



SUSTAINABLE DEVELOPMENT AND QUALITY OF LIFE IN LITHUANIA COMPARED TO OTHER COUNTRIES

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Abstract. The paper presents the definition of quality of life and its relationship with sustainable development. The paper analyses and compares the indicators of quality of life in Lithuania with other countries. A quality of life is an explicit or implicit policy goal. Various measurements and indicators to evaluate a quality of life were proposed during the recent years however there are no widely accepted objective indicators of quality of life able to compare countries. Sustainable development concept proposes new approach to measure quality of life. Therefore the aim of sustainable development is to increase quality of life. Quality of life can be addressed in terms of people health, the state of economy, employment, infrastructure development, crime and environment. All these indicators are interrelated as economic development creates preconditions to maintain public health, develop social and technical infrastructure, to increase employment, to ensure quality of environment, to tackle with crime etc. From the other point of view healthy and satisfied with the quality of life nation have positive impact on stable economic growth.

Keywords: sustainable development, quality of life.

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1. Introduction

Today the main issue on policy agenda all over the world is sustainable development. Sustainable development (SD) is a pattern of development that aims to meet human needs while preserving the environment so that these needs can be met not only in the present, but also for generations to come. Therefore the sustainable development is about ensuring a better quality of life for

everyone, now and for generations to come. Sustainable development concept indicates that our economy, environment and social well-being are interdependent (Ventegodt *et al.* 2003). By protecting and enhancing the environment, for its own sake, and also because a damaged environment will sooner or later hold back economic development and affect people's quality of life. It is about ensuring we satisfy people's basic needs, such as providing warm homes and safe streets and giving people the opportunity to achieve their potential through education, information, participation, good health and employment. And it requires a robust economy to create the wealth that allows needs to be satisfied, now and in the future.

The term quality of life is usually used to evaluate the general well-being of individuals and societies. The term is used in a wide range of contexts, including the fields of international development, healthcare, environment and politics. Quality of life should not be mixed with the concept of standard of living, which is based primarily on income. The standard indicators of the quality of life usually include not only wealth and employment, but also the built environment, physical and mental health, education, recreation and leisure time, crime rate and social belonging. Also frequently with quality of life are related such issues as freedom, human rights, and happiness (Flynn *et al.* 2002). The quality of life can be used as the most general aim of sustainable development as this aim represents the economic, social and environmental dimensions of sustainable development. In this term it is important to assess the quality of life by evaluating the economic, social and environmental indicators related to quality of life.

Indicators are very useful tool to develop policies and monitor the effectiveness and results achieved by these policies. Indicators are tools that measure, simplify and communicate important issues and trends. They can help people understand the breadth of sustainable development issues and the relationships between them. Indicators are useful means of measuring progress, but also valuable tool to raise awareness of the key issues among the public and policy-makers, and to help people understand what they themselves need to do.

The main research problem is related with the fact that some countries do not take into account indicators of quality of life in their sustainable development strategies and do not use them to assess progress achieved in terms of sustainable development.

The following hypotheses were raised:

1. Lithuanian national sustainable development strategy does not address the main indicators of quality of life;
2. The quality of life in Lithuania is low comparing with other developed countries.

The aim of the paper is to compare Lithuania with other countries in terms of achievements of sustainable development in quality of life. The main tasks to achieve this aim:

- To review sustainable development policy in Lithuania;
- To discuss the main indicators of quality of life;
- To compare Lithuania with other countries according the indicators of quality of life.

In the following chapters the implementation of sustainable development policy in Lithuania will be briefly addressed; the main indicators applied all over the world to measure the quality of life will be discussed and Lithuania will be compared with other countries in terms of quality of life.

2. Sustainable development in Lithuania

The main long-term planning document - Long-term Lithuanian Economy Development Strategy was approved in 2002 in Lithuania. It comprises 15 branch strategies. The main principles of sustainable development are integrated in these strategies. Some of these branch strategies are directly aimed at interaction between sectors (the factors of social development and economic factors of employment, economic factors of environmental protection, tourism development, etc.). Despite a great integrity of the certain strategies, there is a lack of clear relations between the aforementioned 15 strategies. In order to solve this problem the National Strategy of Sustainable Development was adopted in 2003 and revised in 2009 (Government of Republic of Lithuania 2009). The main objective of sustainable development in Lithuania remains the same: to achieve, by 2020, the development level of EU countries of 2003, according to the indicators of economic and social development as well as to the efficiency in consumption of resources, and to stay within the EU's permissible limits, according to the indicators of environmental pollution, while meeting the requirements of international conventions to minimize environmental pollution and input into global climate change (Statistics Lithuania 2011). In order to achieve these objectives, it is necessary to base future development of the economy on advanced and more environment-friendly technologies. Thus, the Strategy puts special emphasis on the design and implementation of technologies that are based on scientific achievements and knowledge rather than on resource-intensive technologies. The priorities of the revised EU Sustainable Development Strategy are the following: climate change and clean energy production (i.e. when pollutant release, including greenhouse gases, into the environment is limited), sustainable transport, sustainable consumption and production, protection and management of natural resources, public health, social inclusion, demography and migration, world poverty and sustainable development challenges. Bearing in mind the aforementioned priorities of the revised EU Sustainable Development Strategy, two new priorities were added to the Strategy: sustainable consumption and development cooperation, which correspond to the priority "Global poverty and sustainable development challenges", reflecting Lithuania's obligations for global peace as well as for reduction of disparities between developed and developing states. Sustainable development indicators for economical, social and regional development and state of environment are selected in the strategy for the monitoring of sustainable development however this system of indicators were not applied for the analysis of trends and only some targets of sustainable development were set using these indicators. Approach to integrate sustainable development indicators into national planning systems should be used with more extent. 3 principles may be singled out for the development of a system of indicators for sustainable development strategies.

