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The human development in Tunisia: the sectorial and synthetic indicators (HDI)

التنمية البشرية في تونس: أهم المؤشرات القطاعية والتأليفية

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Abstract

The aim of this article is, at first, to study the main characteristics and indicators of human development in Tunisia. Furthermore, we will analyze the performances of this experience of HD, thanks to the study of the components of this policy, the economic component and the social indicators. Moreover, the last part will be centered on the progress of two synthetic indicators: the HDI (Human Development Indicator, as defined by UNDP) and **our own approach** based on synthetic indicators of human development **(Synthetic HDI**).

Keywords: Human development, growth, education, health, HDI.

Résumé

L'objectif de cet article est, dans un premier temps, d'étudier les principaux indicateurs du développement humain en Tunisie. De plus, nous analyserons les performances de cette expérience, grâce à l'étude des composantes de cette politique, la composante économique et les indicateurs sociaux. Par ailleurs, la dernière partie sera centrée sur l'évolution de deux indicateurs synthétiques : l'IDH (Indice de Développement Humain, tel que défini par le PNUD) et notre propre approche basée sur des indicateurs synthétiques de développement humain (IDH Synthétique).

Mots clés : Développement humain, croissance, éducation, santé, IDH .

الملخص

يهدف هذا المقال في البداية إلى دراسة الخصائص والمؤشرات الرئيسية للتنمية البشرية في تونس. إضافة إلى ذلك ، سنقوم بتحليل هذه التجربة بفضل دراسة مكونات هذه السياسة والمؤشرات الاقتصادية والمؤشرات الاجتماعية في تونس. وسيركز الجزء الأخير على تحليل مؤشرين تأليفيين: مؤشر التنمية البشرية (كما حدده برنامج الأمم المتحدة الإنمائي) ونهجنا الخاص القائم على المؤشرات التأليفية للتنمية البشرية (Synthetic HDI).

الكلمات المفتاحية: التنمية البشرية ، النمو ، التعليم ، الصحة ، مؤشر التنمية البشرية.

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Introduction

The role of the human factor in economic and social development is essential. People are often the ultimate beneficiary of this process and the input into the economic growth movement.

Despite the complexity of development factors, the role of human resources and their contribution to the take-off of each country remains undeniable, that's why we are seeing more and more confirmation of strategies relating to capital investment, human resources and the development of human resources.

This pre-eminence of the human factor has been further confirmed on the politico-scientific scene during the last decade (in particular thanks to development specialists) after the publication of the UNDP of the first world report on human development in 1990, which officially establishes the primacy - or at least the need - for the human dimension in development approaches and policies.

In Tunisia, the problem is posed differently, since the Tunisian developmentalist approach has granted, since the first years of independence, a preponderant role to the human and social aspect and has made the promotion of man a real priority. This choice may constitute the main particularity of Tunisian policy and it may, moreover, explain the country's performance in the socio-economic field and more particularly in the field of human development (Bousnina A., 2012).

We will therefore begin by analyzing the evolution of economic and social indicators, based first on the sectorial approach, and then on the synthetic indicators of human development.

I. Human development: sectorial indicators

According to the UNDP definition, human development is a process which implies "the achievement of three essential conditions: living a long and healthy life, acquiring knowledge and having access to the resources necessary to enjoy an adequate standard of living […]. The improvement of income, important as it is, is never just one aspiration among others; development must therefore be much more than an accumulation of income and wealth. It has to be people-centered." (PNUD, 1990, p.5).

Therefore, and in order to draw up a (succinct) assessment of the Tunisian developmental experience, it is necessary to study the evolution of the main economic and social indicators.

In this regard, the economic component has been - and still remains - one of the central elements of the human development policy, in particular thanks to the positive effects of the efficiency of the economy and the sustained growth of wealth.

In addition, this development of human resources is closely linked to the satisfaction of health and educational needs, which constitute an essential component of human development and an inescapable determinant of the promotion of man.

1. The economic component and purchasing power

The Tunisian developmental approach has endeavored to sustain the pace of economic growth, in order to curb poverty and integrate vulnerable populations into the productive circuit on the one hand, and with a view to generating jobs and sources of income

facilitating the improvement of the standard of living and the increase in income per capita on the other hand.

