance sustainable development. From the table, Nigeria ranks 141 out of 149 countries in her SDG index with 36.1 % in 2016, while her subjective well-being score of 52 earns her the 77$^{th}$ position out of 133 countries, with a regional average of 41 for the same year. In her global competitive index, the nation was 123 out of 134 countries, while her global peace index stood at 42.5, making her the 139$^{th}$ out of 149 countries in 2016.

**Table 6: SDG Global Rank Comparison with Other Development Metrics, 2016**

| Indicators | Global Rank | Score or Value | Regional Average (SSA) |
|---|---|---|---|
| SDG Index (2016) | 141/149 | 36.1 | Na |
| GDP per capita, PPP (2015) | 108/153 | US$ 5,639 | US$ 4,103 |
| Subjective Wellbeing (2016) | 77/133 | 52 | 41 |
| Environmental Performance Index (2016) | 120/157 | 58.3 | 52.8 |
| Human Development Index (2016) | 127/157 | 52.7 | 50.6 |
| Global Competitiveness Index (2016/17) | 123/134 | 48.5 | 51.4 |
| Global Peace Index (2016) | 139/149 | 42.5 | 56.5 |

*Source:* Sachs et al (2016 and2017b).

Table 7 shows data on SDG indices and rankings for selected countries across the globe in 2017. The indices of the overall SDG as well as goals 3, 4, 6, 9, 12, 13 and 15 are given in the table. Two of the goals (SDGs 3&4) presented in the table are related directly to human capital. Goal 3 is *Good health and well-being*, while goal 4 is *Quality education*. Goal 6, which is *Clean water and sanitation* relates to health. The other goals are presented because of the better performance of the country in them, while one (goal 9) was presented to indicate where the nation has the minimum score. From the scores, it is apparent that Nigeria is yet to make much progress in the goals that relate to human capital. Her index in goal 3 is 27.6%, which is the second to the least in all the 17 goals, while her index in goal 4, 42.0% appears better than that of goal 3. The nation's least score, 15.2% occurred in 9, which is *Industry, innovation and infrastructure*, while her best performance is in goal 13 (*Climate action*), where she had 89.5%. The country scored 76.3% in goal 12, which is *Responsible consumption and production*. Of course, this is not unexpected due to the country's high rate of consumption; the consumption of foreign commodities, in particular. Overall, Nigeria ranked 145 out of 157 countries in 2017, with a score of 48.6%.

**Table 7: SDG Indices and Ranking for Selected Countries across the Globe, 2017**[2]

| Country | Rank | SDG Index | **SDG 3** | **SDG 4** | **SDG 6** | **SDG 9** | **SDG 12** | **SDG 13** | **SDG 15** |
|---|---|---|---|---|---|---|---|---|---|
| Nigeria | 145 | 48.6 | 27.6 | 42 | 63 | 15.2 | 76.3 | 89.5 | 75.3 |
| Sweden | 1 | 85.6 | 97.6 | 95 | 95.2 | 89.6 | 57.7 | 80.1 | 63.1 |
| Denmark | 2 | 84.2 | 94.5 | 95.4 | 94.1 | 89.8 | 55.7 | 83.3 | 79.1 |
| Finland | 3 | 84 | 96.5 | 90.1 | 96.3 | 87.6 | 53.5 | 68.7 | 67.6 |
| Norway | 4 | 83.9 | 96.7 | 97.5 | 91.9 | 77.6 | 38.1 | 79.9 | 67 |
| Czech Republic | 5 | 81.9 | 91.4 | 91.6 | 95.9 | 60.9 | 70.4 | 85 | 84.1 |
| Malaysia | 54 | 69.7 | 83.1 | 88.1 | 90 | 60.8 | 69.7 | 82.4 | 31.6 |
| Singapore | 61 | 69 | 93.8 | 92.3 | 88.9 | 85.7 | 43.3 | 48.1 | 26.2 |
| Algeria | 64 | 68.8 | 75.8 | 79.2 | 68.3 | 19.9 | 81.5 | 90.5 | 60.1 |

[2]"The SDG Index was built on a set of indicators for each of the 17 SDGs using the most recent published data" . . . for 157 of the 193 UN Member State . . . with the purpose of guiding 'countries' discussions on their SDG priorities, based on available and robust data" (Sachs *et al*., 2017). The score ranges between 0 and 100, with 0 being the worst performance, while 100 gives the best or optimum performance. The closer a country is to 100 the better, which implies that such a country, is closest , "to achieving the SDG endpoints envisaged for 2030" (Sachs et al., 2016).

