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INDICATORS OF SOCIAL SUSTAINABILITY

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Theoretical background

The aim of the Social Work group was to develop a set of social indicators in the framework of the National Programme for the Evaluation of the Environment (KÉP). After reviewing a number of approaches to the measurement of social sustainability (BODORKÓS et al. 2004), we have chosen the "multiple capital" (also called "sustainable livelihood") model which separates the four dimensions of livelihood into human capital, social capital, man-made (economic) capital and natural capital. According to this approach, all forms of capital are significant components of the quality of life. Empirical research studies have also confirmed that - similarly to natural capital – human and social capital are also key factors of economic development (FUKUYAMA 1995). Another advantage of the multiple capital approach is that it is used by several organisations active in the field of international development (such as the World Bank, EU, UNDP, NGOs) (http1). This approach also provides for the coherence between the social indicators – addressing human and social capital – and indicators measuring natural and economic indicators developed by the other work groups of the National Programme.

According to the multiple capital approach, social sustainability can be interpreted in terms of the following topics of human and social capital:

1. Population, family, children
2. Physical and mental health
3. Education, capacities, skills
4. Employment
5. Culture and recreation
6. Access to basic goods and services, inequalities, poverty, the situation of minority groups
7. Relationship with nature and community
8. Participation in civil society and politics
9. Security and crime

Investigation of existing databases

In the first phase of the project we reviewed the existing statistical databases from the perspective of the above mentioned components of social sustainability. We started from the fact that the elaboration of social indicators is practical on three levels: (i) the settlement, (ii) the region (for example a micro-region, a county, a watershed), and (iii) the whole country. We have also distinguished two types of social indicators: (i) fact-type indicators, which are based on factual data drawn from statistical databases, and (ii) opinion-type indicators, which can only be measured by using empirical data collection methods (e.g. opinion surveys). To gather opinion data, we need to sample the general public or certain elite groups (e.g. municipal leaders, entrepreneurs, the cultural elite). In Table 1 national databases relevant for fact-type social indicators are summarised.

Table 1. Possible data sources and their content relevant for the social indicators
1. táblázat Lehetséges adatforrások és a szociális indikátorok szempontjából fontos tartalmuk

Central Statistical Office (KSH) databases

1.1 Census data of the year 2001, which include the following:
- Demographic data
- Data of households, families
- People looking for jobs
- Employment, daily commuting
- Data related to the handicapped
- Regional data: the most important demographic, employment, household and settlement data

1.2 The T-STAR database contains information which is yearly extrapolated from census data. It includes data related to the following topics, at the level of settlements:
- Population in terms of sex and age, demographic data
- Business organisations
- Housing
- Infrastructure and environmental load
- Medical data (e.g. number of doctors, medical services)
- Social services
- Education system (e.g. number of students, teachers in different types of school)
- Public education
- Unemployment

1.3 The thematic almanacs and databases of the Central Statistical Office contain further details of the data of the T-STAR database. The relevant topics are:
- Population, demography
- Standard of living
- Housing, communal services, environmental protection
- Public health
- Employment

2. Database of VÁTI Institute

Relevant topics of the TeIR database established by VÁTI include the following:
- Demography

- Employment
- Economy (industry, agriculture, tourism)
- Infrastructure networks
- Standard of living
- Land use data
- State of the environment
- Legal means of regional planning and development (e.g. important regulations and decisions)
- Financial resources for regional development
- Organisations concerned with regional development and planning
- Institutions, transportation, culture

3. OEK-database

This describes the state of public health, based on the results of the National Public Health Survey, regularly carried out by the National Epidemiological Centre (OEK). Collected by investigating a large number of subjects (7 thousand people). Data are published at http2.

4. Other medical databases

The GIS database of the József Fodor National Public Health Centre (FJOKK) ceased to exist on 31 December 2006. The formation and transformation of forthcoming organisations is under way. The data of the National Public Health Centre are currently not available. Mortality data are available at http3.

5. Databases available at the Ministry of Education

- "Education at a glance" almanacs (OECD)
- Public Education Statistical Data (data at the national level from the year 2006 (http4).

6. Database of the Ministry of National Cultural Heritage

- Data of cultural institutions (county level), local public education and cultural events, civil society organisations (http5)
- Database of the National Civil Fund concerning the non-governmental organisations taking part in tenders (http6).

7. Police, Prosecution, and Criminal Statistics

It has detailed criminal investigation data with updated content, at the level of counties (http7). In addition, there is a database supported by a GIS. This lets us represent the required data on a map nationally and at the level of police-stations. Certain data of individual police stations can be represented in separate charts. Thus data of the settlement can be obtained (http8).