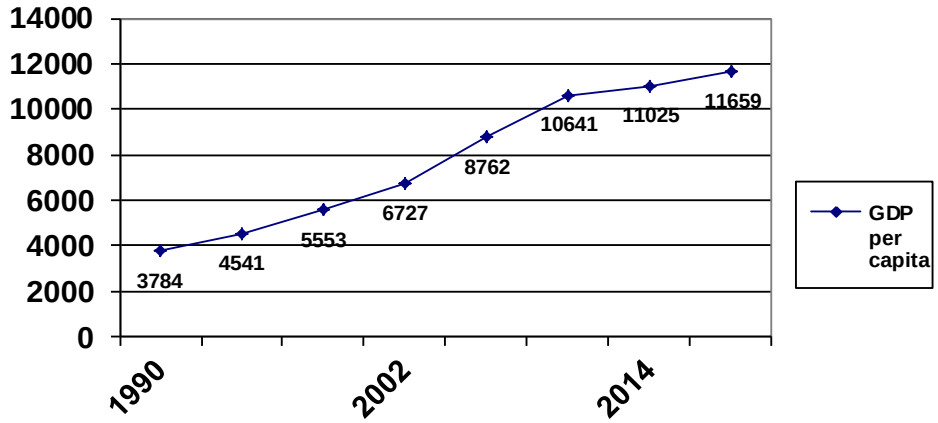
The achievement of such an objective depends on the economic strategy adopted, which has known many models that have led to socialist model, before the commitment to opening up and strengthening market mechanisms, which has resulted in performances that alternate between the good and the less good, despite the constant search for the sustainability of economic development.

Nevertheless, and in spite of this permanent research for the acceleration of the pace of growth, the evolution of the latter has been irregular although the progression is often positive.

Indeed, GDP (at constant prices) evolved at a rate generally exceeding 5% between 1960 and 2010. And it was especially during the five-year period 1997-2001 that this rate of growth was high and regular since it is often between 4.7% and 5.4%, which has made it possible to achieve an average annual growth rate of 5.3% thanks to the sustained development of certain economic sectors and in particular that of services and manufacturing industries.

But, after the 2011 revolution, the situation is very worrying, with the great weakness of economic growth during the decade 2011/2021 (excluding the year 2020, the year of COVID-19 and the crisis par excellence, Tunisia's GDP increased between 2010 and 2019 by 16.9%, i.e. at an average annual rate of 1.8%, against an increase in GDP (at constant 2010 prices) by 51.2% between 2000 and 2010, equivalent to an average annual rate of 4.2%).

Graph 1: Evolution of GDP per capita in Tunisia (PPP Purchasing Power Parity, international dollar) (1990-2018)



Source: NIS (National Institute of Statistics)

Moreover, and since growth is not an end in itself, the latter should not be considered "from the angle of the abundance of goods that it generates" but "we must ask ourselves to what extent growth improves the lives of individuals […], and evaluate it according to what it brings on a human level" » (PNUD, 1996, p.48).

This is why we will focus, in what follows, on the analysis of the impact of these performances of the Tunisian economy (in particular the repercussions of the progression

of the growth of the GDP) which can be grasped through some indicators relating to the improvement of purchasing power and the increase in income.

Access to new levels of growth and rapid GDP growth (as essential as it is) is not enough if it is not accompanied by an effective wage policy and a fair redistribution strategy, that's why special interest has always been given to preserving the purchasing power of workers and improving their income.

However, the management of wage costs and income policy depend on the economic model and on the strategy adopted, which explains the metamorphosis experienced by the evolution of wages and purchasing power, during the last 4 decades.

If the first period was characterized by the excessive centralization of wage adjustment rules and by a real wage lower than productivity, the second phase concretized decentralization and the promotion of social consultation (which facilitated the increase of wages which was higher than that of factor productivity), before registering from 1983 a return to the trend observed during the first period with the implementation of the SAP (MDE, 1996, p.10).

After the "difficult" phase of structural adjustment, the repercussions of which were often harmful, particularly on the purchasing power of employees, the period of the VIIIth Plan (1992-1996) was characterized by a new increase in wages and by a further substantial improvement in remuneration, thanks to "the pursuit of a policy of promoting income which reconciles the imperatives of preserving the overall balance with those of the need to improve living standards, whether by the improvement of wages and non-wage income or by strengthening their redistributive effects through social transfers" (MDE, 1997, p.178).

Table 1: Index evolution of the purchasing power of wages (Dinars/hour) (1991-2020)

Year	SMIG (48 h)	SMIG (40 h)	SMAG
1991	0.625	0.662	3.761
1995	0.765	0.808	4.661
2001	0.964	1.015	6.059
2006	1.136	1.187	7.129
2011	1.375	1.421	9.000
2015	1.625	1.671	13.000
2020	1.938	1.984	15.504

Source: NIS: Statistical yearbooks of Tunisia

This table shows that the gain in purchasing power over the last decades was more than 200% for the SMIG (Minimum wage) and more than 300% for the SMAG (Agricultural Minimum wage), following the rapid increase in minimum wages, which increased from 0.625 D to 1.938 D (Dinar/hour) for the SMIG 48 hour diet . As for the daily SMAG, it was increased from 3.761 D to 15.504 D, during the same period (between 1991 and 2020).

Furthermore, it has been shown that economic efficiency - and job enhancement in particular - remains inherent in the enhancement of human capital and the development of human resources, the most essential elements of which relate to education and to health. This is why we will focus, in the following section, on the social component and on the evolution of its indicators during the last decades.

2. The social component

As stipulated by the different definitions of human development, the consideration of man as the essential finality requires inevitably the satisfaction of his basic needs and the development of human resources, and this, in particular through the improvement of the quality of life and the progress health and educational indicators. The pre-eminence of this "human capital" stems not only from its positive impact on production and productivity, but also and above all from its intrinsic value, which makes it a sine qua non for improving individual and social well-being.