| Country | Rank | SDG Index | **SDG 3** | **SDG 4** | **SDG 6** | **SDG 9** | **SDG 12** | **SDG 13** | **SDG 15** |
|---|---|---|---|---|---|---|---|---|---|
| Tunisia | 65 | 68.7 | 79.3 | 78.6 | 76.1 | 30 | 81.1 | 80.9 | 64.2 |
| China | 71 | 67.1 | 79.5 | 74.1 | 88.2 | 57.7 | 74.8 | 58.7 | 58.5 |
| South Africa | 108 | 61.2 | 50.7 | 85.8 | 81.8 | 45.1 | 63.1 | 79.4 | 44.4 |
| Ghana | 109 | 59.9 | 54.9 | 68.6 | 68.8 | 22.6 | 78.1 | 88 | 71.6 |
| Botswana | 113 | 58.3 | 55.6 | 79.9 | 82.9 | 26.4 | 57.5 | 58.7 | 63.4 |

SDG3 = Good Health and Well-being; SDG4 = Quality Education; SDG6 = Clean Water and Sanitation; SDG9 = Industry, Innovation and Infrastructure; SDG12 = Responsible Consumption and Production; SDG13 = Climate Action; SDG15 = Life on Land.

*Source:* Compiled by Author from Sachs et al. (2017a)

African countries such as Algeria, Tunisia, South Africa, Ghana, Botswana, among others ranked 64$^{th}$, 65$^{th}$, 108$^{th}$, 109$^{th}$ and 113$^{th}$ respectively, with their corresponding indices of 68.8%, 68.7%, 61.2%, 59.9%, and 58.3%. Moreover, their respective scores in SDG3 were 75.8%, 79.3%, 50.7%, 54.9%, and 55.6%, while their SDG4 index stood at 79.2%, 78.6%, 85.8%, 68.6%, and 79.9% in that order. The import of this is that, the sampled African countries appear to be investing in their health and education sectors better than Nigeria. The first five best countries in the overall SDG index are Sweden, Denmark, Finland, Norway, and Czech Republic, having scored 85.6%, 84.2%, 84.0%, 83.9%, and 81.9%, respectively. The achievements of these countries in both goals 3 and 4 surpass 90%, which implies their closeness to and the likelihood of their attainment of the SDGs, even before the 2030 deadline.

The abysmal state of human capital in Nigeria suggested by the evidence presented above indicates that the nation needs to focus more attention on human capital development if her economy is to progress and attain sustainable development. No country the world over has ever developed without massive investment in human capital development activities. This is because human capital plays a very fundamental role in the growth and development process. Citing empirical literature such as Briggs (1987), Yueh (2013), Madubueze et al. (2015), Qazi et al. (2016), and Paraschiv (2017), Dauda (2018) noted that human capital is, "very strategic for industrial development, employment generation, reduction of inequality, poverty alleviation, supply of technical skills, effective planning and the implementation of economic development policies and transformation of the

entire society." All these are the central focus of development activities, without which there can be no sustainable development.

Peters (2013) reiterates that human capital is, "directly linked to the ability of nations to transform from underdeveloped to developed economies." He maintains that, "the quality of a country's human capital is central to promoting and sustaining innovation as well as the adoption of appropriate technology for accelerated sustainable development". Building the requisite human capital for the attainment of sustainable development requires a new ideology of life and innovative approach to education.

Nigeria cannot continue to trifle with human capital development activities and expect to develop. Therefore, if the country will achieve sustained development, she must accelerate the process of human capital development.

**Summary, Conclusion and Policy Implications of the Study**

This study assessed the significance of human capital formation for sustainable development in Nigeria. Diverse evidence relating to human capital development in the areas of education and health was investigated in addition to a review of related literature. The study discovered that as important as human capital is for sustainable development, its indicators in Nigeria suggest a very wide gap between the current state and what is desirable for sustainable development. For example, the nation's literacy rate stood at 59.6%, maternal and infant mortality rates were 814 per 100,000 and 71.2 per 1,000 live births respectively, while under five mortality in the country is 108.8 per 1,000 live births. In the same vein, physicians density in 2009 stood at 0.41 per 1,000 population, and the degree of risk of major infectious diseases has remained very high. The country's expenditure in the areas of health and education is low, and is in fact dwindling. Moreover, Nigeria's position with respect to the progress made so far in the achievement of specific human-capital-related SDGs 3&4 (27.6 & 42.0 respectively) revealed very poor performance, while her overall ranking regarding the 2017 sustainable development index (SDI) placed her among the least (145 out of 157 countries), giving her an index value of 48.6.

The foregoing evidence suggests that Nigeria, as a country, still has a long way to go apropos human capital for sustainable development. It is therefore recommended that appropriate policies should be put in place to

step-up the building of the apposite human capital to accelerate sustainable development in the country. The budgetary allocation for both the education and health sectors should be increased substantially. Finally, greater funding should be provided for activities such as training, apprenticeship, migration policies, and special programmes to develop the managerial capabilities required to improve the capacity of people to enable them contribute meaningfully to human development.

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