

Measuring Quality of Life

MADIHA BAKHOUCHE

*Faculty of economic, commercial and management Sciences,
Laarbi Tebessi University, Tebessa, (Algeria)*

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Abstracts

With the understanding that economic progress must be measured, in part at least, in terms of social benefits and the fact that it is just as important to have good statistics on various aspects of social policy as it is economic statistics. This interest in supplementing economic statistics with social statistics to gain a fuller picture of the quality of life that presents many questions about its measurements. So this study aims to present several different methods of measuring quality of life: The Gross Domestic Product (GDP), Human Development Index (HDI). The Mercer Quality of Living Survey and other indicators like your personal relationships and the personal sense of purpose to determine quality of life. The study will present a number of results related to the quality of life concept and its measurements.

Keywords: Quality of Life (QOL), Quality of Life measurements, Gross Domestic Product (GDP), Human Development Index (HDI), the Mercer Quality of Living Survey.

1 Introduction

Social Trends was first published over 30 years ago, with the understanding that ‘economic progress must be measured, in part at least, in terms of social benefits’ and the fact that ‘it is just as important to have good statistics on various aspects of social policy as it is economic statistics. This interest in supplementing economic statistics with social statistics to gain a fuller picture of the quality of life has not diminished with time.

Many reports over the world concluded that ‘the time was right to shift emphasis from measuring economic production to measuring people’s quality of life(QOL). Also within these reports, specific recommendations on how best to measure the quality of life were provided and other initiatives such as the European Commission’s GDP and Beyond project and the OECD’s Global Project on measuring the progress of societies add to the impetus to look for new approaches to the measurement of quality of life. This study gives information about QOL measurements under the development of them because the QOL is a new and difficult topic to measure it.

The study importance appears in the following points:

*Corresponding author e-mail: madihabakhouche@gmail.com

- QOL is becoming an important goal to countries and governments over the world as a result of its politics in the different domains. And what increase its importance that many reach countries are classified in bad ranges of QOL.
- Presenting the definition of QOL and the multiple indexes used in measuring it clarifies the topic to interests.
- The study can be to writers and readers to thin about developing QOL in Algeria or developing countries by their characteristics.

We can conclude the study goals in the following points:

- Presentation of QOL definition and its dimensions.
- Expose QOL indexes and the approaches of the Quality of Life measurement.
- QOL has become a goal for cities and countries, and when we participate in the debate in this topic by this article we can offer examples that can Algerian government benefits from it.

2 Quality of Life (QOL) Definition

Quality of life (QOL) is a ubiquitous concept that has different philosophical, political and health-related definitions. (Fallowfield,2009)

There is a very wide range of definitions and interpretations of QOL - over 100 definitions according to Schalock. (Galloway et al,2006)

When we analyze scientific papers over the past 20 years shows that a precise, clear and shared definition is a long way off. Often researchers don't even attempt to define the concept, using it instead as an indicator.(IESE Business School Contributor, 2013)

Among the observations made about "quality of life" is that it encompasses:

- How an individual measures the 'goodness' of multiple aspects of their life. These evaluations include one's emotional reactions to life occurrences, disposition, sense of life fulfillment and satisfaction, and satisfaction with work and personal relationships almost 30 years ago, in one of the seminal geographical studies in this field. (Diener et al, 1999).

- The basis will be the definition of quality that means "the degree to which a set of characteristics meets the demands" and the connection of this definition with life allows us to perceive quality of life as the degree to which a set of characteristics of human life meets the demands placed upon it. (Andráško,2013)

- The degree to which specified standards of living are met by the objectively verifiable conditions, activities, and activity consequences of an individual's life.(Elyse, 1992)

Diener and Suh (1997), early researchers in the field of QOL models, state that the empirical study of quality of life is more than simply an intellectual exercise. It is a purposeful effort by people to understand the fundamental concerns of societies.

For other researchers according to (IESE Business School Contributor, 2013)QOL means:

- Life satisfaction, which is subjective and may fluctuate.
- Multidimensional factors that include everything from physical health, psychological state, level of independence, family, education, wealth, religious beliefs, a sense of optimism,

local services and transport, employment, social relationships, housing and the environment.