The main elements of this social component concern, first of all, the education sector which has a decisive role and a capital effect on the development of human resources and qualifications, that's why it has always been the subject of particular attention which resulted in the allocation of significant resources, which led to the achievement of some appreciable results, both quantitatively and qualitatively.

In addition, Tunisia has made the health sector a real national priority and has given particular attention to improving health performance, which has had a significant impact on the indicators of mortality and life expectancy.

In what follows, we will first examine the evolution of educational services and then focus attention on the health sector.

2.1. Education

2.1. The impact of education on human development

The interest given to the education sector is explained by its impact on the various components of development and by its major implications both at the economic and social levels.

First, the most obvious economic effects of training are often related to improving the productivity of the labor force: according to some studies, "a one-year increase in the average length of schooling of the labor force increases GDP by 9%. However, this only applies to the first three years of additional studies. Beyond that, the increase in GDP is 4% per additional year of study" (PNUD, 1996, p.85).

Moreover, research conducted by human capital theorists (and especially the work of Becker) has shown that the rates of return on educational investments are roughly comparable to those on material investments (of the same duration and same risk). Similarly, Schultz showed that the costs of higher education are totally an investment (unlike primary education expenditures which are 100% consumption) and considered the total cost of education (with its 3 levels) as a profitable investment. In addition, Weisbrod analyzed the positive externalities of training and considered that it facilitates information and reduces its cost and is in this sense a necessary condition for creating an institutional environment conducive to the development of scientific and technological research (Zouari-Bouattour S., 1986, p.39).

Secondly, the positive effects of education are also social since education increases the equality and social inclusion of the poor and of women, in particular through investments in basic education (primary and secondary) which make it possible to send a large number of children from underprivileged families to school. As some research states, "a one percentage point increase in the labor force accessing secondary education leads to a 6-15% increase in the income received by the poorest […]. These investments are overall more profitable for women than for men and therefore constitute a factor of equity to be taken into account" (PNUD, 1996, p.86).

In addition, education, especially for women, accelerates the achievement of the health and demographic transition. Indeed, educated girls often marry later, which generates many positive effects on the household (having fewer children with a large interval, calling the doctor more quickly, increasing the probability of survival for each child, take better care of health and food) and consequently for society (make a transition to better health, reduce fertility and thus bring about a demographic transition, improve the learning capacity and education of children) (PNUD, 2003, p.15).

Conscious of the importance of these positive repercussions of education and of the role of the training sector, the State has made the development of human resources an essential component and a central axis of its development policy, which has not failed to translate into significant performances, both quantitative and qualitative.

2.1.2. Improvement of schooling and literacy

2.1.2.1. The importance of schooling

The rapid growth in the number of pupils and students has had the corollary of improving enrollment rates at the primary, secondary and higher levels. In general, the improvement in schooling is evidenced by the notable increase in the schooling rate for the 6-14 age group, a rate that exceeded 95% in 2014 compared to 59% in 1975 (this increase mainly concerns the female rate rose from 49% to 96% between 1975 and 2014).

Table 2: Evolution of the schooling of the age group 6-14 years (1975-2014)

Year	1975	1984	1994	2004	2014
Men	70,0	82,8	89,0	95,5	95,7
Women	49,3	68,7	83,2	94,7	96,1
Total	59,9	75,9	86,2	95,1	95,9

Source: NIS: GPHC (General Population and Housing Census): 1975-1984-1994, 2004 and 2014

This general improvement in schooling is due primarily to the schooling of 6-year-old children, which has stabilized in recent years at around 99%. This means that this entire population is schooled and that almost all of the demand is satisfied. Similarly, enrollment has been generalized for the first cycle of BE thanks to the increase in its rate for the age group 6-12 years (96% in 2014 against 72% in 1966).

It also concerns the extension of secondary schooling which affected more than 73% of children in the 13-19 age group, whereas in 1966 it concerned only less than 13% of these young people. .

In addition, the very strong surge in student enrollment has been accompanied by a rapid increase in the enrollment rate for the 20-24 age group. While it did not exceed 1.9% in 1966, this rate reached 14% in 1997 and exceeded 41% in 2014, thus testifying to an undeniable improvement in higher education, although the latter is below aspirations and largely outpaced by developed countries.

