

Environmental indicators for the assessment of quality of life

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Abstract

This paper deals with quality of life in terms of the environment and develops a system of indicators to assess this. An improvement in quality of life is the main aim of sustainable development and is evaluated by applying various factors and indicators. The environmental dimension is one of the major influences on quality of life, and this can be assessed by applying the following groups of indicators: environmental quality, environmentally responsible behaviour and consumption of environmental services. These groups are related because responsible behaviour has a positive impact on environmental quality and leads to greater consumption of services provided by the environment. This paper presents the concept of assessing the environmental dimension in quality-of-life measurements and the main associated indicators. These dynamics were investigated and compared in Lithuania and other EU member states, with policy recommendations developed.

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1. Introduction

There is a close relationship between quality of life and the environment (Diener & Suh, 1997; UNECE, 2009). People's lives are strongly affected by the health of their physical environment. The impact of pollutants and hazardous substances on people's health is sizeable. Environmental quality also matters intrinsically because most people value the beauty and health of the place where they live and care about the depletion of its natural resources (Brajša-Žganec, Merkaš, & Šverko, 2011). Preserving environmental and natural resources is also one of the most important factors in ensuring the preservation of well-being over time (Van Liere & Dunlap, 1980). Environmental policies have a critical role to play in dealing with global health priorities, as well as improving environmentally responsible behaviour and lives (Reto & Garcia-Vega, 2012).

Environmental quality is a key factor in people's well-being because quality of life is strongly affected by the health of the physical environment (Holman & Coan, 2008; Kahn, 2002). More extreme environmental events, such as natural

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disasters (earthquakes, cyclones, floods, droughts and volcanic eruptions) and epidemics may also cause elevated levels of death, injury and disease. In the long term, drastic changes in the environment may also impair human health through climate change (Ahmad & Yamano, 2011).

Aside from affecting people's health, the environment also matters intrinsically because many people attach importance to the beauty and health of the place where they live, and because they care about the degradation of the planet and the depletion of natural resources (Balestra & Dottori, 2011; Kahn & Matsusaka, 1997). People also directly benefit from environmental assets and services, such as water, clean air, land, forests and access to green spaces, because these allow them to satisfy their basic needs and enjoy free time and the company of others (Balestra & Sultan, 2012; Pretty, Peacock, Sellens, & Griffin, 2005).

Environmental indicators can be grouped on the basis of their relationships with quality of life in the following categories: environmental quality, environmentally responsible behaviour and consumption of environmental services. These groups are tightly interrelated because responsible behaviour has a positive impact on environmental quality, which leads to a higher consumption of services provided by the environment.

Preserving environmental and natural resources is one of the most important factors in ensuring the sustainability of well-being over time. However, measuring environmental indicators is difficult: firstly, because the size of impact of current environmental factors on future well-being is uncertain; and secondly, because there are few comparable indicators that meet agreed standards.

The aim of this paper is to develop a framework for the assessment of environmental indicators relevant to the quality of life and apply this to a comparative assessment of such factors in the Baltic states.

The main steps to achieving this aim are to:

- Develop a framework for the assessment of environmental indicators relevant to the quality of life.
- Select indicators for the assessment of environmental quality, environmentally responsible behaviour and consumption of environmental services based on the Eurostat database.
- Analyse and compare the trends of environmental indicators in the Baltic states, and compare these with EU-27 averages for the 2004–2011 period.
- Develop and apply an integrated indicator for the assessment of environmental factors relevant to quality of life in the Baltic states.
- Develop policy recommendations based on the analysis provided.

2. Environmental indicators related to quality of life

The concept of environmental indicators relevant to quality of life is a broad one, and an ideal set of criteria would detail the quality of a number of mediums (including soil, water and air) on people's access to environmental services and amenities, as well as looking at the impact of hazards on human health and environmentally responsible behaviour (Mace, Bell, & Loomis, 1999). Unfortunately, data are scattered and not comparable across countries. For these reasons, the objective indicators presented in this paper are limited to only a subset of indicators reported by Eurostat.

In general, objective indicators – such as the concentrations and emissions of various pollutants – should be combined here with indicators based on people's subjective perceptions of the quality of the environment where they live. As in the case of other subjective data, indicators of satisfaction with environmental quality may be affected by cultural biases and other limits that could affect cross-country comparisons, so these indicators are excluded from the assessment of environmental indicators of quality of life (Liao, 2009).

The quality of the local living environment has a direct impact on human health and well-being. An unspoiled environment is a source of satisfaction, improves mental well-being, and allows people to recover from the stresses of everyday life and perform physical activities. Access to resources such as green spaces, forests and rivers is an essential aspect of quality of life. Economies rely not only on healthy and productive workers, but also on natural resources like water, timber, fisheries, plants and crops (Zheng, 2010). The consumption of environmental services and amenities has a direct impact on quality of life, and conversely, the quality of these services is affected by human behaviour. Environmentally responsible behaviour through activities such as saving energy, using renewable resources and sustainable consumption is the main driver of the quality of environmental services provided (Osbaldiston & Sheldon, 2003; Thogersen, 2006).

Table 1 presents environmental indicators that are relevant to quality of life.

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