Moderate and sustainable development of the economic sectors as well as of regional economies is one of Lithuania's sustainable development priorities. Uneven economic and social development in the regions and the growing disparities in social welfare are listed among the main threats to sustainable development in the EU Sustainable Development Strategy. Bearing in mind that over the recent years, economic and social disparities among Lithuanian regions have not decreased but have kept growing, reduction of the disparities

of living standards between different regions, while maintaining their distinctive character, is one of the sustainable development priorities of Lithuania. An extremely important priority of Lithuanian sustainable development is reduction of the environmental impact of the main branches of economy (transport, industry, energy, agriculture, housing and tourism) by increasing their eco-efficiency and inclusion of environmental concerns into their development strategies.

The following priorities of the EU Sustainable Development Strategy are important: reduction of threats to human health, mitigation of global climate change and its impact, protection of biodiversity, and reduction of unemployment, poverty and social exclusion. Although landscape management problems are not identified in the EU Sustainable Development Strategy, they are considered to be very significant priorities in the Strategy due to the importance of landscape protection and its rational management. Another priority of sustainable development is public education (including environmental education and promotion of an environment-friendly lifestyle). Enhancement of a scientific research role, more effective application of research results as well as design and implementation of environment-friendly production and information technologies stand out as other priorities of the Strategy.

The social development issues addressed in Lithuanian SDS are directly related with the quality of life: employment, poverty and social exclusion, public health, education and science, preservation of cultural identity and sustainable consumption issues are the key issues addressed in the SDS and having impact on quality of life.

The major attention in the Strategy's chapter Social Development is devoted to the problems of poverty and social exclusion as well as public health. Since the implementation of the Strategy is impossible without active public involvement and support, a substantial part of it is dedicated to the education of the public (as well as environmental education and promotion of a more environment-friendly lifestyle), also to the preservation of cultural distinction. The social sphere also covers the enhancement of research role, more effective use of research results in the implementation of the main principles of sustainable development. The long-term objectives of social development are the following:

- to promote employment of the population, investments in the human capital and creation of new high-quality jobs, to ensure equal opportunities for everyone to participate in the labour market and public life, and to reinforce social cohesion.
- to increase personal incomes of the residents, to reduce the differentiation and poverty of the society, to establish adequate working conditions, and to achieve effective social security, i.e. to create favourable conditions for families and to secure social integration of the socially disadvantaged groups of residents.
- to improve the living standards of the Lithuanian population; increasing the life expectancy, i.e. reduction of morbidity, mortality and disability, especially resulting from accidents and injuries, circulatory system and oncological diseases and mental health disorders; and improvement of the accessibility and quality of health care services.
- to educate independent, active and responsible members of society and to develop intellectual potential of the society, so that knowledge and science may ensure sustainable implementation of economic, social and environmental objectives.

- to preserve the Lithuanian language, the ethnic and regional culture of the Lithuanians, the historical heritage of Lithuanian culture, as well as the cultural peculiarity of the national communities residing in Lithuania.
- to make sure that the growth does not worsen the environmental quality, giving preference to environment-friendly services and products that are produced and used with the smallest amount of energy and other natural resources, without toxic substances and which have the lowest possible impact on the environment throughout the life-cycle.

As one can notice the targets set in Lithuanian NSD Social development chapter represent the quality of life. Sustainable development indicators have been grouped based on the three main sustainable development sectors: environmental status, economic development and social development. Such a type of grouping is rather conditional as a small number of the indicators presented are trans-sectoral, characterising sector interaction. The indicators of territorial development are presented separately to reflect the situation in the counties, municipalities and smaller territorial units.

The sustainable development indicators selected for social development chapter in SDS are presented in Table 1. The values of sustainable development indicators for 1995–2010 period are presented in Table 1.

As one can see from Table 1, the trends of some social development indicators, related to human health are important to assess progress achieved towards sustainable development in Lithuania, stipulated positive trends during 1995–2010, for example, average life expectancy has grown for man and woman from 63.3 to 67.5 and from 75.1 to 78.6 respectively. Infant mortality has declined from 12.4 to 5 deaths against 1000 births during the same period. Number of deaths caused by traffic accidents as well as deaths from accidents at work also has decreased from 24.6 to 13.7 deaths and from 103 to 48 per 1000000 residents respectively. However some important health indicators directly related with quality of life – number of deaths from circulatory system diseases has increased from 669.7 to 697.5 deaths per 1000000 residents. Number of deaths from cancer also has increased from 208 to 243.5 deaths per 100000 during the same period.