Statistical data also show the spectacular increase in female enrollment which - combined with the decline in dropouts- explains, to a large extent, the increase in general education. The development of "female enrolments" is evidenced by the rapid increase in their rate, which has clearly exceeded that of boys, particularly during the last decade during which the secondary school enrollment rate increased by more than 2.3 while the higher rate has more than tripled in 10 years, exceeding the male enrollment rate since 1999 **(in 2021, the percentage of girls in higher education institutions in Tunisia is 63% against 37% for boys).**

2.1.2.2. The decline in illiteracy and the improvement of the educational level of the population

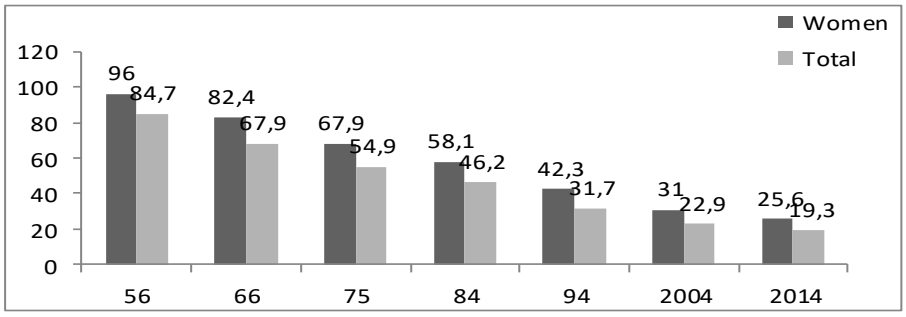
The repercussions of the notable increase in schooling are obviously related to the regression of illiteracy and the improvement of the educational level of the population.

First, there is an ever-increasing reduction in illiteracy rates. Indeed, the latter fell from 84.7% in 1956 to 24.7% in 2001, to 22.9% in 2004, to 20.2% in 2008 and to 19% in 2014. This concerns especially urban and younger generations.

First, this rate did not exceed in 2014: 13.2% in urban areas against 32.6% in rural areas. Then, this rate does not exceed (in 2010 for example) 1.2% for young people aged 10 to 14, while it exceeds 60% for people aged 60 and over. Moreover, there is a decline in illiteracy as age decreases (in 2010, only 4.7% of young people aged 20 to 29 were illiterate), which foreshadows, for the years to come, a very clear downward trend in illiteracy.

In this regard, it is worth stressing the role played by the improvement in female education in reducing illiteracy, given that this rate was 96% in 1956 compared to only 33.9% in 2001, 31% in 2004 and 25% in 2014. In other words, the development of education generated a real metamorphosis of female education, since almost all of the female population was illiterate on the eve of independence, while in 2014 this ‘‘scourge’’ only affected a quarter of all women.

Graph 2: The reduction in the illiteracy rate (1956-2014)



Source: NIS

Secondly, the considerable increase in schooling and the substantial decline in illiteracy inevitably generate an improvement in the educational level of the population, thanks to the increase in the proportion of people with secondary and higher education (to the detriment of illiterates) which rose from 4.5% in 1966 to 32.7% in 1999, nearly 40% in 2004 and 48.7% in 2014.

To this end, we must emphasize - once again - the decisive role of improving the educational level of women. For five years only (between 1994 and 1999 for example), the increase in the number of women with higher education exceeded 70.4% (going from 83.7 thousand to 142.7 thousand) while this increase is estimated at 48.3% for the female workforce at the secondary education level (this number rose from 613.5 thousand in 1994 to 909.6 thousand in 1999).

This increase is even greater for the period 1999-2014 when there was a colossal increase in the number of women with higher education (from 142.7 thousand to 559 thousand). For those with a secondary level, the increase is slower (the number rose from 909.6 thousand to 1519 thousand).

Table 3: Structure of the population (10 years and over) according to educational level (in %) between 1966 and 2014

Educational level	1966	1975	1984	1994	1999	2004	2010	2014
Nought	67,9	56,1	47,2	33,0	28,1	23,1	19.0	19.3
Primary	22,2	83,2	83,7	38,9	39,2	37,0	33.2	32.0
Secondary	4,0	7,9	15,6	24,3	27,7	32,0	36.3	36.6
Superior	0,5	0,7	2,1	3,8	5,0	7,9	11.5	12.1
Total	100	100	100	100	100	100	100	100

Source: NIS

2.2. Health

2.2.1. The effects of health on human development

Like training and education, health services have a positive impact on human capital since they often increase the level of human resources. But, unlike educational expenditure, which only increases the quality of human resources, health costs "also increase the volume to come, by lengthening the foreseeable working life. In this way, they also complement the educational investment, because the lengthening of the period of human work and earnings will result in increased returns to education'' (Gillis M., Perkins D., Romer M. and Snodgrass D., 1998, p.8).

In addition to the qualitative and quantitative increase in human capital, health expenditure can increase human potential and productivity. For example, "the fight against diarrheal diseases and measles not only improves health conditions, but also reduces malnutrition. This malnutrition seriously compromises the learning capacities and physical development of individuals, which affects education and the formation of a productive workforce (PNUD, 2003, p.69).

Moreover, improving the health and nutritional status of children directly promotes future productivity gains, helping children grow into stronger, healthier adults. It also constitutes an indirect contribution by strengthening the ability of children to acquire, through schooling, techniques and productive attitudes. On the other hand, the improvement of health makes it possible to reduce the expenditure devoted to curative care and, therefore, to free up resources and to have additional means for other uses (Gilli M. and all., 1998, p.357).

