

University of West-Hungary

Thesis of the PhD dissertation

**THE ECOLOGICAL, PEDAGOGICAL, AND PSYCHOLOGICAL ASPECTS OF
SUSTAINABILITY**

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1. The need for and the goals of shaping the public attitude towards the environment

Nobody questions the fact anymore that we live in an age that endangers even the very quality and dignity of human life and we hear more and more of environmental crises. The crises endanger numerous aspects that the existence of future generations depends on. All this serves as a warning to us that we have to develop practices that are *more harmonious with the environment*, more environmentally-friendly lifestyles, and a suitable *system of values*. The most effective instrument of developing a suitable approach and behaviour is *education, training, personality development, and attitude shaping, which combined is an environmental pedagogy that integrates the sciences, presents them as a whole, and implements their sustainability*. However, we cannot speak of isolated environmental problems, since the crisis is global in its nature, it affects every substructure of society, including, in addition to ecosystems, societal, political, and economic systems. *Only people who act knowledgably, are familiar with the relationships of the environment, economy, and society and who come to know the problems that affect those and only those people who take action to solve those problems* are capable of providing for the Earth, a country, or a family in a *sustainable manner*.

The main objective of the present research is to *formulate the environmentally knowledgeable viewpoint of students in public education* through the results of the complex assessment of the *ecological, pedagogical, and psychological aspects of sustainability*, to *unveil the environmental attitude of the adult population*, and to *work out the possibilities for formulating those in a positive direction*.

In order to achieve these objectives, following the presentation of the *ecological, pedagogical, and psychological aspects of sustainability*, the author presents her empirical research. The author of the dissertation examined Resolution 96/2009 of the National Assembly on the third National Environmental Protection Program from the aspect of how it helps and what tasks it defines for local governments in order to implement the development of the population's environmental awareness. This is followed by an assessment of the activities carried out by local governments, which activities are aimed at the development of the population's environmental awareness. Finally, *the attitude of the adult population and children towards the environment* was examined.

The author opted to unveil the environmental attitudes of the adult population and children to gain knowledge regarding and prove how behaviour can be changed with the influencing of attitudes to achieve environmental awareness.

During the course of these studies, the author also evaluated the degree that the principles of sustainability were validated in the activities of local governmental bodies and whether *local governments* are capable of fulfilling the tasks defined by the National Environmental Protection Program regarding *shaping public attitude*.

2. The hypotheses of the research

1. Despite of the National Environmental Protection Program passed by a Resolution of the National Assembly, *the environmental awareness of the adult Hungarian population is not adequate* regarding either attitude or behaviour.
2. The third *National Environmental Protection Program* aims to develop the *environmental awareness of local governments and the population with all of its action programs*.
3. Being familiar with the third National Environmental Program, *local governments pass suitable resolutions and work out action programs* and in fact take the necessary steps to implement to raise the *population's environmental awareness*.
4. *The environmental knowledge of the adult population has grown in recent years, which is expected to manifest in their behaviour and activities*.
5. Despite of the requirements set forth in laws and curricula that regulate school pedagogical work, *children are still not suitably attached to the environment and their environmental awareness is not adequate*.
6. The results of the dissertation *add to and enrich environmental awareness of society in a wide spectrum* and helps *local government leaders face the deficiencies of their work* so they can realize that they are personally responsible for how the population of their settlement reacts with their environment.

3. The methodology of the research

In order to evaluate the hypotheses, the author undertook to apply a *complex research methodology*. The following are the applied methods:

- *Document analysis*: the author examined the objectives and the definitions of the tasks of the National Environmental Program and evaluated those as pertaining to local governments, education institutions, and the general population. The author then analyzed and evaluated Government Decree 202/2007 on the issuing, introduction, and application of the National Core Curriculum with regard to environmental awareness.
- *Statistical survey research*: the author examined the activities of local governments regarding sustainability through the use of a written questionnaire, which was then supplemented with *verbal and telephone interviews*.
- *Case study*: the author of the dissertation prepared a case study in the settlement where damage to the environment reached a particularly significant degree. The participants of the case study include the local government, the Principal and students of the primary school, and the adult population.
- *Research of the population's attitude*: the author had a written questionnaire filled out two times by the adult population: once in 2007 and again in 2010.
- *The application of projective procedures*: the relationship of children to nature and their environment was examined through the *analyses of their drawings*. Through the analysis of a “*world view test*,” the author examined how natural motifs figure in children’s world view and, by evaluating the results, shed light on the deficiencies that have to be corrected and the tasks that have to be implemented through school education.