- Cultural perspectives, values, personal expectations and goals of what we want from life.
- Not just the absence of disease but the presence of physical, mental and social well-being. The authors stress the need for multidisciplinary medical teams who can develop a perspective on psychosocial needs and not just physical care.
- Our interpretation of facts and events, which helps to explain why some disabled people can report an excellent "quality of life" while others can't.
- Our level of acceptance of our current condition, and our ability to regulate negative thoughts and emotions about that condition.

We concluded that there is not a common cross-disciplinary definition of the concept of QOL and it is often used interchangeably with the term Health-Related Quality of Life. The majority of studies about psychological condition and some of them are concerned with tackling or controlling aspects of ill-health. What is striking about the literature is that there is usually little or no attempt to define QOL or well-being. There is an assumption that the terms are known and understood and/or that the methods of measurement provide an implicit definition.

For Smith (1973) proposed that well-being be used to refer to objective life conditions that apply to a population generally, while quality of life should more properly be limited to individuals' subjective assessments of their lives because of what Smith felt to be the evaluative nature of the term. Today, this distinction has been lost. The terms are often undefined or used inconsistently or interchangeably within studies.

For (Theofilou, 2013) Another reason for the loss of distinction between the terms is the acknowledgement that quality of life/well-being has both objective components like components external to an individual and measurable by 'others' and subjective components- as personal assessments of one's own life or of particular aspects of life using measures of satisfaction, happiness, or other self-assessment scales.

Our definition of quality of life is: The degree to which a person enjoys the important possibilities of his/her life.

Enjoyment has two components: the experience of satisfaction and the possession or achievement of some characteristic, as illustrated by the expression: "She enjoys good health." Three major life domains are identified: Being, Belonging, and Becoming. The conceptualization of Being, Belonging, and Becoming as the domains of quality of life were developed from the insights of various writers. (Quality of life research unit, 2018)

The table below illustrates these three major life domains those QOL studies:

The table presents QOL dimensions. It illustrates the concept of QOL that is related, on the one hand, to subjective well-being "related to present affect and emotion" and, on the other, to life satisfaction "related to past, expectations about the future and goals attained", but most of the studies are concerned with specific psychological states – anxiety, depression, moods etc.

Table 1. Domains of quality of life

The Being domain includes the basic aspects of "who one is"	Physical Being	<ul style="list-style-type: none"> • Being physically able to get around. • My nutrition and the food I eat.
	Psychological Being	<ul style="list-style-type: none"> • Being free of worry and stress. • The mood I am usually in.
	Spiritual Being	<ul style="list-style-type: none"> • Having hope for the future. • My own ideas of right and wrong.
Belonging includes the person's fit with his/her environments	Physical Belonging	<ul style="list-style-type: none"> • The house or apartment I live in. • The neighbourhood I live in.
	Social Belonging	<ul style="list-style-type: none"> • Being close to people in my family. • Having a spouse or special person.
	Community Belonging	<ul style="list-style-type: none"> • Being able to get professional services (medical, social, etc.) • Having enough money.
Becoming refers to the purposeful activities carried out to achieve personal goals, hopes, and wishes.	Practical Becoming	<ul style="list-style-type: none"> • Doing things around my house. • Working at a job or going to school.
	Leisure Becoming	<ul style="list-style-type: none"> • Outdoor activities (walks, cycling, etc.) • Indoor activities (TV, cycling, etc.)
	Growth Becoming	<ul style="list-style-type: none"> • Improving my physical health and fitness. • Being able to cope with changes in my life.

Source: Quality of life research unit, notes on "quality of life", university of Toronto, 19/07/2018, on the web site: <https://www.gdrc.org/uem/qol-define.html>.

3 Approaches of the Quality of Life Measurement

When considering new approaches in the measurement of the quality of life it is worth clarifying the conceptual and theoretical accounts that underpin the practical measurement and presentation that is carried out by national statistics agencies there are three main approaches outlined in the literature according to (Hicks,...):

A: The preference satisfaction account

The preference satisfaction account is probably most closely associated with the economist's account of well-being and quality of life. This suggests that more income would allow an individual to satisfy more of their preferences resulting in increased well-being. Understanding this, along with the fact that GDP is available and measured on a consistent

basis across countries. More recently this has also been recognized by the European Commission, with the President, Jose Manuel Barroso, stating with reference to GDP, “we can’t measure the challenges of the future with the tools from the past”.

