



# **Use of New Technique to Measure Wellbeing Index for North Africa Countries in Year 2012 (A Comparison Study)**

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**Use of new technique to measure wellbeing index for North Africa countries  
in year 2012 (A Comparison study)**

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Abstract

The income or gross domestic product (GDP) per capita is not the only factor to measure well-being and quality of life of the community, there are a lot of variables that affect it such as availability of adequate housing, availability of a clean healthy environment, political participation and social activities, how to get the major needs for life, achievement of equality and availability of health care and education services. All of these factors are measuring the community satisfaction in life generally.

The objectives of the study: Building an indicator to measure the well-being in North Africa countries (NAC), using some economic and social variables and use this indicator to make comparison between NAC. The importance of the study: stands on the extent to which the improvement and development of the variables used in and through make a time series of the variables and the indicator over a number of years when we compile the wellbeing indicator for each country, and also use this indicator in international comparisons. This study use the most recent available data for this variables, including the level of poverty in urban and rural areas, the unemployment rate , the rate of education enrolment , the percentage of medical care services and the proportion of access to safe drinking water in different regions.

Key words: Quality of Life - International comparisons - Community satisfaction.

## **1. Introduction:**

When talking about economics in North Africa countries NAC, it is really related to economic and social behaviour type. Measuring human well-being involves identifying the key components of a good life and then selecting a set of indicators that provide information about the progress of society with respect to these outcomes. Therefore, it is important to study the level of well-being throw this vital region in Africa and its six countries; Egypt, Algeria, Libya, Morocco, Sudan and Tunisia.

The concepts of income and living standards are controversial concepts in the economic history and the challenging of raising the standard of living is the most important challenges facing planners and decision makers. Accordingly, the planners must determines the position of the components of the standard of living and also a clear plan that taken into account all of the income and standard of living variables before deciding to increase rates or improvement in living standards.

The index of well-being appeared in the last decade and it has been measured using a variety of methodologies such as Canadian Index of Wellbeing, the Australian Unity Wellbeing Index and Better Life Index Which was adopted by the "Organization for Economic Cooperation and Development" (OECD), which groups 34 countries, mostly from developed countries.

## **2. Importance of Study:**

We can get from the introduction that it is very important to compile an indicator to measure the level of wellbeing in North Africa countries NAC, in order to put an objective basis to discuss the variables affecting the welfare of the community, and to monitor the value of the change in the levels of well-being for each country, identifying the variables responsible for the largest share of change, whether positively or negatively, and helps over a number of years to measure the level of improvement in the living conditions and try to find strengths and weaknesses points in NAC economies .

## **3. Objectives:**

Building an indicator to measure the well-being in NAC, using some variables such as Life expectancy at birth, GDP per capita (PPP), Health expenditure per capita (PPP), Employment (total ,% of total labor force) and Literacy rate (adult total ,% of people ages 15 and above). Also we will use this indicator to do comparisons between NAC countries.

## **4. Methodology:**

This paper will use a new technique to measure the level of welfare for NAC and make simple comparison between those countries. The proposed technique includes some of variables which related to measure the quality of social and economic life like health care, equality in education, effective per capita consumption flows, economic security from job loss and unemployment indicators.

Before calculating the index of well-being it must build the sex guides of the key dimensions of well-being separate. And to calculate the evidence of these dimensions, it should first determine by maximum and minimum values (Hypotheses for the guide):

Table no. (1): Well-being guide Minimum and Maximum values

| No | Well-being guide  | Min | Max   |
|----|---|-----|-------|
| 1  | Life expectancy at birth, total (years)                             | 25  | 84    |
| 2  | GDP per capita, PPP (constant 2011 international \$)                | 100 | 40000 |
| 3  | Health expenditure per capita, PPP (constant 2005 international \$) | 10  | 4000  |
| 4  | Employment, total (% of total labor force)                          | 0   | 100   |
| 5  | Literacy rate, adult total (% of people ages 15 and above)          | 0   | 100   |

Then calculate each component of the five components of the index of well-being as:  $(\text{The actual value} - \text{minimum value}) \div (\text{maximum value} - \text{minimum value})$  for each country. Then finally calculate the mean for the five guides to reach the index of well-being for each country.

## 5. Calculate the well-being guides:

### 5.1 Well-being guide no. (1): Life expectancy at birth, total (years):

Table no. (2): Life expectancy at birth guide

| guide                      | Egypt | Algeria | Libya | Morocco | Sudan | Tunisia |
|----------------------------|-------|---------|-------|---------|-------|---------|
| Life expectancy at birth % | 77.81 | 77.77   | 85.04 | 77.36   | 62.48 | 84.92   |

### 5.2 Well-being guide no. (2): GDP per capita:

Table no. (3): GDP per capita guide

| guide            | Egypt | Algeria | Libya | Morocco | Sudan | Tunisia |
|------------------|-------|---------|-------|---------|-------|---------|
| GDP per capita % | 77.97 | 80.95   | 90.79 | 70.37   | 59.55 | 77.76   |