8. National Employment Service database

The regional unemployment information is continuously updated (http9); even data of the previous month can be obtained, in pdf format.

On the basis of our investigations, the following evaluation can be given about the existing statistical databases. In the domain of social indicators we found that indicators connected to topic 8 (participation in civil society and politics) are largely to be derived from opinion data, while those associated with topic 7 (relationship with nature and community) are drawn exclusively from opinion data. Except for these two topics, data related to the potential indicators can be found in the above databases, at least in principle. However, there are several problems arising with the application of the databases:

(1) There are several databases which contain the data necessary for measuring social indicators, but they are not broken down according to settlements. Such data can be found for example, in the KSH census databases, which only contain information about county and micro-regional aggregations.
(2) There are databases which must be paid for, such as the KSH T-STAR database.
(3) Finally, we found databases whose content and integrity are questionable because of the data gathering methods. There are databases which are not updated frequently enough (for example the Public Education Statistical Data), or there are databases where future data collection is not warranted, such as the database of the national measurement of competence of the Ministry of Education.

The selection of the indicator set

After reviewing the existing databases, indicators were chosen in several rounds. In the first round, a brainstorming was organised with the participation of the work group members to determine sustainability goals and potential indicators measuring the degree of achieving these goals. The results are presented in Table 2.

Table 2. Sustainability goals and potential indicators
2. táblázat A fenntarthatóság céljai és lehetséges indikátorai

1. Demography
Goal: "Healthy" demographic structure, social mobility
Demography:
Distributions according to age, sex, qualification, size of the family
Balance of migration
Social mobility (i.e., the difference between own qualifications and the parents' qualifications)
2. Health
Goal: Everybody has a chance to live in healthy circumstances, in case of an illness everybody can get appropriate health services
Health status:
Life expectancy at the time of birth (men, women, ethnic groups, handicapped people)
Life expectancy spent in well-being
Infant mortality
Mortality rate (divided according to main reasons for death)
Provision with medical institutions:
Provision with GPs, paediatricians
Availability of outpatient facilities and hospitals
3. Education
Goal: Everybody can have access to those skills, abilities, knowledge necessary to fully function in society
Level of knowledge:
Comprehension of written texts, mathematical knowledge, added pedagogical value among students

Comprehension of written texts and mathematical knowledge among adults
Educational institutions and their use:
Availability of public education institutions
Proportion of people participating in adult education
Accessibility of education to the handicapped

4. Economic activity

Goal: Everybody has a chance to do meaningful activities suitable for their qualifications, age, family and medical status

Economic activity:
Rate of employment, unemployment
Other data characterising economic activity (e.g. second job, production for family consumption)

5. Culture

Goal: Everybody has access to culture, or can take part in its production and conservation

Supply of cultural institutions, and their use:
Proportion of the public using public libraries and other cultural facilities
Proportion of participants in artistic activities
Local cultural heritage:
Local values, for example handicraft, music, literature, fine arts, buildings
Proportion of inhabitants taking part in the conservation of local values, in publishing them, in organising festivals or as members of the audience

6. Access to basic goods, poverty

Goal: Everybody has access to a healthy dwelling, basic infrastructure and goods

Dwelling, infrastructure:
Indices of provision with dwelling (housing conditions suitable for the handicapped separately)
Proportion of people with healthy drinking water
Proportion of people with access to appropriate sewage treatment
Access to transportation (how long it takes to get to the doctor, to school, to the shop, to the local government, to the post office, to the neighbouring village, to the county seat, to the capital, etc., whether there are any means of public transportation)

Poverty:
Proportion of people living in poverty (children separately)
Proportion of people receiving aid

7. Relationship with the community and nature

Goal: Community norms and networks, trust, attachment to the community and to the natural environment

Relationship with the community and nature**:**
Trust in community members
Attachment to locality, local identity
Communal relationships (with neighbours, friends)
Relation to the natural environment
Characteristics of a “micro-regional” life

8. Participation in civil society and politics
Goal: Everybody takes part in decisions concerning the community and in communal activities, jobs
Civil activity
Proportion of the population who are members of civil society organisations (CSOs)
Proportion of the population who participate in the work and actions of CSOs
Proportion of participants in other communal activities
Possibilities for participation by the handicapped
Political participation:
Proportion of participants voting in parliamentary and local elections
Trust in political institutions (the government, the parliament, the municipal government, the courts, etc.)

