

University of Sopron

Theses of doctoral (PhD) dissertation

**“Role of waste management institutions among  
inhabitants in terms of environment conscious  
behaviour with special regards to public education  
in Győr-Moson-Sopron and Tolna counties”**

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## **1. Objectives of Research**

The main scope of questions of environment conscious behaviour is being examined among inhabitants. The theme being topical is justified as the number of environmental problems is growing so everyday people, state leaders, local authorities, companies, science including professions in areas such as teaching and engineering have started to be intrigued by questions of environment protection. Inhabitants' sensitivity to environment has been growing in the past decades although responsibility conscious environment attitude in individuals on a global level is still ought to be worked on by the ones who make the decisions, leading bodies, NGOs, education and science.

The base of research has been provided by revealing legal loopholes in the system of conditions. Theoretical bases of regulating practice are indicated by legal waste management laws.

Objective of present dissertation is to look into the aspects of environment conscious approach and behaviour on part of waste management associations formed by local authorities. Legal changes in waste management have introduced palpable changes in everyday life. Recycling is not an opportunity any longer in our country but it has become a kind of duty. Along with collecting recycled waste from homes there has been informing campaigns as well as education by local authorities and community services.

Based on surveys conducted among inhabitants author of present dissertation has found important to reveal reasons why inhabitants are not satisfied with the

system of collecting recycled waste from home and what causes them the biggest problem. Examination helps reveal shortcomings of the system in practice and get to know role of communication channels.

Alteration of community services, pushing creation of integrated community services has severely challenged waste management sector in the past two-three years. Author describes impacts of the above mentioned phenomena on waste management institutions based on two interviews made by their two well-known leaders.

Dissertation introduces role of educational institutions as schools are the primary stage of environmental education and the basis of skills is determined by curriculum and syllabus so author adds examination of textbooks in relation to environment protection.

Author gives constructive answers to problems disclosed with the help of properly worked-out proposals via tools of environmental pedagogy.

Its objective is that a cost-effective working system along with an environment conscious society come into existence in our country based on network of social contacts between waste community services- education – and decision – makers.

## **2. Hypotheses of the research**

**H1:** Developing environment conscious approach in inhabitants' attitude is considered to be a task of waste management institutions too.

**H2:** Shaping culture of waste management is helped by events and action programmes.

**H3:** Waste management practice appears in pedagogical programmes and they realise in extra-curricular activities.

**H4:** As inhabitants and NGO representatives do not have sufficient information about environment protection and within this waste management skills it results in the fact that regulations of National Environment Protection, National Waste Management Scheme and National Prevention Programme do not realise.

**H5:** Update of textbooks in science subjects in public education which include biology, chemistry and physics is required as waste management phenomena and their practice are not emphasised substantially.

**H6:** Waste collecting experience conveyed by interactive programmes gained in areas outside school have a positive influence on environment awareness.

**H7:** Inhabitants know their task in connection with recycling and put it into practice.

**H8:** Willingness to recycle grows with level of education.

**H9:** In Hungary legal waste management system of conditions in force does not define the colour of recycling containers, which has a negative impact on environment conscious practice of recycling.

### 3. Methods of the research

Basis of research first of all has been provided by a thorough examination of legal environment where amongst others legal loopholes in the system of conditions has been examined, which was helped by document-analysis and examination of special literature conducted by author. Introduction of changes in the content of home legal regulations is considered an emphasised part of dissertation, in which author outlines alteration of requirement system in the past two decades. Theoretical expectation system is represented by these processes and alterations of content, in which author explores essential problems. Legal frames enable principles of environment consciousness to put into practice only under circumstances in which decision-makers are more deeply familiar with the environment conscious attitude of society. It needs research of wide spectrum and practice of environmental education. Not only did author look into laws, government orders and other strategical documents but she also used an outstanding scientific synthesis written by Mária Kováts-Németh 'From Forest Pedagogy to Environment Pedagogy'.