Thus, each country must provide its population with a basic level of health, through the positive impact of this sector on human development, given that this area is considered a real investment in all its socio-economic and human acceptance. Subsequently, the improvement of health was always considered by planners as a primary means of combating underdevelopment, and from the first development plan, it was considered that "the (health) actions planned tend to meet the fundamental needs of all sectors of production, and thereby play a more important role in national development.

However, it is important to emphasize that the value of the health sector does not depend entirely on its impact on production and its positive impact on the economy. As the concept of human development (and contrary to that of human resources development) stipulates, the improvement of health status represents an important objective in itself, and progress in this field has an intrinsic value as a fundamental requirement of the individual and as the principal means of human promotion.

The importance of this investment and its positive repercussions on human development explain the interest accorded by the public authorities to the health sector,

which has had repercussions on performance and the various indicators, in particular thanks to the decline of mortality and the increase in life expectancy.

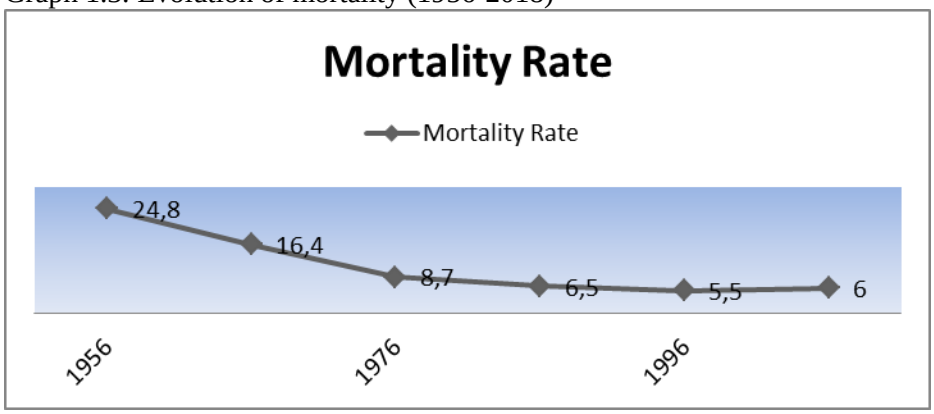
2.2.2. Improvement of health indicators

The development of equipment and infrastructure, the strengthening and promotion of health personnel and the multiplicity of health actions have been at the origin of the improvement in the health state of the population, thanks to the achievement of most health policy goals. This improvement can be apprehended by means of certain socio-demographic indicators, such as general and infant mortality, life expectancy…

2.2.2.1. General Mortality Levels and Trends

Mortality has fallen significantly since independence. While the general mortality rate was above 24.8% in 1956, it has since declined very rapidly until the decade 1970 to reach 10%, before experiencing a slower rate of decline over the two decades to stabilize at 5.5% or 5.6% since 1996.

Graph 1.3: Evolution of mortality (1956-2018)



Source: NIS: Statistical Yearbooks of Tunisia

Thus, and like most underdeveloped countries, the rate of decline in mortality has experienced 3 different periods:

"-period 1 and rhythm 1: after the Second World War

- period 2 and rhythm 2: the three decades 50, 60 and 70

-period 3 and rhythm 1: the 80s.

The period that experienced the strongest decline is that of phase 2, i.e. the 1950s, 60s and 70s. The current rhythm would not be very far from that of the years 45-50" (Bchir M., 1990, p.45).

Nevertheless, we can add to this classification another phase, namely the one which begins with the year 1996 and extends until today, and which is characterized not by a fall in mortality, but by a stabilization of that, since the crude rate has oscillated -since this year- between 5.5% and 5.7% without experiencing either a substantial increase or decrease.

The explanations for this change in mortality are multiple and are linked, among other things, to the transformation of the age structure of the population. Indeed, and during the period of strong population growth, the base of the Tunisian age pyramid tended to widen and the drop in the crude mortality rate accelerated, particularly in the 1970s, with the

decline in fertility and the moderation of natural growth (particularly during the 1980s and 1990s), the reverse phenomenon set in and the aging of the population slowed the fall in the crude rate. Despite the probable continuation of health progress, it is on the contrary to be expected that the crude mortality rate will rise in the coming decades due to the aging of the population. This is confirmed by the demographic projections (prepared by the NIS) which estimate that the mortality rate would see a slight increase from 2015 due to the impact of demographic ageing on the structure of the population.

2.2.2.2. The increase in life expectancy

The substantial decline in mortality has resulted in an increase in life expectancy at birth for the Tunisian population. From 40 years at the start of independence to 75.5 years currently, life expectancy has increased by more than 35 years in recent years.

The increase in life expectancy has been beneficial especially for women whose progression has exceeded 35 years (against 29.8 years for men), which is why life expectancy exceeded 78 years in 2017 while it has not reached 74.5 years for the male sex. Consequently, it seems that the phenomenon of excess female mortality has practically disappeared and that "the country is increasingly joining the mortality model of developed countries and diverging from that of Arab-Muslim culture thanks to the sharp decline in excess female mortality" (Ibid, p.51), as confirmed by the spectacular increase in women's life expectancy.

