

# SUSTAINABLE DEVELOPMENT INDICATORS OF HUMAN CAPITAL

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## ***Abstract***

*Sustainable development of human capital highlights the essence of the development dimension within the area of sustainability, paying a particular attention to human factor issues.*

*Solving the continuous complex equations of sustainable development, human resources manage more and more to get reality closer to possibility and to master their own destinies. The foundation of human development is sustainability, equity, power and its inherent flexibility.*

*Actual and future generations must be treated correctly, with responsibility, and to do this special efforts are necessary to be sure that human development is enduring and sustainable. Also human development is about addressing structural disparities – hence it must be equitable and, last but not least, offer people the chance to a decent life, equity and social well-fare.*

**Keywords:** *human capital, sustainable development, sustainable development index, human development index.*

**JEL Classification:** O<sub>1</sub>, J<sub>24</sub>.

## **1. Introduction**

Sustainable development is a multidimensional concept, in a continuous evolution. Scarcely can you discover a definition for sustainable development that meets the agreement of all the involved actors. However, the most widely used definition is the one given by the “Brundtland Report” (<http://www.ngo.ro/viziune/indic.html>) or “Our common future”, developed by the World Commission on Environment and Development (WCED) in 1972 and officially adopted at a global level during the Rio de Janeiro Summit in 1992: “the

capacity to satisfy the needs of current generation without undermine the next generations' capacity to satisfy their own needs" (Romanian Government, 1995, p.15).

Due to the difficulties involved in analyzing the intergenerational dimension of sustainable development, many interpretations of the concept focus on the issue of more and more persistent inequities that can be observed within the same generation. Inequities can refer to the way incomes are distributed (the most discussed in the literature), but also other resources of society such as educational services, health services, equal opportunities, human rights defending.

Development through people and for people highlights the fourth dimension of human development: participation with the chances they have to create personal and national welfare.

The individuals are the instruments and the beneficiary, but also the victims of all development activities. Their active involvement in the development process is the key of its success. Moreover, if we do not think permanently to improve humans' life, environmental programmes will certainly fail.

Generally, the poor are the most affected by the environmental degradation and the less able to protect themselves, but at the same time they are those who produce the most damage due to their short term needs or due to their ignorance or lack of resources. This is way it is very important to also involve the unprivileged and the excluded in the development process, allowing them in this way to satisfy their own needs through their productive efforts.

Any development process should have a human goal; otherwise it is doomed to failure.

Sustainable development represents a new way of development that supports human progress not only in few places and for few years, but for entire world population and on a long term.

*Sustainable development encloses and correlates the following elements: expansion, growth, progress, development and underdevelopment, with double finality, economic development and human development.*

## **2. Sustainable development index**

The index set of sustainable development for Romania is structured on the architecture proposed by Eurostat, with a hierarchy on three levels (<http://www.ngo.ro/viziune/indic.html>):

- level 1: key indicators (basic);
- level 2: indicators that can be used to monitor and review sustainable development programmes;
- level 3: analytical indicators.

This way defined, the set of indicators can be a solid base for a periodic monitoring of progresses in strategic goals achievement of sustainable development.

IDD system for Romania is harmonized with European set on basic pillars level:

- architecture: hierarchic structure on themes, sub-themes, intervention areas;
- concepts, definitions, associated classifications;
- calculation methods.

The system integrates in a pyramidal construction economic, social and environment indicators available to three-dimensional evaluation of sustainable development in Romania.

Data base (IDDR) with IDD for Romania includes 85 indicators, with data series available in national statistic system starting from 2000, hierarchies according to European system: 7 indicators of level 1, 20 indicators of level 2 and 48 indicators of level 3. The data base will be updated and completed with others indicators based on their development and availability.

The system of sustainable development indicators encloses (<http://www.ngo.ro/viziune/in-dic.html>):

- a) Indicators that quantify rational use of fields and the impact on eco-system;
- b) Indicators that quantify the impact of constructions on forests and pastures;
- c) Indicators that are taking into consideration biological diversity;
- d) Indicators for impact evaluation on water resources;
- e) Indicators for row material's resources evaluation, energy and recycling potential;
- f) Indicators of ecological effect;
- g) Indicators of Human Development (HDI).