B: Objective list account

These approaches are related to the emergence of the social indicators movement in the 1960’s. Social indicators research aimed to add to the economic data information on individual and social well-being recognizing the inadequacy of exclusively relying on economic data. This reliance on a wide set of indicators, mainly objective indicators, fits with the objective list account of wellbeing, which focuses on the monitoring the basic needs and rights of citizens which are needed to allow them to build their capabilities and flourish as individuals.

It would appear that there seem to be two main criticisms of this approach; firstly, there is a difficulty, with so many indicators, for the user to get a clear picture of what this all adds up to and how things are progressing secondly, with this approach the analyst is left with the task of selecting which indicators they think best reflect people’s quality of life.

C: Subjective well-being account

Subjective well-being is the measurement of people own self-reported assessment of their own lives and how it is going. What makes these measures subjective is not the self-reporting itself, but rather the aspects that a person is reporting on are subjective in nature, for example life satisfaction, emotions, purpose and meaning in life.

This approach is newer than the previous approaches outlined. Although the concepts have been understood as important aspect of quality of life for a long time, it is only really only in the last 20 years or so that a growing body of evidence has shown that this approach can be measured in a valid and reliable manner.

So this approaches list the different indexes and attempts of QOL measurements.

We can make a broad distinction between methods used to measure the QOL of the general population, and those used to measure the QOL of individuals. In both approaches the dominant research methodology can be described as positivist and based on quantitative methods. Qualitative methods are used in QOL research, particularly in the development of QOL instruments, but more in some disciplines than in others. They are less likely to be found in social indicators field, and more likely to be found in disabilities or psychology research, where observational techniques are often used in tandem with measurement instruments. (Galloway et al, 2006)

4 QOL Indexes

According to the definition, an indicator is a parameter that indicates, gives information and describes certain phenomena and their evolution in time.

According to (Diener and Suh,1999) “QOL indicators or well-being measures are necessary since their aims are to evaluate society and add substantially to the regnant economic indicators that are now favored by some policymakers.

In the Economist (2006), experts have addressed the meaning or nature of quality of life in recent articles explaining its expansion beyond that of purely monetary and other impartial data used as indicators to measure human progress. In one article, for instance, entitled “Happiness and How We Measure It,” it posits that a number of economists, who once were content with market data on employment, income, and traditional data indicators, are now looking to something else as an economic barometer—what is making people happy. This mix of economics with psychology takes into account a defining concept; namely, that salary, unemployment rate, and annual payroll data do not in themselves give a full picture of a designated population or rather its economic wellbeing. Non-monetary data pertaining to lifestyles, work environment, and a sense of community are equally important in evaluating the standard of living.

A: Gross Domestic Product (GDP)

National accounts aggregates have become an important indicator of the economic performance and living standards of our societies. This is because they allow direct comparisons to be made easily. Gross Domestic Product (GDP), one of these aggregates, is the most common measure of the economic activity of a region or a country at a given time; many decision and policy makers use it as the standard benchmark, often basing their decisions or recommendations on it. It includes all final goods and services an economy produces and provides a snapshot of its performance. GDP is very useful for measuring market production (expressed in money units). However, although it was not intended as an indicator of social progress, it has been considered to be closely linked to the well-being of citizens. The following are a number of reasons why GDP is not sufficient for this purpose, and therefore needs to be complemented by other indicators. (Fitoussi et al, 2018)

While GDP is very useful for measuring market production and providing an indicative snapshot of an economy at a given time, it does not provide a comprehensive picture of how well-off the citizens of a society are. According to (Fitoussi et al, 2018) Many economists and researchers criticize this index:

- Increasing GDP today, depleting resources for tomorrow: social, environmental and economic progress does not always go hand in hand with an increase in GDP. For example, if a country decides to cut down all its forests, it will dramatically increase its timber exports, thus increasing its GDP. If GDP were the only indicator of quality of life, this would mean that the population of this country would have greatly improved its well-being. However, the deforestation would have a significant impact on the population’s quality of life in the mid and long term: loss of natural habitat, soil erosion and more. GDP definitely measures quantity, but not necessarily other aspects of production (such as distribution and potential impacts for the future).