*Author has interviewed leader and co-workers of Sopron Integrated Environment Protection and Waste Management Local Authorities Association, Vice-President of Mecsek-Dráva Waste Management Local Authorities Association, teachers and a desk-officer in charge of environment protection at local authorities*

*Author surveyed inhabitants and students in Sopron and in surrounding areas, in Dombóvár and surrounding areas. It took place in both areas via questionnaires with open and close ended questions.*

*Author collected data from pedagogical programmes of 153 public education institutions in Győr-Moson-Sopron county, 62 public education institutions in Tolna county and analysed elements found in documents concerning environmental education on theme days, during theme weeks or project weeks as well as elements found concerning recycling.*

Author looked thoroughly into the pedagogical programme and practice of Dombóvári Illyés Gyula Secondary Grammar School (an extraordinary and exemplary institution in Tolna county, which is widely known for its improvement of environment awareness).

Author also looked into textbooks, especially biology ones, used during years 9-12 in Dombóvári Illyés Gyula Secondary Grammar School from the point of view of occurrences of topics of waste handling and management information.

#### **4. Results of Research**

Dissertation outlines challenges of waste management including its growth, handling and re-use of it based on law and document analysis and adaptation of special literature. It also enlightens main problems and most important steps taken globally in the EU and Hungary in order to solve them.

Paradigm shift is absolutely necessary in methodology culture and content elements of environmental education and communication due to altered waste management system, demand of unified community services, introduction of collecting recycled waste from home, crisis of science education, lack of information about re-use of waste in textbooks and necessity of lifelong learning. These processes may be helped by new structured education of skilled work, centrally sponsored regular and widespread environmental communication

campaigns as well as updating textbooks and organising extra-curricular activities e.g. visiting workshops and forest school programmes.

Dissertation explores problems through introducing two regions focusing on pointing to the fact what difficulties inhabitants face while recycling and it also turns out how much the new system has done to shape environmental friendly attitude.

Research covers pedagogical programmes of schools of the two examined regions. According to the result neither environmental education nor programmes connected to recycling has been realised in most institutions. Author introduces a know-how through a practical example via a school pedagogical programme of a selected institution, which would be recommended for use to other institutions to adapt. 'Re-used Waste Sports Competition and 'waste sub-project' at forest schools figured out and implemented by author are both considered to deepen skills in managing waste and re-use of it. Projects can be adapted and applied in secondary or higher education in extra-curricular events.

Another result of author's work is a development of thematic collection of novel training – which could be a start of complete training on the side of pedagogy and environment protection/communication. Qualification gained there would be Environmental Communication specialist. Objectives pursued to implement environment consciousness can only be reached if sphere of inhabitants-education-science-media-politics and production are harmonised which requires working together and credible exchange of information with the help of well-qualified experts and active co-operation between expert groups.

## **5. Theses of Dissertation**

1. While looking into national legal regulation documents author states that environment consciousness has become more emphatic in regulations of waste management whereas in defining role of education institutions a retrograde step can be seen.
2. New, unified public services system has had to be put into practice too fast so to say to make it work, the process of which in practice is hindered on part of public services due to their lack of human and financial resources.
3. Author states programmes to shape inhabitants' attitude to environment are generally campaignlike, so their impact is not long-lasting. It would be necessary to control them and to increase their frequency.
4. Environment communication activities are not supported financially to sufficient degree by central decision-makers. Lack of support and finance along with no or little control result in measures only in the short run.
5. Basic unified support is missing, which should be brought into existence so that it could be used to finance continuous activities to shape environment conscious attitude amongst inhabitants and for public and higher education institutions.
6. Based on surveys among inhabitants it can be stated that recycling practice misses regularity which is caused by lack of proper information and lack of environment conscious behaviour.
7. If one does not consider it personal to live and participate in creating a clean, arranged surrounding,

they will not use opportunities to recycle or use recycling containers.

8. Environmental education is not an obligatory content part of pedagogical programmes, neither are waste management skills. The practical skills of the above mentioned ones have been built in in very few pedagogical programmes or school educational tasks at institutions.
9. In public education annual review would be necessary as according to author each of textbooks (science subject ones-biology, chemistry, physics) examined by her cover notion of waste, practice of its collection only superficially.
10. Author finds it essential to create precise notion system for textbooks and supplementary material. As waste and litter used synonyms in most textbooks, moreover, environment law is not familiar with notion of litter so some books are inaccurate.
11. While doing laboratory practice a lot of waste is produced though biology books, textbooks describing laboratory practice do not contain instructions in regard to waste produced.
12. Organising interactive events for students is absolutely essential so that they could acquire environment conscious behaviour norms as they facilitate to gain more precise picture of waste management and knowledge of environmental hazards.
13. Skills gained outside school while collecting and re-using waste stimulate students to shape their environment conscious behaviour.