Other social development indicators relevant to quality of life such as poverty risk level, employment and unemployment rate haven't change during the same period, as positive trends in 2005 where disrupted by economic crisis of year 2008.

Indicators related to expenditures on research and development, funds allocated culture, and all indicators related to education showed the positive trends during 1995–2010.

As one can notice the list of indicators presented in Table 1, is not complete for the evaluation of quality of life in Lithuania. Some important indicators related with leisure, safety, crime rate, freedom etc. are missing. In addition, it is necessary to mention, that no benchmark indicators were established in Lithuanian SDS strategy, therefore it is difficult to use these indicators for the assessing progress, achieved in improvement of quality of life in Lithuania, by implementing sustainable development. Also these indicators can't be applied for the comparison of quality of life in Lithuania with other countries. In the following chapters the indicators of quality of life applied in other countries and by international institutions will be discussed and used for the comparison of the quality of life in Lithuania and other countries.

Table 1. Values of social development indicators in Lithuania in 1995–2010 (Statistics Lithuania 2011)

Social development indicators		1995	2000	2005	2010
1	employment rate for persons aged 15–64, %	62.3	58.7	62.6	60.1
2	unemployment and long-term unemployment rates, %	13.2/7.2	16.4/8.5	0.3/4.5	13.7/3.2
3	GDP share consisting of social security expenditure, %	–	15.8	13.3	21.3
4	poverty risk level, %	–	19.0	20.5	20.6
5	income distribution coefficient	–	9.0	6.9	6.3
6	average life expectancy (man/woman)	63.3/75.1	66.7/77.3	65.4/77.4	67.5/78.6
7	natural population change per 1 000 residents	–1.1	–1.3	–3.9	–1.6
8	number of deaths from all respiratory system diseases per 100 000 residents	50.5	44.6	50.8	46.7
9	number of deaths from all circulatory system diseases per 100 000 residents	669.7	598.1	697.7	697.5
10	number of deaths from all malignant tumour diseases per 100 000 residents	208.0	220.7	235.7	243.5
11	number of deaths caused by traffic accidents, total and per 100 000 residents	24.6	22.0	25.9	13.7
12	salmonella poisoning cases per 100 000 residents	68.8	34.3	69.5	62.0
13	infant (under 1 year) mortality (infant deaths against 1 000 births)	12.4	8.5	6.9	5.0
14	useful living area per capita – urban and rural, sq m	–	20	23.8	25
15	number of deaths from accidents at work	103	66	118	48
16	funds allocated for education, % of GDP	–	5.9	4.9	4.9
17	funds allocated for culture, % of GDP	–	0.7	0.6	0.8
18	expenditure on research and development, % of GDP	–	0.59	0.75	0.84
19	number of students in higher education institutions (total graduates of that year), compared to the number of persons aged 20–24, %	18.6	35.8	45.5	48.1
20	number of pupils at schools of general education (all graduates who obtained basic or secondary education that year), compared to the number of persons aged 15–19, %	73.1	89.2	92.5	92.9
21	annual number of university third-level study graduates having earned a scientific degree, thou	0.5	0.5	1.1	0.5

3. Indicators of quality of life

Indicators of quality of life can be simple and integrated. The simple indicators covers just one issue of quality of life and complex indicators consist of several indicators covering several issues of quality of life.

3.1. Complex indicators to measure quality of life

There are several complex indicators applied by international organizations to measure the quality of life. These indicators consist of several important indicators representing a broad range of indicators representing the quality of life (Quality of Life Indicators 2009; Quality of Life Oxfordshire 2009). For 30 years, *International Living's* editors and writers have been scoring the world to find the best places to live or retire to. Every January, 194 countries were ranked and compared to come up with the list of the places that offer the best quality of life for people. To produce this annual Index nine categories are being considered: Cost of Living, Culture and Leisure, Economy, Environment, Freedom, Health, Infrastructure, Safety and Risk, and Climate. This involves a lot of number crunching from “official” sources, including government websites, the World Health Organization, and *The Economist etc.* Lithuania has total score 73: Cost of Living 63; Leisure & Culture 68; Economy 48; Environment 81; Freedom 100; Health 80; Infrastructure 56; Risk & Safety 100; Climate 79. Latvia has score 70 and Estonia – 71.

The Economist Intelligence Unit's quality-of-life index is based on a unique methodology that links the results of subjective life-satisfaction surveys to the objective determinants of quality of life across countries. The index was calculated in 2005 and includes data from 111 countries and territories. The survey uses nine quality of life factors to determine a nation's score. They are listed below including the indicators used to represent these factors:

1. Health: Life expectancy at birth (in years). Source: *US Census Bureau*.
2. Family life: Divorce rate (per 1,000 population), converted into index of 1 (lowest divorce rates) to 5 (highest). Sources: *UN; Euromonitor*.
3. Community life: Variable taking value 1 if country has either high rate of church attendance or trade-union membership; zero otherwise. Source: *World Values Survey*.
4. Material well being: GDP per person, at PPP in \$. Source: *Economist Intelligence Unit*.
5. Political stability and security: Political stability and security ratings. Source: *Economist Intelligence Unit*.
6. Climate and geography: Latitude, to distinguish between warmer and colder climates. Source: *CIA World Factbook*.
7. Job security: Unemployment rate (%). Source: *Economist Intelligence Unit*.
8. Political freedom: Average of indexes of political and civil liberties. Scale of 1 (completely free) to 7 (unfree). Source: *Freedom House*.
9. Gender equality: Measured using ratio of average male and female earnings. Source: *UNDP Human Development Report*.