- GDP is an aggregate measure and as such cannot inform us about wealth distribution amongst the population: even if ‘quantity’ were the only relevant measure of economic performance and quality of life, GDP would still not tell us the whole story about living standards. A significant increase in a society’s average GDP does not automatically translate into better living standards for most of its citizens. The increase could benefit only a small part of society, leaving many groups of citizens at the same level in terms of wealth, or even worse off than before. Consequently, overall measures of economic and social well-being

must also include distribution indicators in order to provide a more realistic picture of the living standards and quality of life of a society's citizens.

- GDP and other economic measures need to be complemented with indicators covering other important domains in order to measure well-being: moving beyond economic performance, a more comprehensive, wide-ranging approach is needed when trying to define and measure quality of life. While it remains very difficult to provide an overall definition with specific measurable indicators, quality of life definitely includes more than just economic production and GDP figures. It should also be stressed that some of the indicators included in this scoreboard are subjective. They therefore reflect the perceptions of individuals, their own assessment of different aspects of life and overall quality of life and their often different priorities. This type of data can only be obtained through surveys.

GDP is an important index of QOL but it is insufficient because of the previous reasons and the money is not everything in life.

B: Standard of living

It refers to the level of wealth, comfort, material goods, and necessities available to a certain socioeconomic class in a certain geographic area, usually a country. The standard of living includes factors such as income, quality and availability of employment, class disparity, poverty rate, quality and affordability of housing, hours of work required to purchase necessities, gross domestic product, inflation rate, amount of leisure time every year, affordable (or free) access to quality healthcare, quality and availability of education, life expectancy, incidence of disease, cost of goods and services, infrastructure, national economic growth, economic and political stability, political and religious freedom, environmental quality, climate and safety. The standard of living is closely related to quality of life. (Wikipedia,2018)

Standard of living is generally measured by standards such as real (i.e. inflation adjusted) income per person and poverty rate. Other measures such as access and quality of health care, income growth inequality, and educational standards are also used. Examples are access to certain goods (such as number of refrigerators per 1000 people), or measures of health such as life expectancy. It is the ease by which people living in a time or place are able to satisfy their needs and/or wants. The main idea of a 'standard' may be contrasted with the quality of life, which takes into account not only the material standard of living, but also other more intangible aspects that make up human life, such as leisure, safety, cultural resources, social life, physical health, environmental quality issues, etc. More complex means of measuring well-being must be employed to make such judgments, and these are very often political, thus controversial. Even between two nations or societies that have similar material standards of living, quality of life factors may in fact make one of these places more attractive to a given individual or group. (Wikipedia,2018)

The standard of living reflects the distribution of income (GDP) to individuals, which is an acceptable index in QOL of individuals but it remains insufficient to assess the quality of life in countries.

C: Human Development Index

The Human Development Index (HDI) is a composite statistic (composite index) of life

expectancy, education, and per capita income indicators, which are used to rank countries into four tiers of human development. A country scores higher HDI when the lifespan is higher, the education level is higher, and the GDP per capita is higher. The HDI was developed by Pakistani economist Mahbub ul Haq and Indian economist Amartya Sen which was further used to measure the country's development by the United Nations Development Program.(*UNDP,2011*)

The origins of the HDI are found in the annual Human Development Reports produced by the Human Development Reports Office of the United Nations Development Programme (UNDP). These were devised and launched by Pakistani economist Mahbub ul Haq in 1990, and had the explicit purpose "to shift the focus of development economics from national income accounting to people-centered policies". To produce the Human Development Reports, Mahbub ul Haq formed a group of development economists including Paul Streeten, Frances Stewart, Gustav Ranis, Keith Griffin, Sudhir Anand, and Meghnad Desai. Nobel laureate Amartya Sen utilized Haq's work in his own work on human capabilities. Haq believed that a simple composite measure of human development was needed to convince the public, academics, and politicians that they can and should evaluate development not only by economic advances but also improvements in human well-being.(*Wikipedia,2018*)