**Human development index** are indicators that refer directly to aspects that are related to quality of life such as livelihood conditions, education and health access, energy / resources consumption and work productivity, level of pollution that would affect human health. Thus indicators can be:

- *number of inhabitants in an urban or rural settlement;*
- *number of houses;*
- *number of inhabitants;*
- *household's surface;*
- *apartment's surface;*
- *net area built;*
- *energy' consumption/ inhabitant;*
- *energy consumption/ product unit;*
- *specific consumption/ working.*

### 3. The role of sustainable development indicators

Sustainability comprises at least three aspects: ecological, social and economic. It is not necessary to try to include all these aspects in just one set of indicators, but it has to be clear that each of them has its role in establishing some policies. The goal of indicators is to allow first the monitories and then the evaluation of different aspects of sustainability (durable development), but also to offer punctual indications that can be useful for policies. In order to meet this goal, the indicators must satisfy a set of qualities, such as being relevant to establish the policies, usability, scientific base, the capability of being quantifiable.

It is necessary to use criteria / indicators / standards from the elaboration phase of a strategy / policy and also to establish a monitoring and evaluation methodology. In this regard, choosing the indicators is directly linked with the way on how sustainable development concept is perceived. For example, a theoretical approach of concept will highlight the fact that natural resources are limited and consequently tends to require absolute limits on collective and individual use of environment. On the contrary, a more relaxed approach would reveal the interchange of social, economical and environmental resources.

There are standard qualities that are required to some indicators such as representativeness, replicability, the data on which they are based, lack of ambiguity, etc. In this respect the following are very important: the coverage level of environmental effects, penetrating inside the entire life cycle and the transfer (or not) of those problems to the next generations.

Nowadays there were elaborated some indicators that can be used as they are or with small adaptations. New ones can also be imagined. Unfortunately, all indicators are more or less specialized; integration is relatively difficult, if not impossible at this moment.

One of the most complete existing lists of indicators belongs to *UN Commission on Sustainable Development*. The list encloses over 100 indicators which cover all possible environment aspects. A possible limitation of this list, as well as all other lists derivate from it (and used by World Bank, European Union, etc.) is the fact that those indicators are based on data that don't overpass national boundaries of countries

*Human Development Index* is an indicator a-dimensional that encloses different social and economical parameters (life expectancy, education level, purchasing power). It isn't totally clear how good this index is to describe the social sustainability, but it's obvious that it doesn't enclose environment aspects.

Another example of indicator is the way how the World Bank calculates the wellbeing of nations (*Wealth of Nations*). Wealth of each nation is calculated based on human capital, both natural and product. Following the increase or decrease of capital you can determine if

the country is going forward or is in regress. The main problem of this system is that everything is measured in monetary terms.

Simply the fact that the main indicators used today are either vane, either limited to strict domains, either limited at restricted geographical areas suggests the complexity of encountered difficulties in elaborating some sustainable policies. This fact mustn't be an obstacle for searching new indicators more precise and more comprehensive in the same time, which can become more useful instruments in elaboration, monitoring and evaluation of sustainable policies.

Searching ecological improvements isolated, on different areas, doesn't guarantee an improvement from sustainable development point of view. For this is necessary to follow up social and economical effects of all policies, and also of free market initiatives.

#### **4. Human development index – specific element of sustainable human development**

Human Development Report offers efficient recommendations both at a national and at an international level. On national level the recommendations target human development policies' priorities, the need to establish a new partnership between state and business environment, civil society's institutions, communities and individuals.

The economic-social environment in Romania and the specialists in this field have found about the present concept of human development since the first Global Report on Human Development form 1990 was elaborated by the United Nations Programme for Development (PNUD). This report tried to create the foundation of a new approach covering all the aspects of human living, contributing to human development's definition, quantifying method and political analysis.

In the "Human Development Report" the human development index (HDI) is an alternative method to evaluate development, completing the economic indicators.