## **Proposals**

### *Decision-Makers' Responsibility*

A complete legal regulation about system of public services would be necessary in which environment consciousness should be integrated, especially forming a concrete target and tool system to shape a selective recycling practice, which serves as practical guidance for each member of society.

Information about environmental hazards must be emphasised even more in media but encouraging filtering published content is also an urgent task.

Continuous, widespread and authentic information flow is also an essential task on part of media as well as on part of experts, pedagogy, politics and decision-makers.

### *On Part of Public Services*

Proposed active co-operation between waste management public services so that the already working innovative environment conscious programmes capable of shaping attitudes should be conquering all over the country and create new thought-provoking ideas.

To solve problems while introducing unified public service system there are some proposals offered by author:

- Controlling finances is necessary by public services
- Collecting higher drainage fees would cover total running and upkeeping expenses of public services. It is the duty of state to contribute to the expenses.
- Optimizing use of premises and to do so operating models should be established.
- Unified database should be created between public services and NKHV Zrt.(National Waste Management Co-ordinating and Fiduciary Closed Share Holding Company) and ensured unified data service.

Public environmental attitude shaping programmes are mostly campaignlike this is why it would be necessary to create a single payment scheme so that public services could finance their continuous environmental attitude shaping programmes as well as for inhabitants and public and higher education institutions including providing opportunities to organise workshop visits, to create and spread waste teaching paths, education supplementets etc.

### *Unifying fixed assets*

Proposed unifying colours and symbols of recycling containers. In case it is uneconomical or there are obstacles, writing a publication might be practical which could be published nationally and interpretation of colours of containers can be introduced regionally so each region could introduce its own interpretation of colours.

While re-organising earlier positive activities should be strengthened!!!

### *Role of Education*

Author proposes that schools get in touch with local waste management public services and students get acquainted with elements of new waste system, the way and the whereabouts of waste that gets out of one's household, along with its being re-used and practical methods of its disposal while visiting plants and sites.

It is essential to organise interactive events, especially via project methods for students so that they can acquire environment conscious behaviour norms and deepen their knowledge about their environment and environmental hazards. It would also be vital to integrate the topic of collecting and managing waste in each school subject.

Author also proposes to start a complete training on the side of pedagogy and environment protection/communication along with developing syllabus of the training with a qualification named Environmental Communication specialist

## Publications

**Kisvárdai Melinda-Kisvárdainé Fábián Erika-Kisvárdai Antal:** A hulladékgyűjtés gyakorlata a kémia- és más természettudományos laborokban. Magyar Kémikusok Lapja LXXII. évfolyam 10. szám 2017. október. 330. old.

**Kisvárdai Melinda:** A környezettudatos magatartás kialakítása a hulladékhasznosítás gyakorlatában projektmódszerrel.

2017. május 23. Óbudai Egyetem Rejtő Sándor Könnyűipari és Környezetmérnöki Kara, hazai és külföldi modellek a projektoktatásban nemzetközi konferencia, Budapest, Tanulmánykötet, CD kiadvány

**Kisvárdai Melinda:** Környezetpedagógia gyakorlata a nemzetközi hulladékgyűjtési vállalatok munkájában. 2016. május 19-20. 7. Báthory-Brassai Konferencia, Óbudai Egyetem, Budapest.

Tanulmánykötet, I. rész, 488. old., Budapest, 2016. ISBN: 978-615-5460-97-5 MTMT azonosító: 3127535

*Előadás, absztrakt kötet, tanulmány*

**Kisvárdai Melinda:** Lakossági környezettudatos magatartás jellemzői a Mecsek-Dráva Hulladékgyűjtési Program keretében.

2015. In Dr. Kovács-Németh Mária-Bodáné Dr. Kendrovics Rita (2015): A környezetpedagógia elmélete és gyakorlata. Győr, Palatia Nyomda és Kiadó Kft. ISBN: 978-963-7692-64-2 267.old.