9. Security
Goal: Everybody can live in a secure social environment
Violation of law
Number of crimes
Proportion of juvenile offenders (within the group of local juveniles)
Number of violations of environmental regulation
Feeling of security
People's feeling of security

Potential indicators were then discussed and interpreted in several rounds by the work group and they were screened according to the following criteria: (1) the attainability of the data, (2) the frequency of data collection and its aggregation level (preferably data are measured yearly and at the settlement level), (3) the relevance of the indicators for the key social processes, (4) the temporal and spatial sensitivity of the indicators. The set of potential indicators were discussed at various meetings of the National Programme (Budapest, 2005 and Csopak, 2006 Conferences) and were further refined on the basis of the proposals. The planned indicators were then discussed by the Environment Management Subcommittee of the Hungarian Academy of Sciences in March 2006. The final fact-type indicators are shown in Table 3/a. The 13 indicators cover 7 out of the 9 topics. In order to cover the missing topics it was suggested that opinion-type indicators be developed to be measured by public opinion surveys. The proposed list of the latter indicators can be found in Table 3/b.

Table 3/a. Fact-type indicators
3/a. táblázat Tény-típusú indikátorok

1. Demography
1.1 Balance of migration (the difference of immigration and emigration)
1.2 Index of aging (number of people under 14 years of age /number of people over 60)

2. Health
2.1 Life expectancy for women at the time of birth
2.2 Life expectancy for men at the time of birth
2.3 Infant mortality (projected to one thousand births)
2.4 Rate of mortality due to specified reasons for death (tumours + respiratory diseases) (projected to 100 thousand inhabitants)

3. Education
3.1 Percent of people over the age of 15 with a minimum of eight years of primary education
3.2 Percent of people over 18 with at least a certificate of secondary education

4., 6. Economic activity, poverty
4.1 Proportion of people registered as unemployed to the total number of inhabitants
4.2 Proportion of people who are employed to the total number of inhabitants

8. Participation in civil society and politics
8.1 Number of non-governmental organisations per one thousand inhabitants
8.2 Proportion of inhabitants voting in municipal governmental elections

9. Security
9.1 Number of reported crimes per one thousand inhabitants

Table 3/b. Opinion-type indicators
3/b. táblázat Vélemény-típusú indikátorok

1. Demography
How long have you been living in the settlement (region)?
How many of your family members, relatives, and friends live in the settlement (region)?
How many generations of your family have lived in the settlement (region)?
Plans concerning moving from the settlement (region)

2. Health
Subjective judgement of health
Judgement of physical limitations

3. Education
The total number of years spent in institutional education

4.5.8. Economic, communal, and cultural activities
"Time balance":
- time spent on income earning activities,
- time spent on communal work, and helping (relatives, friends, neighbours etc.),
- time spent on learning, education, sports,
- time spent on transport

7. Communal networks, trust, environmental awareness
Trust in the members of the local community, in public institutions (the government, the parliament, the municipal government, the courts, etc.) and in political leaders
Connections to local networks (of relatives, friends, colleagues, etc.)
Purchases from local producers
Segregation
Environmentally conscious behaviour (participation in selective waste collection, adoption of alternative heating methods, use of types of transport which saves the environment, etc.)

9. Security
Subjective feeling of security

In Table 4 we present the data sources of the above mentioned fact-type indicators.

Table 4. Data sources for the fact-type indicators
4. táblázat A tény-típusú indikátorok adatforrásai

Indicator	Source of data
1.1 Balance of migration	T-STAR database
1.2 Index of aging	
2.1 Life expectancy for women at the time of birth (years)	József Fodor National Public
2.2 Life expectancy for men at the time of birth (years)	Health Centre GIS database
2.3 Infant mortality for 1000 births	(http10)
2.4 Number of specific reasons for death (tumours + respiratory diseases) for 100 thousand inhabitants	(currently not available)
3.1 Percent of people over the age of 15 with a minimum of eight years of primary education (%)	T-STAR database
3.2 The proportion of people over 18 with at least a certificate of secondary education (%)	
4.1 Proportion of people registered as unemployed to the total number of inhabitants (%)	Database of the National Employment Service (http11)
4.2 Proportion of people who are employed to the total number of inhabitants (%)	
8.1 Number of non-governmental organisations per one thousand inhabitants	Regional Informational Public Education Database (http12)
8.2 Proportion of inhabitants voting in municipal governmental elections (%)	Ministry of Interior electoral database (http13)
9.1 Number of reported crimes per one thousand inhabitants	Police, Prosecution and Criminal Statistics (http14)

Table 5 shows the values of the proposed fact-type indicators in the city of Keszthely and Zala County for the year 2006. At the time of the study health indicators were accessible only at the national level.