111 countries and territories were included in the 2005 Quality of Life Index. The quality of life index in Lithuania is 6.033 and country is ranked as 63. Latvia is ranked as 66 and Estonia as 68.

The UNDP has constructed one of the most used measures when it comes to welfare, the HDI. This is comprised by indicators for a long and healthy life (life expectancy at birth), knowledge (adult literacy rate and gross enrolment ratio) and a decent standard of living (GDP per capita). The HDI has attracted criticism for not being sensitive to differences between groups inside a country in the level of human development (Robeyns 2003). And it

has therefore been supplemented with an index that takes gender equality into consideration, the Gender related Development Index. The Gender-related Development Index (GDI) is comprised of the same indicators as the HDI, but they are first calculated separately for men and women and then an index is constructed that lowers the GDI compared to the HDI according to the level of unequal distribution between the groups. More simply put, the HDI adjusted for gender inequality is what comprises the GDI. As a result of this, the GDI should not be interpreted independent of the HDI. And this is of course one of the problems, both when it comes to understanding, and using, the GDI (Bistrom 2010).

Gender disparities in development can be captured by using the Gender-related development index (**GDI**) and the gender empowerment measure (**GEM**) devised by UNDP (2010). The GEM measures gender inequality in key areas of economic and political participation and decision making, such as seats held in parliament, and percentage of managerial positions held by women. Higher GDP does not always guarantee greater gender equality. Some developing countries outperform much richer industrial countries in gender equality in political, economic, and professional activities. Progress towards gender equality can be achieved at different income levels and stages of development. These two measures GDI and GEM are applied to rank countries according to achievements on gender equality. The GDI seeks to capture achievement in the same set of indicators included in the HDI – life expectancy, educational attainment and GDP (Gross domestic product) per capita by adjusting the HDI for gender inequality. The HDI is an average measure of basic human development achievements in a country. However the HDI masks inequality in the distribution of human development across the population at the country level (Permanyer 2010).

In 2010 Human Development Report (2010) the new measure of gender inequality is introduced – the ‘inequality’ adjusted HDI (**IHDI**). This is new measure for a large number of countries which takes into account inequality in all three dimensions of the HDI by ‘discounting’ each dimension’s average value according to its level of inequality. The IHDI is a measure of the average level of human development that a country has achieved in the three HDI dimensions, given the existing inequality in distribution of achievements and the level of aversion to inequality which is set in 2010 to a low level of 1. When there is no inequality in the HDI dimensions or no aversion to inequality, the average level of human development is reflected in the HDI. In this sense, the HDI can be viewed as an index of ‘potential’ human development and IHDI as an index of actual human development. The ‘loss’ in potential human development due to inequality is given by the difference between the HDI and the IHDI, and can be expressed as a percentage (UNDP 2010).

The new measure also introduced in Human Development Report in 2010 – Gender Inequality Index (**GII**) reflects women’s disadvantages in three dimensions – reproductive health, empowerment, and economic activity (Dijkstra, Hanmer 2000). Reproductive health is measured by maternal mortality and adolescent fertility rates; empowerment is measured by the share of parliamentary seats held by each gender and attainment at secondary and higher education by each gender; and economic activity is measured by the labour market participation rate for each gender. The GII replaces the previous Gender-related Development Index and Gender Empowerment Index. The GII shows the loss in human development due to inequality between female and male achievements in the three GII dimensions. Aggrega-

tion of the GII dimensions is first done separately for each gender group using geometric means. The gender-specific means are then aggregated using harmonic means which capture the inequality between women and men and adjust for association between dimensions. Finally, the GII is expressed as the relative difference (loss) between the harmonic mean and the reference mean. The reference mean is obtained assuming equality of genders in all three GII dimensions (UNDP 2010).

Lithuania's HDI for 2010 is 0.783. However, when the value is discounted for inequality, the HDI falls to 0.693, a loss of 12 per cent due to inequality in the distribution of the dimension indices. Lithuania's "HDI neighbours", Croatia and Latvia, show losses due to inequality of 15 per cent and 11 per cent, respectively. In Table 2 comparison of Lithuania, Latvia, Estonia, Poland, UK, France and some Scandinavian countries according GEM, GDI, HDI and inequality adjusted human development index is presented.