The United Nations, 4<sup>th</sup> November 2010 – the Global Report on Human Development for 2010 – "The real wealth of nations: pathways to human development" – examines the progress registered in fields like health, education and incomes starting with 1970, as it is measured by Human Development Index for the 135 countries for which comparable data are available.

Table 1

*Sustainable human development indicators*

	Indicators	Minimum level	Maximum level	Absolute level 2010
1	Life expectancy at birth (years)	25,00	85,00	73,2
2	Literacy rate (%)	0,00	100,00	97,7
3	Schooling rate (%)	0,00	100,00	79,2
4	GNI per capita (2008 PPP. \$)	100,00	40000,00	6661,00

Source: www.undp.ro, Human Development Report

Human Development Index is a composite index measuring average achievement in three basic dimensions of human development—a long and healthy life, knowledge and a decent standard of living. The HDI is the geometric mean of the three dimension indices:

$$(ILife^{1/3} \cdot IEducation^{1/3} \cdot IIncome^{1/3})$$

Individual indicators for exposed variables have the values presented in table 2.

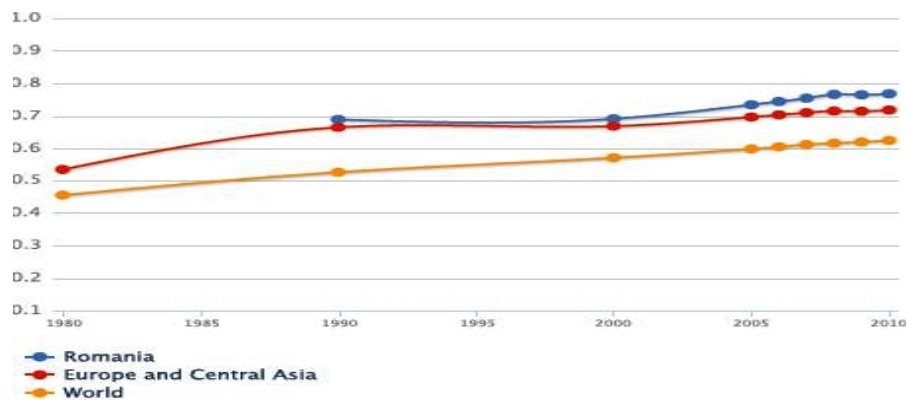
Table 2

*Individual indicators*

<i>Individual index</i>	<i>Value</i>	<i>HDI</i>
1. Life expectancy index	73,2	HDI=0,767
2. Education index	10,6	
3. GNI index (2008 PPP. \$)	9,5	
4. Sustainability index (% din PIB)	13,7	
5. Human safety index	4,8	

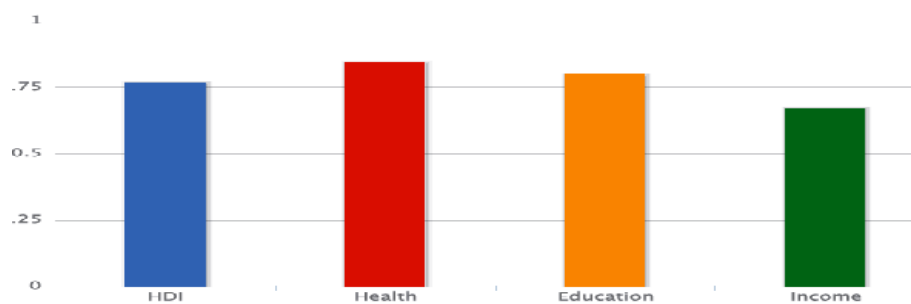
Source: <http://hdrstats.undp.org/en/countries/profiles/ROU.html>

Romania is on the 50th place from 169 countries analyzed in this study, placed in the developed countries group (High Human Development) registering an increase of HDI (1990-2010) of 0.54%, meaning 1.06 reported to 2000-2010.



*Fig. 1. Human Development Index: Trends 1990 – present)*

Source: [www.undp.ro](http://www.undp.ro), Human Development Report



*Fig. 2. Human Development Index: Health, Education and Income*

Source: [www.undp.ro](http://www.undp.ro), Human Development Report

## 5. HDI 2010 plus new indicators for Inequity, Gender and Poverty

The countries from top 10 concerning HDI for 2010 are Norway, Australia, New Zealand, United States, Ireland, Lichtenstein, Holland, Canada, Sweden and Germany. Closer to Romania the countries that are in the category of top human development or “high development level” are Hungary (36) and Poland (41). Romania (50) and Bulgaria (58) are in the second quarter HDI of “human development level”, together with Serbia (60) and Ukraine (69).