Moreover, this increase in life expectancy for both men and women could continue in the future and it is very likely, given the current trend in mortality, to have in 2044 an expectancy of life, which is around 82 years for women and 79.5 years for men.

Table 4: Prospects for changes in life expectancy (2019-2044)

Year	2019	2029	2039	2044
Men	74.8	77.1	79.1	79.5
Women	79.2	80.7	82.1	82.4

Source: NIS: Population projections

While the decline in mortality and the increase in life expectancy are undeniable, their evolution remains largely conditioned by the decline in infant and child mortality, which has a significant impact on the risk of mortality, all the more so since it saves many more years to live than if it relates to later ages.

For infant mortality, the IMR has experienced a spectacular drop and a very rapid regression since independence. Evaluated at 203‰ in 1950, this rate showed a very sharp drop to reach 22.8‰ in 2001, 20‰ in 2004 and 14‰ in 2018, i.e. a significant drop of more than 93% in a period of time if reduced (by dividing the risk of dying of children by 5, going from 158‰ in 1968 to 34‰ in 1995, Tunisia has made, in 25 years, as much progress as France in 60 years, i.e. say from the turn of the century to the end of the 1950s) (Waltisperger D. and all, 2001, p.66.). This substantial drop in the IMR could continue in the future and this rate would drop to 8‰ in 2030 (i.e. the current level in developed countries).

In summary, the increase in life expectancy and the progression of educational indicators - combined with the improvement in purchasing power - clearly reflect the performance of the Tunisian human development policy. These performances can be further explained through the study of composite human development indicators (such as the HDI) which can synthesize economic and social progress.

II. Progression of synthetic human development indicators

1- Recent evolution of the HDI

The HDI (or the Human Development Indicator) is a summary indicator which makes it possible to measure the evolution of socio-economic indices and which reflects the progress made and the advances made in particular in terms of human development.

In this regard, the three essential elements - forming the HDI - relate to longevity (measured by life expectancy), knowledge (measured by school enrollment and literacy rates) and standard of living (measured by purchasing power, i.e. real GDP per capita).

This HDI represents the arithmetic mean of the following three components:

- the economic or standard of living index: represented by GDP per capita in terms of purchasing power parity.

-the education index: measured by a weighted average of two-thirds of the adult literacy rate and one-third of the school enrollment rate at all levels.

- the longevity index: measured by life expectancy at birth.

The indices are calculated on the basis of the following formula:

Index= (Actual value - minimum value) / (maximum value - minimum value).

The minimum and maximum values for each of these elements are as follows:

Indicator Minimum value Maximum value

Life expectancy 25 85

Literacy rate 0 100

School enrollment rate 0 100

GDP per capita (PPP) 100 40000

For example, the HDI for Tunisia in 2000 (according to UNDP data in 2002) is calculated as follows:

-Economic index: (log 6363 – log 100)/(log 40000-log100)

-education index: (72-0)/(100-0)

- health or longevity index: (70.2 -25) / (85-25)

The arithmetic mean of these three indicators gives us an HDI equal to 0.722.

Although the concept of human development is broader than the HDI, the existence of a synthetic and composite indicator makes it possible to focus attention on certain criteria and on a few particular problems. In this respect, the HDI makes it possible to measure three fundamental elements of human development, which reflect progress made in terms of income and in the education and health sectors.

As mentioned above, this progress - in terms of income, health and education - has been undeniable thanks, among other things, to the improvement in purchasing power, the decline in illiteracy and to the increase in life expectancy. Subsequently, this improvement in socio-economic indicators has had an undeniable impact on the evolution of the HDI, which has experienced very significant progress in recent decades, as shown in the following table:

Table 5: Evolution of the HDI (1960-2007)

Year	HDI (old methodology)
1960	258
1970	340
1975	514
1980	588
1985	613
1990	646
1995	654
2000	678
2005	758
2006	763
2007	769

Source: UNDP: Human Development Reports 1990-2009

Table 6: Evolution of the HDI (1990-2019) (New methodology)[†]

Year	HDI (new methodology)
1990	567
2000	651
2005	688
2010	716
2015	729
2019	740

Source: UNDP: Human Development Report 2020

In terms of evolution, the comparative progress of Tunisia is remarkable: “for the period 1970-1980, Tunisia is the 5th country which has made the most progress, in absolute terms, with an improvement of 191 points; for the period 1960-1992, the country comes in 4th position after Malaysia, Botswana and Korea (with 432 points)” (Bchir M., 1998, p.49). Finally, for the decade (1990-2000), Tunisia is the 5th country which has made the most progress (with an improvement of 76 points) after Equatorial Guinea, China, Cape Verde and Vietnam with an improvement of 123, 101, 89 and 83 points respectively.

Using the new HDI methodology, we also see a clear increase in the index over the last three decades, although this improvement has been relatively "slow" over the last decade (2010/2019), with an increase of the HDI by only 25 points.

In terms of relative progress (i.e. in terms of average annual growth of the HDI), this index rose from 258 to 722 between 1960 and 2000, i.e. an average annual growth rate of 2.6%.