Table 2. Comparison of HDI, GDI, GEM, IHDI and GII between several countries in 2007

Countries	HDI	GDI	GEM	IHDI	GI
Sweden	0.963	0.956	0.909	0.824	0.212
France	0.961	0.956	0.779	0.792	0.260
Finland	0.959	0.954	0.902	0.806	0.248
UK	0.947	0.943	0.790	0.766	0.355
Estonia	0.883	0.882	0.665	0.733	0.409
Poland	0.880	0.877	0.631	0.709	0.325
Lithuania	0.870	0.869	0.628	0.693	0.359
Latvia	0.866	0.865	0.648	0.684	0.316

Lithuania's HDI value for 2010 is 0.783—in the high human development category—positioning the country at 44 out of 169 countries and areas. The HDI is not designed to assess progress in human development over a short time period because some of its component indicators do not change rapidly in response to policy changes. This is particularly so for mean years of schooling and life expectancy at birth. It is, however, useful to review HDI progress over the medium to long term. Between 1990 and 2010, Lithuania's HDI value increased from 0.709 to 0.783, an increase of 10 per cent or average annual increase of about 0.5 per cent.

In Lithuania, 18 per cent of parliamentary seats are held by women, and 92% of adult women have a secondary or higher level of education compared to 96% of their male counterparts. For every 100,000 live births, 112 women die from pregnancy related causes; and the adolescent fertility rate is 22 births per 1000 live births. Female participation in the labour market is 66% compared to 72%. The result is a GII value for Lithuania of 0.359 ranking it 33 out of 138 countries based on 2008 data. Lithuania's "HDI neighbours", Croatia and Latvia, are ranked at 30 and 22 respectively on this index.

3.2. Indicators of quality of life covering specific issues

Life quality indicators cover social, economic, environmental and institutional issues. The quality of life means decent and healthy long life in clean environment which meets all social

needs of population and guarantees life satisfaction and happiness. Safety, freedom, rights and empowerment are important issues of social needs. As economy creates conditions to satisfy social needs the economic indicators also need to be assessed in evaluating the quality of life in the specific country. Institutional indicators represent the quality of institutions which are the key in implementing all other issues related to quality of life. In addition, institutional indicators are directly related with human rights, freedom, empowerment and safety. In the following sections the most important economic, social, environmental and institutional indicators will be developed for Lithuania and compared with other countries, seeking to assess the quality of life in Lithuania, as the trends of social development indicators analysed above, do not allow to evaluate the results, achieved, as there are no benchmarks, presented for Lithuania in Sustainable development strategy.

Economic indicators

GDP per capita adjusted at PPP is the main indicator to assess and compare countries in achievements of economic development. This indicator is also integrated in other complex indicators for countries comparison in terms of achievement of sustainable development and quality of life – Quality of life index, HDI, IHDI etc.

As of 2009, Lithuania was listed **49th** by the International Monetary Fund and **42th** by the World Bank in terms of nominal GDP per capita (ranging from \$16,997 to \$16,747) when adjusted for purchasing power parity (PPP). During 1995–2010 GDP per capita in Lithuania has increased from 5200 to 12900 USD.

Public debt is also important economic indicators. The big public debt reflects burden which have to be paid by country inhabitants in the future. Even the future generations will have to pay current public debt. The CIA Factbook's public debt ranking shows that Lithuania's public debt in 2009 was 36.7% of its GDP. 2010 est. Japan's 92.1% of its GDP, the second highest figure in the world after Zimbabwe. Among Western countries, the highest figures are for Italy (115.20%), Greece (108.10%), Belgium (99%) and Iceland (95.10%). Other Western countries stand between 7.50% (Estonia) and 80% (France). The UK's public debt is 68.5%, while the USA's is 40%.

Social indicators

At risk of poverty rate and income inequality are the main social indicator to assess the quality of life in the country. Other important indicators are related to employment, unemployment and average useful floor space per capita, the share of disposal income spent on food etc.

The risk of poverty rate in Lithuania in 2009 makes 20%. Comparing with other countries it is similar to Baltic countries, Poland, Ireland and UK. The low poverty rate is in Scandinavian and Benelux countries.

The Gini coefficient is used to measure the inequality of income or wealth in disciplines as diverse as health science, ecology, and chemistry. The CIA World Factbook gives Lithuania a Gini coefficient of 36 in 2005 (34 in 1999) while the United Nations estimated it at 35.8 in 2008. These are very different figures. The UN makes Japan the country with the lowest income inequality after Denmark.

Unemployment and employment rate are directly related with poverty. The unemployment rate in Lithuania has drastically increased because of economic crisis in 2008. Currently unemployment rate in Lithuania makes 13.7% and is similar to other new EU member states.

Quality of accommodation is a slightly controversial point. Lithuania has statistics on the percent of inhabitants provided with centralized water supply, centralized sewage management services and using public municipal management services, compared to total population. However it is not possible to compare Lithuanian statistics with other countries which provide such indicators, as the share of population having private houses etc.

Average useful floor space per capita in Lithuania makes 25 m². According UN Population Division the floor area per person is less than 20 square meters for all of the African countries, and for three quarters of the Asian and Pacific countries. Just Israel and Philippines report floor area per person of 20 m² or more. Developed countries such as USA and old EU member states have average useful space per capita almost twice higher than in Lithuania.