4. Research results

Numerous conferences have been held and agreements have been concluded *to achieve sustainability*. Hungary has also joined the majority of international treaties, as a result of which the third *National Environmental Program* was passed to define the framework of the Hungarian environmental protection policy.

On the basis of the results of the analysis of the Hungarian adult population's environmental awareness, despite of the National Environmental Protection Program passed by a Resolution of the National Assembly, the environmental awareness of the adult Hungarian population is not adequate regarding either attitude or behaviour. The pertaining hypothesis was thus unfortunately proven to be correct. According to the results of the *research on attitude*, 25% of the population could not even name the problems that affect their environment, and so it is futile to expect them to provide solution proposals or to display correct behaviour. A type of duplicity was apparent in the adults that participated in the test, since *they strongly differentiated between the problems of the world at large from the problems their immediate environment faces*. This is substantiated by the result that the disadvantageous effects of *climate change* was listed by 21-24% as the *most severe of the problems faced by humanity*, while *nobody mentioned it as a problem faced by Hungary* (as if we were not affected by the phenomenon).

The National Environmental Program includes important *tasks for local governments* and for the population but also includes certain *deficiencies* in its various thematic action programs.

The results of the analyses unequivocally indicate that the National Environmental Program, which provides the domestic framework for the solutions to global environmental problems, includes aspects pertaining to sustainability and environmental training; however, in certain action programs, *it fails to lay suitable emphasis on the adequate development of the values and environmental attitude of the adult population and therefore the hypothesis according to which the "Program aims to develop the environmental awareness of local governments and the population with all of its action programs" is unfortunately disproved.*

On the basis of the test results, the *population awareness raising activities of local governments* include numerous areas that require correction and development. On the basis of the research, **the hypotheses that states that "being familiar with the third National Environmental Program, local governments pass suitable resolutions and work out action programs and in fact take the necessary steps to implement the raising of the population's environmental awareness" was not found to be true**, since the majority of local government leaders are not clear on their tasks as defined by the National Environmental Program (e.g. preparing for climate change). *Informing the population* is also superseded by other tasks (since it often happens that local government leaders are not well informed regarding this area, for example several wrote they were not familiar with the water quality of their own

settlement). In addition, *the assessment of consumer needs* (e.g. in relation to water quality) and the inclusion of the population in decisions regarding their immediate environment takes place only occasionally and in a small number of settlements.

The results of the follow up test indicate that in 2010, *the awareness and knowledge of the examined adult population increased, but the attitude towards their environment did not change*. Thus, the results show that **the hypothesis that “the environmental knowledge of the adult population has grown in recent years, which is expected to manifest in their behaviour and activities” was proven to be only partly true**, since the increase in environmental awareness and knowledge did not lead to a change in the population’s attitude. Environmental awareness increased differentially, primarily in the circle of college and university graduates.

On the basis of the results of our tests, *the number of those children who have no experiences with nature or woods has increased, thus their proper environmental attitude could not develop, either*, and those that have developed need to be further cultivated. On the basis of the *results of the projective procedures* carried out with children, it can be stated that the alienation of children from nature is of a significant degree. Our tests **support the hypothesis that “despite of the requirements set forth in laws and curricula that regulate school pedagogical work, children are still not suitably attached to the environment and their environmental awareness is not adequate.”**

5. Theses

1. The third *National Environmental Program* that sets forth the framework for domestic environmental protection policy designates important *local governmental tasks* such as the *energy efficient operation* of public institutions, the presentation of *local values*, sustainable *spatial planning*, the implementation of tasks related to *ragweed eradication*, the carrying through of procedures of *protected designation*, and *flood and inland water protection*. Among the *tasks* the Program sets forth for the *population, energy efficiency and awareness in consumer decisions* are stressed. However, certain *deficiencies* have also been found in the third National Environmental Program, the most significant of which are the following:

- The clarification of certain basic definitions is lacking (e.g. climate aware behaviour).

- The indices to measure the implementation of the designated tasks are lacking in many cases.
- Of the presented five action programs, four do not include the tasks of either the population or local governments or of both (only the Climate Change Thematic Action Program contains tasks for both the population and local governments).