For the period 1975-2000, the table below shows that Tunisia is the country which has made the most progress (after Indonesia) in absolute terms with an improvement of 208

[†]The formula for calculating the HDI has been modified from 2010/2011. The minimum and maximum values have also been modified (with the maintenance of life expectancy and PPP income). But the most important change concerns the education level index, with the integration of Average years of schooling (in years) and Expected years of schooling (in years) (instead of schooling and literacy).

points ; thus, Tunisia is in the lead of the international community and of the countries that have made the most notable progress.

If we integrate the data of the world report on human development in 2005, we also find a substantial improvement of 239 points, which places Tunisia at the head of the countries (before Indonesia) having made the most progress in their HDI, as shown in the following table:

Table 7: Progress of the HDI (75-2003) in Tunisia and in other countries (The 10 best scores)

Country	HDI in 1975	HDI in 2000	HDI progress between 75-2000	HDI in 2003	HDI progress between 75-2003
1-Indonesia	469	684	215	697	228
2-Tunisia	514	722	208	753	239
3-Egypt	435	642	207	659	224
4-China	523	726	203	755	232
5-Algéria	501	697	196	722	221
6-Korea (Rep)	691	882	191	901	210
7-Maroc	429	602	173	631	202
8-Saoudi Arabia	587	759	172	772	185
9-India	407	577	170	602	195
10-Malaisia	616	782	166	796	180

Source: Calculations prepared by us from UNDP data (Human Development Reports 2002 and 2005)

Moreover, and if we consider the starting socio-economic level, a study carried out by the UN services showed that "on a sample including Algeria, Bolivia, China, Honduras, Swaziland , Tunisia, Turkey and Zimbabwe, which report a similar starting point in 1975, Tunisia shows the most substantial increase in its HDI, preceded only by China" (ONU, 2001, p.12).

In terms of HDI deficit reduction (this deficit being the difference between the maximum HDI value - which is equal to 1 - and the value obtained by the country), the annual rate of deficit reduction went from 1.2% during the 1960-1970 period to 2.7% in 1970-1980 and 4.4% between 1980 and 1995, which enabled Tunisia to improve its ranking from 53rd position during the first decade to the 20th position during the period 1980-1995 (still in terms of HDI deficit reduction) (MDE and PNUD, 2001, p.55).

On the other hand, this significant progress recorded in terms of human development has not remained without effects on social indicators, which once again reflects Tunisia's socio-economic performance. Certain indicators are eloquent in this regard: according to the various world reports on human development, Tunisia is one of the countries which have achieved the most spectacular reductions in the mortality of children under 5 (from 184% in 1970 to 37% in 1995, i.e. an 80% reduction placing the country in 7th place) and for the monetary poverty rate (falling from 33% to 6.2% between 1967 and 1995, i.e. an 81% drop placing Tunisia in first place since it recorded the most spectacular reduction in poverty) (PNUD, 1997, p.3).

In summary, the evolution of the HDI shows that Tunisia has regularly been among the countries that have posted the best results in terms of human development. These performances can also be clarified by using other indicators such as synthetic human development indices.

2. The importance of a synthetic human development index or a synthetic HDI

The analysis of the level of human development can be facilitated by the use of a multitude of indicators which reflect various socio-economic aspects, and this, thanks to a synthetic index which takes into consideration the multifaceted aspect of the problem of development and which integrates the different manifestations of reality (economic, social, demographic, etc.).

As Amor Belhedi has shown (Belhedi A., 1996, p.56), the problem is: "How to grasp the unique and the multitude at the same time? How to measure the multitude by the unique? And since we are faced with a single reality, but which is multifaceted (economic, demographic, social, mental manifestations, etc.), we can measure the different aspects by a single indicator which is a coefficient of socio-economic development (or in our case a synthetic human development index).

Thus, using a synthetic HDI for the year 1966, and basing - in the calculation of each indicator - on the above-mentioned methodology (for the HDI), we find the following results:

Table 8: The synthetic indicator of human development in 1966

Indicator	Score
Economic index[1]	592
1- unemployment index[2]	696
Literacy rate[3]	321
1- TMI index[4]	696
Running water supply rate	149
Electrification rate	239
1- poverty index[5]	389
Urbanization rate	401
Longevity index[6]	451
Synthetic HDI[7]	437

Source: Calculations prepared by us (based on NIS data: GPHC 1966 General Population and Housing Census and Consumption survey 65-68)

It seems that the composite indicator can reflect the progress of human development and socio-economic advances more clearly than the HDI since it is not content to measure the evolution of the economic, health and educational indices but it also integrates many indicators relating to different demographic, economic and social areas such as employment, infrastructure, mortality, etc., without neglecting educational indices, standard of living and longevity.

In this regard, the synthetic HDI rose to 437 in 1966, taking into account the average expenditure at constant prices at 1995 prices (if we replace the average expenditure per household at constant prices by expenditure at current prices, we obviously find another economic index equal to 150 and consequently another HDI equal to 398).