Health & Society

The life expectancy is the main indicator of the health of the population. Other important health indicators are: infant mortality (infant deaths against 1000 births; circulatory disease death per 100000 population; death from cancer per 100000 population, incidence of tuberculosis, obesity rate etc.

According to the United Nations and the CIA World Factbook, Lithuania ranks at 80 according life expectancy. Overall life expectancy in Lithuania – 73.0. Man life expectancy – 67.5, and woman life expectancy – 78.3.

According infant mortality Lithuania is ranked 145th and situation has significantly improved since 1995 from 12.4 to 5 infant deaths per 100 live births. Latvia is ranked as 124th and Estonia as 134th therefore situation in Lithuania in 2009 was better comparing with neighbouring countries. All old EU member states are in the end of list. Japan has the best indicator, following by Iceland, Finland, and Norway etc.

According diseases of the circulatory system Lithuania is in very bad position comparing with other countries. The situation hasn't change since 1990. For example, in Japan this indicators is 151 deaths per 100000 population, and in Lithuania – 697.6 deaths per 100000 population. The best performing countries in the world according this indicator are Japan, Switzerland, France and other old EU member states.

The deaths from cancer have increased almost twice in Lithuania during 1990–2009. The current indicator – 233.5 deaths per 1000000 population is lower comparing with the developed countries. The worst performing countries according this indicator are: Netherlands (433 deaths per 100000 population; Italy (418 deaths per 1000000 population), Hungary (411 deaths per 1000000 population).

According incidences of tuberculosis per 1000000 population Lithuania is ranked 98th (62.54 per 1000000 population) Latvia 97th and Estonia 117th. The best performing countries according this indicator are: Monaco (2.2 per 1000000 population); Iceland (2.85 per 100000 population). The worst performing countries are in Africa starting from Swaziland and following by Namibia, Botswana etc.

Obesity is one of the most important indicators of human health and life quality as well. Estimates from the survey by OECD reveal that people of the world's richest countries are getting fatter and fatter with the U.S. leading the change. America occupies the top slot with a portly population of over 70 percent among the 33 leading economies of the world. Close on heels comes Mexico which bagged the second place, and Chile is in the third slot, with England and Australia not far behind. The skinniest nations are Japan, South Korea, and Switzerland, where only three in ten people are overweight and less than one in ten are obese. Lithuania is ranked 95th according the female obesity (Table 3). Obesity is a known risk factor for several disorders, such as diabetes, hypertension, cardiovascular diseases, respiratory problems (asthma), and musculoskeletal diseases (arthritis). Studies have established that the lifespan of an obese person is up to eight to 10 years shorter than that of a normal-weight person. In addition, obesity also increases health care costs. There are several reasons for the obesity surge. The major reasons are unhealthy eating and excessive calorie consumption, genetic predisposition, altered living and working conditions, reduction in the amount of daily physical activity, increased stress levels, and longer working hours.

Suicide rate is quite good indicator for the quality of life. Suicide rate in Lithuania was 53.9 men per 100000 and woman 9.8 per 100000 in 2007. According to the World Health Organization, Japan has the 4th highest female suicide rate in the world after Sri Lanka, China and South Korea. Japan's male suicide rate is still the highest among rich nations, although Russia, Belarus, Ukraine and Lithuania have higher rates.

Table 3. Female prevalence of obesity (percent of adults, aged 15 and older, with a body mass index ≥ 30)

Rank	Country	Percent
13	United States of America	42
43	Slovenia	25
48	United Kingdom	24
53	Iceland	23
55	Slovakia	23
61	Czech Republic	21
64	Germany	20
70	Bulgaria	19
71	Switzerland	19
74	Poland	18
75	Finland	18
82	Hungary	16
95	Lithuania	14
99	Italy	13
101	Romania	12
102	Netherlands	12

According to crime rate Lithuania is ranked as 27th and the current crime rate in the country makes 22.9 per 1000 of population. In Latvia crime rate is 21.9, and in Estonia – 43.4 per 1000 people. In developed EU member states the crime rate is higher than in Lithuania. The highest crime rate is in Dominica following by New Zealand, Finland and Denmark. According to car thefts Lithuania is ranked 23th country. Australia, Denmark and UK have the worst statistics on car thefts. According to statistics on prisoners Lithuania is ranked 31th and Latvia and Estonia have higher indicators on prisoners per capita. According to Nation Master the first country according to this indicator is USA following by Russia and Belarus.

Quality of environment

Per capita ecological footprint (EF) is evaluated in global hectares per capita. The global hectare is a useful measure of biocapacity, as it can convert things like human dietary requirements into a physical area, and this can be used to show how many people a certain region of the earth can sustain with current technologies and agricultural methods. It can be used as a way of determining the relative carrying capacity of the earth. This indicator can be used for comparing consumption and lifestyles, and checking this against nature's ability to provide for this consumption. The tool can inform policy by examining to what extent a nation uses more (or less) than is available within its territory or to what extent the nation's lifestyle would be replicable worldwide. The footprint can also be a useful tool to educate people about overconsumption with the aim of altering personal behaviour. Ecological footprints may be used to argue that many current lifestyles are not sustainable. Such a global comparison also clearly shows the inequalities of resource use on this planet at the beginning of the twenty-first century. The world-average ecological footprint in 2007 was 2.7 global hectares per person (18.0 billion in total). With a world-average biocapacity of 1.8 global hectares per person (12 billion in total), this leads to an ecological deficit of 0.9 global hectares per person (6 billion in total). If a country does not have enough ecological resources within its own territory, then there is a local ecological deficit and it is called an ecological debtor country. Otherwise, it has an ecological remainder and it is called an ecological creditor country.