### 5.3 Well-being guide no. (3): Health expenditure per capita

Table no. (4): Health expenditure per capita guide

| guide                           | Egypt | Algeria | Libya | Morocco | Sudan | Tunisia |
|---------------------------------|-------|---------|-------|---------|-------|---------|
| Health expenditure per capita % | 58.01 | 63.12   | 63.12 | 58.88   | 46.18 | 70.58   |

#### 5.4 Well-being guide no. (4): employment, total (% of total labor force):

Table no. (5): Employment guide

| guide        | Egypt | Algeria | Libya | Morocco | Sudan | Tunisia |
|--------------|-------|---------|-------|---------|-------|---------|
| Employment % | 88.10 | 90.20   | 91.10 | 91.00   | 85.20 | 87.20   |

#### 5.5 Well-being guide no. (5): Literacy rate, adult total (% of people ages 15 and above):

Table no. (6): Literacy guide

| guide      | Egypt | Algeria | Libya | Morocco | Sudan | Tunisia |
|------------|-------|---------|-------|---------|-------|---------|
| Literacy % | 73.87 | 80.00   | 89.88 | 67.08   | 71.00 | 79.65   |

### 6. RESULTS:

- Well-being index = (Life expectancy guide + GDP per capita guide + Health expenditure per capita guide + Employment guide + Literacy rate guide) /5
- We found that Wellbeing Index values for NAC are different, Libya has the largest index value of well-being among the six NAC with 84%, followed by Tunisia with 80%, Algeria with 78.4% , Egypt with 75.2% , Morocco 72.9% and at the end, Sudan with 65% as shown in table (7) below.

Table no. (7): Wellbeing Index

| Country         | Libya | Tunisia | Algeria | Egypt  | Morocco | Sudan |
|-----------------|-------|---------|---------|--------|---------|-------|
| Wellbeing Index | 84 %  | 80 %    | 78.4 %  | 75.2 % | 72.9 %  | 65%   |

- Figure (1) below shows that:
  - o The highest life expectancy at birth guide percentage is in Tunisia with 85% and the lowest percentage is in Sudan with 62.5%.
  - o The highest GDP per capita guide percentage is in Libya with 90.8% and the lowest percentage is in Sudan with 60%.
  - o The highest Health expenditure per capita guide percentage is in Tunisia with 70.6% and the lowest percentage is in the Sudan with 46.2%.
  - o The highest percentage of employment guide is in Libya and Morocco with 91% and the lowest percentage is in Sudan with 85.2%.
  - o The highest percentage of Literacy guide is in Libya with 90% and the lowest percentage is in Morocco with 67%.

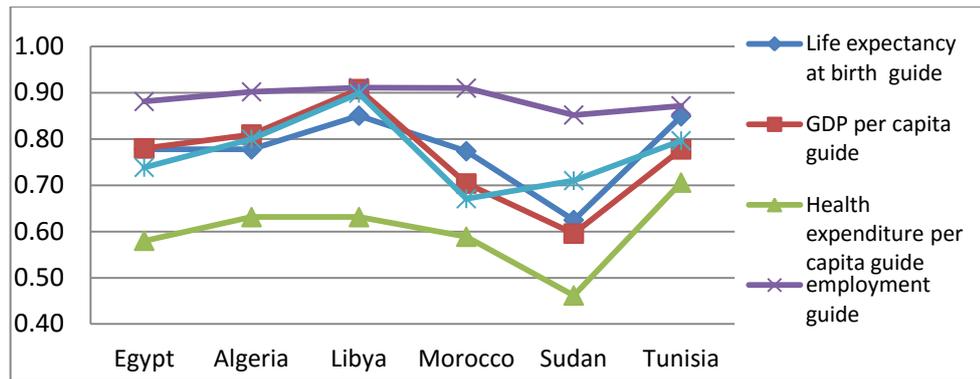


Figure 1. Guides values for Wellbeing Index (Source: World Bank Data)

## 7. Conclusions:

- Although the indicators of well-being that can make new light for Economic and Policy Research, and measuring the welfare of the community, but it also received a number of criticisms. We can conclude that all objective standards for measuring welfare calculated partially and should be used exclusively to carry out a comprehensive assessment of the entire human well-being.
- Sudan should increase the educational opportunities available to the community without exception or discrimination, and also put attention to the health aspects to increase government spending on health and increase the economic growth rate to achieve a high level of GDP per capita.
- Egypt, Sudan and Tunisia have to re-employ resources in the economy, for the benefit of sectors of economic activity with the largest share in value-added production. And address the distortions of the labor market to provide more jobs without the presence of discrimination.
- All countries should increase studies aimed to measure the level of well-being in its societies to determine the extent to achieve the appropriate level of health, education and all social and economic indicators.
- Egypt should re-educate the Egyptian society of the importance of investment educational opportunities available and how to use them.
- Correct the structural distortions in NAC economy are responsible for scalable rates of income growth, and the reduction of the value added, which leads to lower per capita GDP.
- All NAC have to get a good, free and comprehensive health care system, covering all citizens, and there are no obstacles, social or financial constraints in access to the service, whether in rural or urban areas.
- All NAC have to obligate to free education at all levels, with the continuous improvement in the educational materials and taking into account the contemporary moment includes everything changes and the lack of any distinction between males and females in educational opportunities.

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