D: World Happiness Report

The World Happiness Report is an annual publication of the United Nations Sustainable Development Solutions Network which contains rankings of national happiness and analysis of the data from various perspectives. The World Happiness Report is edited by John F. Helliwell, Richard Layard and Jeffrey Sachs. The 2017 edition added three associate editors; Jan-Emmanuel De Neve, Haifang Huang, and Shun Wang. Authors of chapters include Richard Easterlin, Edward F. Diener, Martine Durand, Nicole Fortin, Jon Hall, Valerie Moller, and many others.(*Wikipedia,2018*)

The first World Happiness Report was released on April 1, 2012 as a foundational text for the UN High Level Meeting: Well-being and Happiness: Defining a New Economic Paradigm, drawing international attention. The report outlined the state of world happiness, causes of happiness and misery, and policy implications highlighted by case studies. In 2013, the second World Happiness Report was issued, and since then has been issued on an annual basis with the exception of 2014. The report primarily uses data from the Gallup World Poll. Each annual report is available to the public to download on the World Happiness Report website. (*Wikipedia,2018*)

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The 2018 reiteration was released on 14 March and focused on the relation between happiness and migration. As per 2018 Happiness Report, Finland is the happiest country in the world with 7.632 score: 1.305 GDP per capita+0.874 healthy life expectancy+1.592 social supports+0.681 freedoms to make life choices+0.192 generosity+0.393 perceptions of corruption. (Helliwell et al, 2018)

This survey takes good indexes in calculating it between objective ones like GDP and social ones, also the subjective part of people in cities and countries.

E: Mercer Quality of Living Survey

The Mercer Quality of Living Survey ranks 231 cities from Vienna to Baghdad on quality of life. Countries with cities commonly ranked in the top 50 include Austria, Switzerland, New Zealand, Germany, Canada, Denmark, Finland, Australia, Sweden and the United States. Vienna has been ranked first for eight consecutive years. The survey evaluated 231 cities over the world on 39 factors including political, economic, environmental, personal safety, health, education, transportation and other public service factors. (Wikipedia,2018)

The quality of living survey is conducted to help governments and major companies place employees on international assignments. The survey also identifies those cities with the highest personal safety ranking based upon internal stability, crime, effectiveness of law enforcement and relationships with other countries. In this case, Luxembourg is top, followed by Bern, Helsinki and Zürich, all equally placed at number 2. In 2018, Vienna in the top rank with Austria. (Mercer,2018)

F: Other measures

Researchers, countries, organizations and communities over the world try to develop an index that can explain the meaning of QOL, according to (Wikipedia,2018) from all these attempts we find:

- The Physical Quality of Life Index (PQLI): is a measure developed by sociologist Morris David Morris in the 1970s, based on basic literacy, infant mortality, and life expectancy. Although not as complex as other measures, and now essentially replaced by the Human Development Index, the PQLI is notable for Morris's attempt to show a "less fatalistic pessimistic picture" by focusing on three areas where global quality of life was generally improving at the time and ignoring gross national product and other possible indicators that were not improving.

- The Happy Planet Index: introduced in 2006, is unique among quality of life measures in that, in addition to standard determinants of well-being, it uses each country's ecological footprint as an indicator. As a result, European and North American nations do not dominate this measure. The 2012 list is instead topped by Costa Rica, Vietnam and Colombia.

- Gross national happiness: and other subjective measures of happiness are being used by the governments of Bhutan and the United Kingdom.

- The Social Progress Index : measures the extent to which countries provide for the social and environmental needs of their citizens. Fifty-two indicators in the areas of basic

human needs, foundations of wellbeing, and opportunity show the relative performance of nations. The index uses outcome measures when there is sufficient data available or the closest possible proxies.

- Day-Reconstruction Method: it was another way of measuring happiness, in which researchers asked their subjects to recall various things they did on the previous day and describe their mood during each activity. Being simple and approachable, this method required memory and the experiments have confirmed that the answers that people give are similar to those who repeatedly recalled each subject. The method eventually declined as it called for more effort and thoughtful responses, which often included interpretations and outcomes that do not occur to people who are asked to record every action in their daily lives.

All these indicators are evidence of the importance of the quality of life for individuals and countries to become a general demand and the right of citizens' rights.