As one can see from Table 4 the Lithuania is an ecological creditor country, however this credit is very small (0.031 gha/person), comparing with other developed nations (United States 4.13 gha/person). Estonia also has quite high ecological footprint per capita (7.12 gha/capita) comparing with Lithuania's EF (4.76 gha/capita).

Freedom and human rights

Very important issue of quality of life is related with human rights, freedom, democracy, gender inequality and corruption (Rodrik 2000). All these issues represent the main component of decent life – freedom. The World Audit on corruption, democracy and freedom of press presents the ranking of countries. The ranking of countries in November 2009 is presented in Table 5.

As one can see from Table 5 Lithuania is badly ranked on corruption.

Table 4. The ranking of countries according the ecological footprint

Rank	Country	Ecological footprint, gha
1	United Arab Emirates	15.99
2	United States	12.22
4	Denmark	9.88
6	Ireland	9.43
8	Finland	8.45
10	Sweden	7.53
12	Estonia	7.12
13	Switzerland	6.63
14	Germany	6.31
15	Czech Republic	6.3
16	United Kingdom	6.26
18	Norway	6.13
19	Iceland	6.02
21	Belgium	5.88
22	Netherlands	5.75
28	Poland	5.4
33	Hungary	5.01
36	Lithuania	4.76
42	Slovakia	3.94
43	Bulgaria	3.81
45	Latvia	3.74

Table 5. Ranking of countries based on political freedom

Country	Democracy Rank	Press Freedom Rank	Corruption Rank
Finland	1	1	4
Sweden	1	1	4
Denmark	1	4	1
New Zealand	4	7	1
Norway	5	1	10
Switzerland	6	6	8
Netherlands	6	7	7
Canada	8	16	6
Australia	9	22	8
Ireland	9	9	11
Germany	11	12	12
Belgium	12	5	17
Austria	13	19	12
United Kingdom	14	16	15

End of Table 5

Country	Democracy Rank	Press Freedom Rank	Corruption Rank
United States	15	14	17
Estonia	16	12	21
France	17	23	20
Portugal	18	10	26
Chile	20	39	16
Slovenia	21	31	22
Spain	22	27	24
Costa Rica	23	16	32
Czech Republic	24	14	39
Lithuania	25	19	35
Poland	25	27	32
Hungary	27	23	36
Slovakia	28	23	45

The advocates of institutions argue that definite institutional environment (measured through property rights, rule of law, corruption, bureaucratic quality and other institutional variables) is the key precondition of economic development (Sachs 2003). They state, that the impact of geography on economic outcomes is only indirect, due to the impact geography makes on institutions, the main source of economic growth and development (Cook 1998). Five indexes were constructed by World Bank to measure the quality of institutional environment: Civil and political freedom index (CPFI), Regulatory and business freedom index (RBF), Rule of law index (RLI), Corruption index (CI) and Property rights index (PRI). Table 6 lists the indicators used for the construction of indices. Constructed indices capture different dimensions of the institutional environment. To obtain an overall index of the institutional environment for each country we computed the institutional environment index (IAI). IAI is the simple average of five indices (Jankauskas, Šeputienė 2009).

As one can see from Table 6 the institutional environment index in Lithuania is lower than in Poland, Ireland and UK. Especially bad situation is with corruption index which is almost twice worse than in UK.

Table 6. Institutional environment index in Lithuania and other EU member states

	Lithuania	Poland	Ireland	UK
Civil and political freedom	7.99	7.95	8.79	8.28
Business freedom index	7.00	6.32	8.64	8.67
Rule of law index	5.85	6.00	8.22	8.49
Corruption index	4.58	5.23	7.90	8.90
Property rights index	5.00	6.45	9.00	9.0
Institutional environment index (IAI)	6.08	6.39	8.51	8.67

Life satisfaction and happiness

In Lithuania geographical conditions, climate and political situation do not contribute to happiness. Nationmaster ranks Lithuania 52nd in term of life satisfaction, behind all Western countries. Most scores are based on responses to the following question: “All things considered, how satisfied or dissatisfied are you with your life–as–a–whole now? 1 dissatisfied to 10 satisfied”. The ranking of countries based on life satisfaction is presented in Table 7.