2. The author's analyses unequivocally indicate that although the National Environmental Program, which provides the domestic framework for the solutions to global environmental problems, includes aspects pertaining to sustainability and environmental training, *it fails to lay suitable emphasis on the adequate development of the values and environmental attitude* of the adult population in certain action programs. During the document analysis of the third National Environmental Program, we thus arrived at the result that it is unfortunately a fact that *the Program does not strive in all of its action programs to formulate the environmental awareness of local governments and the population*. The road to environmentally responsible behaviour leads through the formulation of environmental attitudes. The solution of the tasks resulting from the objectives and administrations of the third National Environmental Program and their deficiencies cannot be imagined without the inclusion of pedagogical and psychological sciences.

3. On the basis of the results of the tests, the *population awareness-raising activities of local governments* include numerous areas that require correction and development. On the basis of the research results, *local governments do not pass the resolutions required for the shaping of the population's environmental awareness*. Local governments are *not clear on their own tasks* as defined by the National Environmental Program (e.g. preparing for climate change), thus it is difficult to imagine their raising awareness. The leaders of local governments do not responsibly handle environmental issues and do not feel the threat those pose.

4. *Informing the population* is also superseded by other tasks (it often happens that local governments are not well informed, for example several wrote they were not familiar with the water quality of their own settlement), meaning that even such fundamental information as water quality, air pollution, or the state of the immediate environment of their settlements fails to reach families. In addition, *the assessment of consumer needs* (e.g. in relation to water

quality) and the inclusion of the population in decisions regarding their immediate environment takes place only occasionally and in a small number of settlements.

5. Based on the research results, the environmental awareness of the *Hungarian adult population* in 2007 was not adequate regarding knowledge, attitude, or behaviour, as 25% of the population could not even name the problems that affect their environment, and so it is futile to expect them to provide solution proposals or to display suitable environmentally aware behaviour. The results of the attitude tests show that gender and age are not determinant from the aspect of environmental attitudes; however, the effects of *schooling* are obvious. The higher the education of an individual in the Hungarian adult population, the more positive environmental attitude they display. It can also be established on the basis of the results that the *conflict handling strategy* is related to environmental attitudes, in that *competitive* is linked to significantly lower and *cooperative* is linked to significantly higher attitudes. The fact that individuals applying competitive strategies has increased from 17% to 25% in the past three years serves as a warning sign.

6. It can be established on the basis of the results of the follow up test that *the awareness and knowledge of the adult population increased by 2010, but their environmental attitudes did not change* (the average attitude scores of the New Environmental Paradigm (NEP) test are 55.44 and 55.36, respectively). In regards to the opinions about the most serious problems that affect the Earth, we can declare that *the awareness of the adult population also increased* in the past three years. This increase is not only qualitative, meaning that it corresponds not only to the mentioned problems, but it is also qualitatively different, as we met with concrete answers that were in many cases justified by the respondents (e.g. the deforestation of the Amazon basin or the problem of drinking water polluted with hormones).

7. After analysing the results of the attitude tests carried out in 2010, we can establish that awareness and knowledge regarding the environment *took place in a differentiated manner. Environmental knowledge and the related environmental attitude increased solely in the sphere of those with diplomas* and decreased or stagnated in the group of those with lower levels of education. This result can probably be linked to the attitude shaping activities of adult education.

8. The number of those children who *have no experiences with nature or woods* has increased dramatically, thus their proper environmental attitude could not develop, either, and those that have developed need to be further cultivated. On the basis of the *results of the projective procedures* carried out with children, it can be stated that the alienation of children from nature is of a significant degree. The results of our tests indicate that *despite of the requirements set forth in laws and curricula that regulate school pedagogical work, children are still not suitably attached to the environment and their environmental awareness is not adequate*. All the above is a strong warning that the pedagogical work and occupation of children is still not adequate.

9. During the course of a *case study* performed in one settlement, we established that there is a unique duplicity. A significant portion (58%) of the population in this small settlement located in an economically undeveloped region of Borsod County is underprivileged and are of Roma ethnicity. The local government carries out no activities to promote environmentally aware lifestyles or views and the local adult population's attitude is also at a very low level. However, the environmental attitude of the children in the settlement can be considered to be positive.

10. The practices applied in school training are excellent in the examined settlement's new school building. From the aspect of the environmental attitudes of the children, *the degree to which the teachers are dedicated to environmental awareness* is of fundamental importance.

6. Proposals

We have *included proposals* in the dissertation *regarding the correction of the deficiencies* found in the National Environmental Program and during the attitude studies, the more important of which proposals are also included in the summary.