Table 5. The value of fact-type social indicators in Keszthely and Zala county (2006)
5. táblázat A tény-típusú szociális indikátorok értékei Keszthelyen és Zala-megyében (2006)

Indicator	Keszthely	Zala county
Demography		
Balance of migration	-80	-165
Index of aging	136,41	162,3
Education		
Percent of people over the age of 15 completing at least eight years of primary education (%)	91,9	87,5
The proportion of people over 18 with at least a certificate of secondary education (%)	48,8	33,6

Contd Table 5.
5. táblázat folytatása

Indicator	Keszthely	Zala county
Economic activity		
Proportion of people registered as unemployed to the total number of inhabitants (%)	4,2	4,3
Proportion of people employed to the total number of inhabitants (%)	–	43,31
Participation in civil society and politics		
Number of non-governmental organisations per one thousand inhabitants	10,84	8,57
Proportion of inhabitants voting in the municipal governmental elections of the year 2006 (%)	51,36	53,06
Security		
Number of reported crimes per one thousand inhabitants	5,798	3,720
Health		
	National data	
Number of death due to tumours per 100 thousand inhabitants	388,5	
Infant mortality per one thousand births	6,6	
Life expectancy for women at the time of birth (years)	76,9	
Life expectancy for men at the time of birth (years)	68,6	

Summary

The proposed fact-type social indicators can be classified according to data attainability in the following way:

1. Data needed for several indicators can be obtained free of charge from online databases (database of the National Employment Service; Police, Prosecution and Criminal Statistics; Regional Informational Public Education Database) at the level of settlements, in yearly divisions. Indicators concerning registered unemployment (4.2.), security (9.1.), and the number of non-governmental organizations (8.1.) belong to this category. We note that if settlements were constrained to cities, demographic (1.1. and 1.2.) and educational (3.1. and 3.2.) indicators would also belong to this category, since data for such indicators can be obtained from the statistical almanacs of counties.
2. At the level of all settlements, the demographic (1.1. and 1.2.) and the educational (3.1. and 3.2.) indicators can be obtained from the T-STAR database, which can be used for a fee.
3. Data on electoral participation (8.2.) can only be obtained from the Ministry of Interior (National Bureau of Election) database. This online database, which is updated in every fourth year and divided into settlements, is free of charge.
4. Data needed for the indicators related to the state of health (2.1. – 2.4.) can only be obtained in national or regional divisions, from two databases. Data needed for the indicator concerning employment (4.1.) can only be obtained in micro-regional or county divisions.

If the indicators suggested by the Social Work group are adopted, there must be a guarantee that the yearly indicator data for all types of settlements can be obtained free of charge. This requires free access to the data of the T-STAR database, which now can only be obtained for payment. Mortality data for all types of settlements (which are otherwise collected by the Central Statistical Office, but are not attainable) should also be accessible free of charge. Employment data should be available at the level of all types of settlement.

To develop opinion-type indicators, the next step would be to compile a questionnaire on the basis of the questions in Table 3/b, and then to carry out a survey in the pilot region. A proposal for a set of opinion-type indicators should be made on the basis of the survey results.

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A SZOCIÁLIS FENNTARTHATÓSÁG INDIKÁTORAI

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Kulcsszavak: szociális fenntarthatóság, több tőkefajta megközelítés, humán tőke, szociális tőke, indikátorok

A KÉP Társadalmi Munkacsoport a társadalmi fenntarthatósági indikátorok fejlesztésének elméleti keretéül az ún. „több tőkefajta" (multiple capital) modellt választotta. E modell elkülöníti – noha egymással nyilvánvalóan összefüggenek – az életminőség négy dimenzióját, a négyféle tőkét: az emberi (humán) tőkét, a társadalmi tőkét, az ember alkotta tőkét és a természeti tőkét. A cikk a humán és társadalmi tőkével kapcsolatos indikátorok kifejlesztésének folyamatát mutatja be. A szerzők megkülönböztetnek statisztikai adatbázisokból nyerhető (tény-típusú), illetve csak empirikus adatfelvétellel mérhető (vélemény-típusú) indikátorokat, és a hazai társadalmi környezetben releváns tény-típusú indikátorok körére tesznek javaslatot.