Using this same method for the other periods, and referring to the same components of our synthetic HDI, we find the following results:

Table 9: Evolution of the synthetic human development indicator (1975, 1984, 1994, 2000, 2005 and 2014/2015)

Indicator	1975	1984-85	1994-95	1999-2000	2004-2005	2014-2015
Economic index	690	789	814	858	902	962
1-unemployment index	742	738	688	684	722	704
Longevity index	655	702	773	793	808	833
1- TMI index	655	785	898	921	933	953
Literacy rate	450	538	683	730	771	807
Running water supply rate	265	494	691	752	835	846
Electrification rate	377	634	859	946	949	966
Urbanization rate	480	528	610	624	649	678
1- poverty index[8]	560	846	876	916	924	941
Synthetic HDI	541	673	766	803	**832**	**854**

Source: Calculations prepared by us (based on NIS data: GPHC 1975-1984-1994, 2004 and 2014, Population Employment Survey 1999 and Consumption surveys 75-85-95-2000, 2005 and 2015)

This table shows that the evolution of our synthetic HDI was very close to that of the HDI as calculated by the UNDP in the various global human development reports. Indeed, the HDI exceeded - in both cases - 500 in 1970, 600 in 1985 and it is close to 700 and 800 respectively for 1995 and for 2000, whereas it exceeded 832 in 2004 and 854 in 2015.

Thus, the contribution of GDP shows the importance of the economic dimension, which contributes by more than a third, and all the more so since this contribution has been - from a longitudinal perspective - on the rise: "This means that the progress made in economic terms are relatively more important than those achieved in terms of health or education" (MDE and PNUD, 2001, p.59).

On the other hand, the contribution of the economic component has been decreasing in our composite indicator - despite the improvement in the standard of living index - because of the integration of the unemployment rate in our calculations and the increase in this rate over the last two decades (going from 12.8% in 1975 to 15.8% in 1999) which has affected our employment index (1- unemployment index) which has gone from 742 to 684 between 1975 and 2000.

This is combined with the importance of social indicators in our approach (8 indicators out of 10) while these constitute only 2/3 for the HDI.

Conclusion

This article has attempted to show the originality of the Tunisian experience of human development and to explain above all its economic and social performance, both through a series of statistics collected from various sources (the sectorial approach) and thanks to the personal calculation of certain composite and synthetic indicators.

First, the particularity of the Tunisian development experience lies in particular in the complementarity of its three components (demographic, social and economic) and in the primacy of the human and social dimension, which is not relegated to the background, which gave it a leading role in the Tunisian developmental approach.

In addition, the analysis of the evolution of the economic component shows the existence of certain undeniable economic performances which is expressed by the improvement of the economic ratios which did not remain without effects on the purchasing power and on the increase in GDP per capita. Similarly, social indicators have

recorded an undoubted improvement, which is reflected in the increase in life expectancy on the one hand and the increase in literacy and schooling on the other.

Subsequently, this marked improvement in socio-economic indicators has had repercussions on the evolution of the HDI and the synthetic indicator of human development, which have experienced significant progress in recent decades, both in absolute terms and in relative terms, which has improved Tunisia's ranking more substantially than most other countries.

This comparative progress of Tunisia and this improvement of its position compared to other countries have been verified despite the modification of the measurement indicators, and this, both by referring to the HDI and by using the synthetic index of human development.

However, these performances and this progress should not hide the existence of certain indisputable limits of the Tunisian development policy, in particular the importance of unemployment (Bousnina A., 2013) and the persistence of regional disparities and local inequalities.

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Notes

[1] It is approximated by expenditure per person (at constant 1995 prices) and it is calculated according to the method mentioned above. The DPA in 1966 is 405 so this economic index is calculated as follows: (log 405 - log 40) / (log 2000-log 40) (2000 and 40 being the maximum and minimum values).

[2]This index is calculated based on a minimum value (0) and a maximum value (50). As for the formula for the calculation, it is as follows: Rate/50 (since the minimum value is 0).

[3] For the rates, and as we pointed out before (for the education index of the HDI), this indicator remains invariable since the minimum value is 0 and the maximum value is 100.

[4]This index is calculated based on a minimum value (0) and a maximum value (300). As for the calculation formula, it is similar to that of the unemployment index (Rate/300).

[5] This index is calculated using the same formulas mentioned above (for IMR, Infant Mortality Rate, etc.) but changing the maximum value which is equal to 70 (poverty index=Poverty rate/70). It should be noted, in this respect, that we have adopted the definition of H. Dimassi according to which the poor population would be the "disadvantaged" category having a DPA lower than 50 D, which gives us a poverty rate in 1966 equal at 42.8% (and not 33% as the NIS statistics stipulate).

[6] Life expectancy in 1966 is: 51.1 so this index is equal to: (51.1 -25) / (85-25).

[7] It is the arithmetic average of the various indicators.

[8] This index is calculated using the same formulas mentioned above (for example for the IMR) but changing the maximum value which is equal to 50 (poverty index=Poverty rate/50).