- the leaders and employees of the local government agencies have to *increase environmental awareness*, since they have the opportunity of providing a “good” example though their relations with the population (institutions could display the principle of suitability in their outward images and operation as well as the services they provide);

- *organizing training* for local government leaders in order to strengthen environmental awareness;
- local governments could *inform the population* about local air and water qualities regarding the health aspects of food safety and the climate (through local media, campaigns, in the framework of action days, or on settlements' websites);
- local governments could pull their weight regarding environmental aspects in the *remediation of damaged areas, the decreasing of damaging effects, and soil and water protection*;
- organizing awareness raising campaigns to present and display the effects that individual actions have on the environment (the climate, soil, water, and biological diversity);
- *influencing consumer decisions* with the inclusion of the media (possibly by regulating the contents of advertisements):
 - consumption in line with actual needs
 - the purchasing of locally produced products
 - increasing the need for “natural, traditional, and durable” products
- to help attain the above objectives , the *training of media professionals* is essential in the sphere of sustainability (in the form of training courses);
- developing an *environmental information system* available to everyone that presents environmental loads, their changes, and their affects on health (additionally, it is also indispensable to provide true and verifiable information);
- *developing new indices*, correcting those that are inaccurate in order to provide for the continuous tracking of loads and changes in the state of the environment;
- including the population in *the protection of biodiversity, nature and landscape protection, and soil and water protection* (e.g. disseminating knowledge regarding and popularizing protected species and areas, since their protection cannot be expected without familiarity);
- organizing round table discussions to spread information to local government leaders regarding the results of the present research;
- *aiding the emotional inclusion* of mayors in environmental issues;
- in order to aid the environmental awareness-raising activities of local governments, it would be beneficial for settlements to create *unified homepages*, where *information regarding the local environment, the settlements' Environmental Protection*

Programs, and possibly the Sustainability Programs would be presented in an easily accessible, easily understandable, and attention grabbing manner;

- children's environmental attitude should be shaped by providing experiences in nature and their environment and by increasing their knowledge gained through own experiences;
- the traditional *teaching and learning environment* should be renewed with the use of new locations, methods, and tools (e.g. training garden, field work, forest schools);
- *shaping the attitudes of the adult population through the cognitive means* of gaining knowledge and experiences, since emotional components are dominant in attitude shaping.

7. Publications:

- PÁJER, J. et al. (2005): The Requirements, Practice and the Direction of the Development of Environmental Protection Licensing. NYME-KKK-KHV, Sopron, p. 69. (**SOMOGYI, A.**: co-author of this anthology of 12 authors)
- ANNÁSI, F., KOVÁTSNÉ, N. M., **PERÉNYINÉ, S. A. (2006):** *Teaching Techniques for the Support of Civil Involvement*; In: Pájer, J., Kovács, N., ed.: The Requirements, Practice and the Direction of the Development of Environmental Protection Licensing. NYME-KKK-KHV, Sopron, pp.: 131-142.
- ANNÁSI, F., CSEH, S., KOVÁTSNÉ, N. M., LAMPERT, B., **PERÉNYINÉ, S. A., SALLÓ, M. (2006):** *Surveying the Contents and Practices of Societal Participation*; In: Pájer, J., Kovács, N., ed.: Implementation of the Questionnaire-Based Survey and Case Studies – Milestone Final Report, NYME-KKK-KHV, Sopron, pp.: 35-76.
- **SOMOGYI, A. (2006):** Training for Self Regulating Behaviour; In: Project Pedagogy – Project Methodology VII., Kecskemét, pp.: 36-41.
- **SOMOGYI, A. (2008):** Public Attitudes Regarding Environmental Issues; In: Eruditio-Educatio, János Selye University, Teacher Education Faculty, Komarno, pp.: 55-67.

- **KOVÁTSNÉ, N. M.- P. SOMOGYI, A.** (2010): Environmental Aware Training and Key Competences; In.: Societal Phenomena and Changes. János Selye University, Komarno, pp.: 170-188.
- **SOMOGYI, A.** (2005): Environmental Pedagogy Doctoral at the University of West Hungary, Vivat Academia, Sopron, 2005/5.
- **SOMOGYI, A.** (2005): Soul Healing Silence, A Study for Apáczai Days, Győr, pp.: 21-24.
- **SOMOGYI, A.** (2005): Healthy Body Healthy Mind, Where to Now?, Győr, 2005/10.
- **SOMOGYI, A.** (2005): For Proper Self Evaluation, Where to Now?, Győr, 2005/4. p.: 26.
- **SOMOGYI, A.** (2005): The Development of the Self Image During School Years, Nature Friends (ed.: Kovátsné dr., Németh Mária) VI. ed., No. 1.