*Könyvfejezet*

**Kisvárdai Melinda:** A környezettudatos szemlélet kialakításának gyakorlata a hulladékgyűjtési önkormányzati társulások munkájában.

2015. május 27-28. 6. Báthory-Brassai Konferencia, Óbudai Egyetem, Budapest.

Tanulmánykötet, I. rész, 628. o. ISBN 978-615-5460-38-5, Budapest, 2015.

*Előadás, absztrakt kötet, tanulmány*

**Kisvárdai Melinda-dr. Vágvölgyi Andrea-dr. Vityi Andrea:** A hazai hulladékgyűjtés aktuális kérdései 2014. október 14-16. MTESZ Veszprém Megyei Egyesület. Országos Környezetvédelmi Konferencia, Sopron.

*Előadás*

**Kisvárdai Melinda:** Hulladékgyűjtés és bioetika. 2014. Iskolakultúra (2014/4, p.82-88.). Szemle. 130. old.

*Tanulmány*

**Kisvárdai Melinda:** Környezet és egészség pedagógia projekt a tanárképzésben

2014. szeptember 16. Komárno, Szlovákia. Nemzetközi Tudományos Konferencia „Oktatás és tudomány a XXI. század elején”. Interdiszciplináris megközelítések az edukációban szekció.

*Előadás*

**Kisvárdai Melinda – Kováts-Németh Mária:** A hulladék alprojekt a fenntarthatóságért.

2013. december 10. Sopron. Nyugat-magyarországi Egyetem Erdőmérnöki Kar Kari Tudományos Konferencia.

Absztrakt kötet: szerkesztette Bidló András és Szabó Zília. Sopron, Lövér –Print Kft. 40. old.

*Előadás, absztrakt kötet*

**Kisvárdai Melinda – Magony Béla:** Környezet és egészség pedagógia projekt a tanárképzésben.

2013. november 29. Kaposvár 7. Képzés és Gyakorlat Nemzetközi Neveléstudományi Konferencia „Innováció a neveléstudomány elméleti és gyakorlati műhelyeiben”

Elektronikus kiadvány tanulmánykötet: Szerkesztő: Nagyházi Bernadette,. Kiadja: Kaposvári Egyetem. ISBN 978-963-9821-77-4

*Előadás, absztrakt kötet, tanulmány*

**Kisvárdai Melinda:** A Freinet-alapú gazdasági jelenségek tanulmányozása a környezetpedagógiában.

2013. szeptember 17. Komárno, Szlovákia. Nemzetközi Tudományos Konferencia „Új kihívások a tudományban és az oktatásban”

Tanulmánykötet, CD kiadvány, Nemzetközi Tudományos Konferenciájának tanulmánykötete Szerk. PaedDr. György Juhász, PhD., PaedDr. Kinga Horváth, PhD., RNDr. Zuzana Árki, PhD., PaedDr. József Keserű, PhD., Mgr. Attila Lévai, PhD. Ing Zoltán Seben, PhD. Kiadja a Selye János Egyetem. Komárno, Szlovákia. ISBN 978-80-8122-073-9 174.old.

*Előadás, absztrakt kötet, tanulmány*

**Kisvárdai Melinda:** Hulladékkezelési-hasznosításai ismeret és gyakorlat a közoktatásban.

2013. szeptember 27. Szolnok. XIX. Nemzetközi Környezetvédelmi és Vidékfejlesztési Diákkonferencia.

Tanulmánykötet CD kiadvány ISBN 978-963-89935-0-2 I. szekció, Pdf.

*Előadás, absztrakt kötet, tanulmány*

**Kisvárdai Melinda:** Erdőpedagógia.

Élet és tudomány (ISSN: 0013-6077) LXVIII: évfolyam 24. Szám. 2013. június 14. 760. old.

*Recenzió*

**Kisvárdai Melinda:** Dombóvár város hulladékgazdálkodásának szerepe a lakosság környezettudatos szemléletformálásában.

Révkomárom, Selye János egyetem. 2012. szeptember 13-14.-án rendezett „Művelődés – identitás – egészség” elnevezésű nemzetközi tudományos konferencia.

*Előadás*