Human Development report form 2010 continues the HDI tradition of measurements innovation, presenting indicators that are addressing crucial factors of development and that aren’t reflected directly in HDI:

- Inequality-adjusted Human Development Index – IHDI;
- The Gender Inequality Index-GII;
- The Multidimensional Poverty Index – MPI;
- Civic and community wealth.

#### *Inequality-adjusted Human Development Index – IHDI*

In the new measurement of inequity, considering disparities concerning health, education and income in 139 countries, East Europe reveals in average as being the more equitable region from developed world. Czech Republic, Slovenia and Slovakia have the most decreased losses – 6- 7 percents from Inequality –adjusted Human Development Index, although, Poland, Romania, Bulgaria and Croatia are registering losses of 10.8, 12.1, 11.3, respective 15.3. Concerning living standards and incomes for unprivileged national groups, HDI for individuals of Romani ethnic from Romania, those are far above national average. Romani's incomes represent a third part of the national average, and child mortality rate is three times higher.

#### *The Gender Inequality Index-GII*

The Gender Inequality Index – which encloses discrepancies based on gender concerning reproductive health, women empowerment and labor force participation rate in 138 countries reveals that in East Europe the females' representatives in parliament is quite low in whole region, although the women are almost at parity concerning the education level and labor force participation rate. Global loss caused by gender inequality in East Europe and Central Asia is 19%; south Asia by contrast registered the highest regional loss of 35%. In Romania, the low participation of women in politics, only 9,8 % is the promoter of gender disparity.

#### *The Multidimensional Poverty Index – MPI*

This report contains a new measurement of multidimensional poverty which completes poverty evaluation based on incomes, taking into account multiple factors on domestic level, from living standards to education access, current water and medical care. There is estimated that appreciatively 1.7 billions of people – even a third of population from 104 countries included in MPI – live in multidimensional poverty, more than 1.3 billons that live with 1.25 \$/ day or less.

Multidimensional Poverty Index – which identifies serious lack of health, education and living standards in 104 countries – shows that “multidimensional” poverty in East Europe and Central Asia is relatively rare, affecting 3% of population compared with 10% in Latin America and 65% in sub-Saharan Africa for example. Those figures, relatively low, reflect specific indicators of MPI and don't involve the lack of economical difficulties, quite sever, in East Europe and Central Asia.



### *Community and civic wealth*

The report classifies Singapore (98) on the top of the list as being one of the most secure countries, while South Africa (20) is on the lowest position. Through European Union countries, Denmark (83) is perceived as being the most secure state in European Union while Lithuania (29) together with Latvia (44), Slovakia (47) and Romania (51) have the lowest perception concerning citizens' security.

## **6. Final considerations**

Human development index offers a complete radiography of the human development level in the world, a global appreciation of progress and different strategies that were followed by states in order to attain human wealth. This index measures the relative distance that separates each country from the goals that are considered being priorities not in the present, but mostly in future, considering: a long and healthy life, access to knowledge and last but not least, a level of income that ensures a decent standard of living and which would preferable be at the level of the medium global level of GNI per capita.

A generalized participation on local, national and global level will have a profound impact on all development aspects: it can confer a new dynamic to the development process, can configure a renewed society, more equitable than the existing one, centred on individual's basic interests. Aligned with the human development concept, the most profound and effective way of participation is the access to work and remuneration, by this meaning that a priority goal of the human development strategies is creating new working places, improvement of the existing ones, reviewing the concept of work and work duration, extending the concept of capital that besides physical and financial capital should enclose in the human capital the cultural one, too.

Sustainable human development – as universal development specific to individuals and populations, in their quality of scope that subordinates the markets' targets, governmental administrations, international organizations (economic, political and military), of all institutions of the contemporary society – became an operational concept in present-day world.

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