5 OECD Well-Being Indicators

The quality of life indicators covers eight domains: health, work–life balance, education, social connections, personal security, civic engagement and governance, environment and subjective well-being. So what exactly is being measured in these areas will be discussed in the following points according to (Körreveski, 2018):

A: Health

Health is one of the most valuable assets. Studies have consistently shown that health status and job are the main factors that influence a person's quality of life. Health status has an instrumental value, because good health enables working-age people to actively participate in the labor market and lifelong learning, as well as to have good social relationships. The OECD has chosen six health indicators which measure quality of life and are based mainly on social and health surveys: life expectancy at birth, infant mortality, self-reported health status, self-reported longstanding illness, and self-reported limitations in daily activities, obesity and overweight.

B: Work and family life balance

A person's time distribution between various activities does not only affect the person's own quality of life, but also other family members' quality of life. The OECD uses five indicators when describing work and family life balance: long working hours, commuting time, time for leisure and personal care, satisfaction with time allocation, employment rate of mothers with children of compulsory school age.

C: Education

Education is a basic human need nowadays. Education is a tool that helps to achieve one's goals in life. Educated people are healthier, more active in social life and they earn higher wages. The OECD educational indicators used to assess countries' well-being are: the share of the population aged 25–64 with at least upper-secondary education, participation rate in lifelong learning of the population aged 25–64, educational expectancy at age 15, literacy skills of 15-year-old students, and the students' civic skills.

D: Social connections

As humans are social creatures, their well-being is very much affected by their social network or social capital. Those who are surrounded by supportive friends are happier. Indicators that measure the strength of the community or social network are: social network support, frequency of social contacts, time spent on volunteering, and trust in other people.

E: Personal security:

Crime affects all citizens. The prevalence of crime in society makes it an unsafe place where people are afraid to live. A crime often has more victims than just one, because indirectly people close to the victim suffer too. Violent behavior affects not only physical, but also mental health. The OECD indicators that measure personal security are: the number of homicides per 100,000 people, self-reported victimization, violence against children, and feeling of security.

F: Civic engagement and governance

Political freedom is one of the basic human rights and freedoms. It increases people's sense of control over their lives. The OECD indicators on civic engagement and governance are: voter turnout, participation in other types of political activities, consultation on rule-making, and trust in institutions.

G: Environment

One of the biggest challenges for society is to ensure the sustainability of natural resources, so that future generations would be able to live in a healthy and beautiful environment. The OECD has used objective and subjective indicators: air quality, environmental burden of disease, satisfaction with the quality of local environment, access to green spaces.

H: Subjective well-being

Life satisfaction indicators measure subjective well-being, which shows how people assess their own well-being. The OECD is using two subjective well-being indicators: life satisfaction and affect balance that affect balance shows how people feel in a certain period of time. It reflects the balance between positive and negative emotions.

After the presentation of OCDE index, we can say that this index takes many fields in life: economic, social and subjective topics by its measurements. It is a good index when we find information to calculate it.

6 Conclusions

Through this study it is clear that the industrial ecological gardens have a significant impact on the quality of life, and this is based on their impact on the environmental and health aspects of the members of the industrial society. The following are the main findings:

- The dependence on the end-of-pipe approach in the industrial system has led to many global environmental and economic problems such as global warming and panic in the raw materials markets, which have led to a deterioration in the quality of life from an environmental perspective.

- Industrial ecology is considered as a tool for implementing sustainable development, moving from a linear industrial system to an industrial ecosystem by integrating limited resources and the need to limit the impact of human activities on the natural environment.
 - Industrial ecology is applied in industrial areas through Self-Sufficiency, which produces a range of economic and environmental benefits and benefits for the participating parties and the economy as a whole.
 - Although the idea of industrial parks started randomly with a view to the economy of raw materials and reuse of waste, the project has now been developed at a high level of environmental awareness. It has achieved many environmental and economic gains and has become a symbol of industrial ecology.
- Finally, it can be said that industrial ecology has resulted in the industrial system of negative ideas towards the environment and the exploitative relationship between them, thus providing conciliatory solutions between industry and environmental issues, thus contributing seriously to improving the quality of life.

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