Table 7. Ranking countries according life satisfaction

Country	Rank	Evaluation
Malta	1	8
Switzerland	1	8
Denmark	1	8
Iceland	4	7.8
Ireland	4	7.8
Canada	6	7.6
Luxembourg	6	7.6
Netherlands	6	7.6
Sweden	9	7.5
Finland	9	7.5
United States	11	7.4
Norway	11	7.4
Belgium	14	7.3
United Kingdom	16	7.2
Germany	18	7.1
Italy	20	6.9
Slovenia	33	6.3
Slovakia	42	5.6
Hungary	46	5.5
Estonia	47	5.2
Lithuania	52	4.9
Latvia	55	4.8
Romania	57	4.7

This statistic on happiness is compiled from responses to the survey question: “Taking all things together, would you say you are: very happy, quite happy, not very happy, or not at all happy?” The “Happiness (net)” statistic was obtained via the following formula: the percentage of people who rated themselves as either “quite happy” or “very happy” minus the percentage of people who rated themselves as either “not very happy” or “not at all happy” (Eysenck, Essence 1975). The ranking of countries according happiness is presented in Table 8.

Table 8. Ranking countries according happiness

Country	Rank	Evaluation
Iceland	1	94%
Sweden	2	91%
Denmark	2	91%
Netherlands	2	91%
Ireland	6	89%
Switzerland	6	89%
Norway	8	88%
United Kingdom	9	87%
Belgium	11	86%
United States	13	84%
France	13	84%
Finland	15	83%
Poland	18	74%
Italy	23	64%
Hungary	33	46%
Slovenia	37	32%
Latvia	39	27%
Estonia	41	26%
Romania	42	23%
Lithuania	44	10%
Slovakia	45	5%
Bulgaria	50	-24%

As one see from Table 8 for Happiness, the Lithuania gets the 44th position. Just Slovakia and Bulgaria are scored with lower scores.

Regarding subjective well being and happiness Lithuanian has the lowest index of subjective well-being (Inglehart, Klingemann 2000). The subjective well being is assessed by surveys and consists from mean of two indicators (happiness and life satisfaction). These indicators have been assessed by percentages of happy and satisfied people in the country (Inglehart, Klingemann 2000). In addition it is necessary to mention that empirical studies showed that post-communist countries have very low scores of subjective well being and happiness however Latvia and Estonia are ranked above all post-Soviet republics. At the same time Lithuania has very low score (just 57% of population consider themselves as happy and 40% of population are satisfied with their life). The similar figures are obtained just for Russia, Bulgaria, and Armenia. Inglehart and Klingemann (2000) make suggestion that protestant countries tend to show higher levels of subjective well-being than other countries having the similar past and current experience therefore happiness levels vary cross-culturally. These findings in no way refute the evidence that genetic factors play an important role in subjective well-being but these findings do indicate that genetic factors are only part of the story. Genes may play a crucial role, but religion, beliefs and cultural values are also very important (Clark, Oswald 1994; Easterlin 2001; Frey, Stutzer 2002).

4. Conclusions

1. The high quality of life means decent and healthy long life in clean environment which meets all social needs of population and guarantees life satisfaction and happiness. Safety, freedom, rights and empowerment are important issues of social needs. As economy creates conditions to satisfy social needs the economic indicators also need to be assessed in assessing quality of life in the specific country. Institutional indicators represent the quality of institutions which are the key in implementing all other issues related to quality of life. In addition institutional indicators are directly related with human rights, freedom, empowerment and safe.
2. The first hypothesis raised in the paper was confirmed. The social development chapter in Lithuanian National sustainable development strategy should represent the quality of life. However some important quality of life indicators related with leisure, safety, crime rate, freedom etc. are missing. In addition it is necessary to mention that there are no benchmark indicators established in Lithuanian sustainable development strategy therefore it is difficult to use these indicators for the assessing progress achieved in improvement of quality of life in Lithuania by implementing this strategy.
3. The main indicators covering economic, social, health, environmental and institutional issues were selected to assess quality of life in Lithuania and to compare Lithuania with other countries.
4. The second hypothesis raised in the paper was confirmed. Apart for quite high life expectancy, low crime rate, and reasonable GDP per capita (far from well developed countries though), Lithuania ranks well behind Western countries in all other fields, with regard to freedom, democracy and gender issues, but also quality of accommodation, life satisfaction and happiness. Lithuania certainly isn't a bad place by global standards, but is lower than average by Western standard.
5. Lithuania has very high emigration rate, the highest among new EU member states. There are a lot of analysis and debate about the main reasons of such situation however there is no clear answer as the main research done in this field is based on macro-economic and social factors having impact on migration trends in Lithuania analysis. However, other new EU member states have similar macro economic data, but significantly lower emigration rates therefore other factors, such as institutional level, culture values, national personality and subjective well-being and happiness need also to be analysed and taken into account.
6. Lithuania distinguishes from the other countries with very low subjective well-being score and high suicide rates. Most of Lithuanian's consider themselves as unhappy and not satisfied with their life. This is the main reason of suicide and emigration. Therefore new policies are necessary to deal with these issues.
7. It is necessary to revise the social chapter in Lithuanian National sustainable development strategy and to include the missing indicators of quality of life: leisure, safety, crime rate, freedom, institutional indicators etc. This would help to guide policies towards achievement of the most critical aims of sustainable development related with quality of life in Lithuania.

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