

ACHIEVEMENT OF VALUE FOR MONEY IN PPP PROJECTS BY SELECTION OF KEY PERFORMANCE INDICATORS

Assoc. Prof. Ing. Edita Augustínová, CSc.

Ing. Michal Daubner

Faculty of Mining, Ecology, Process Control and Geotechnology, Technical University of
Košice, **Slovakia**

ABSTRACT

Public Private Partnership (PPP) is an effective way to achieve value for money (VfM) in public projects. Evaluation of financial and non-financial performance measures in PPP bids is important to achieve VfM. Every PPP contract needs to state key performance indicators (KPIs) which have to be measured during the lifetime of the project. They are used to set benchmarks for contractor performance. The aim of this paper is identify framework of performance management of PPP projects and criteria of selection of KPI's for their evaluation. Based on theory and practice we selected performance objectives and KPIs in different areas, which can be used to identify the strengths and weaknesses of PPP projects.

Keywords: Value for Money (VfM), Key performance indicators (KPI), Public Private Partnership (PPP), performance management, balanced scorecard

**ADVANCES IN MANGANESE PRODUCTION TECHNOLOGY:
A NEW SOURCE OF ECONOMIC AND ENVIRONMENTAL SECURITY
FOR RUSSIA**

Assoc. Prof. Ph.D. Dmitry Zhukov

Prof. Dr. Sci. Alexander Malkov

D. Mendeleev University of Chemical Technology of Russia, **Russia**

ABSTRACT

This article presents a detailed analysis of major problems in Russian manganese ferroalloys industry. Priorities in the development of the industry are set, that grant a possibility to lessen the dependence of the Russian economy on imported raw materials.

Keywords: manganese ferroalloys, raw materials, chemical concentrating, import substitution, environmental performance.

AGRICULTURE, GREENHOUSE GAS EMISSIONS AND CLIMATE CHANGE

Ph.D. Student Alina Zaharia

Ph.D. Student Aurelia-Gabriela Antonescu

The Bucharest University of Economic Studies, **Romania**

ABSTRACT

The climate change represents an issue recognized at international level and has impacts both in developing human society and environment. Also, climate change is influenced by the economic activities of mankind. For these reasons, the governments are adopting policies and are implementing measures for mitigating climate change. This paper has the purpose to examine the relationships between agriculture and climate change by analyzing, on one hand, the impacts of climate change on agriculture and, on other hand, the greenhouse gas emissions generated by all activities from agriculture. This has been done by reviewing the scientific literature, by using the international and national databases and by applying the regression model. The main objective of this paper is to analyze the correlation between the greenhouse gas (GHG) emissions from agriculture and the arable land at Romanian level in order to determine if the size of arable land represents a causing factor of greenhouse gas emissions from agriculture. The results of the research show the existence of an interdependency relationship between agriculture and climate change, emphasize the importance of a good management of GHG emissions from agriculture for the future of our planet, present a comparison with the energy and construction sectors, and show that the GHG emissions from agriculture are not influenced by the dimension of the arable land. This study could be used further by policy makers to reduce emissions and to mitigate climate change.

Keywords: agriculture, greenhouse gas emissions, analysis, Romania

ALTERNATIVE SHALE DRILLING

Assoc. Prof. Dr. Eugenia Grecu

Politehnica University of Timisoara, **Romania**

ABSTRACT

Shale gas is one potential energy resources that we could exploit in Romania. Which creates concern are issues such gas extraction technology in hydraulic fracturing. Dangers surrounding those relating to environmental contamination, Romania gave the green light to controversial projects on shale gas exploration such large areas of land. Unfortunately, many such approvals were granted for exploration densely populated areas and potential exploitation perspective will negatively affect the economic development of areas specialized in health tourism or sea. We now claim that they gave advice not only for exploration and exploitation, but given that it will identify targeted resources, their exploitation will become the default.

Keywords: gas, energy, technology, environment, development.

**ANALYS DIFFERENTIATION OF REGIONS ON ENVIRONMENTAL
STATUS AND LEVEL OF ECONOMIC LOSS FROM MORBIDITY AND
DISEASE OF POPULATION**

Dr. Svetlana Lozovskaya

Dr. Nataliia Stepanko

Dr. Elena Izergina

Pacific institute of geography Far Eastern Branch Russian Academy of Science, **Russia**

ABSTRACT

In work on the background analysis of environmental-economic status of the Russian Far East (RFE) regions assessed damage from morbidity and mortality in the regions of the RFE. The differentiation of regions on major disease groups for damage to the economy as a result of violations of the county public health caused by including and unfavorable ecological situation. The analysis included the main classes of diseases ranging population of the regions in terms of unfinished (lost) person-years as a result of morbidity and mortality.

Keywords: Russian Far East (RFE), environmental-economic status, morbidity, public health, economic damage.

**ANALYSIS OF SELECTED INDICATORS OF MINING ENTERPRISES
IN THE SLOVAK REPUBLIC**

Jan Derco

Jana Horodnikova

Assoc. Prof. Ladislav Mixtaj

Assoc. Prof. Jana Jablonska

Maria Koscova

Technical university in Kosice, **Slovakia**

ABSTRACT

The contribution is an analysis of selected economical indicators of companies, active in the Slovak mining industry, based on the data elaborated by Statistical Office of Slovakia during 2010-2012. Statistical classification differentiates the various economical activities of coal mining and lignite, mining of metal ores, mining support service activities, other mining and quarrying. The contribution is focused on the last group made up of firms oriented on extraction of crushed stone, gravel and pebbles, construction sands, other minerals. The goal is to reveal the causes of the deteriorating economic indicators. Simultaneously the article is presenting the profitability of sales of a specific group of mining companies for the year of 2012.

Keywords: economical indexes, mining enterprises, quarrying, Slovakia

**ANALYSIS OF THE EXTENT OF DAMAGE
TO PREFABRICATED LARGE-PANEL BUILDING STRUCTURES
LOCATED IN AND OUTSIDE THE MINING AREA***

Ph D Karol Firek¹

Ph D Janusz Dąbrowski^{1,2}

Ph D Jacek Dębowski^{2,3}

¹ AGH University of Science and Technology in Cracow, **Poland**

² The B. Markiewicz State Higher School of Technology and Economics in Jaroslaw, **Poland**

³ Cracow University and Technology, **Poland**

ABSTRACT

The article presents the results of a comparative analysis of the extent of damage to 86 prefabricated residential buildings constructed in the large-panel technology. The study was conducted for the buildings located in the mining area of Legnica-Głogów Copper District (the Wk-70 and WWP groups) as well as for those located in Kraków, out of the reach of mining impacts (the WUF-T group). To describe the condition of these buildings, damage intensity rate w_u was used. Its purpose was to specify the extent of damage to the building individual construction and finishing elements. The w_u rate was defined in a 6-point scale, which included a detailed description of the extent of damage corresponding to the consecutive degrees of intensity. The study involved a comparison of the mean values of the intensity rate of the damage to the individual elements of buildings located in the mining area and out of the reach of mining impacts, taking into account a categorization with respect to the technology applied. Despite a generally moderate extent of damage, in 3 cases, statistically significant differences were identified between the rates of damage to the elements of the buildings located in the mining area (Wk-70 and WWP) in comparison with the group of building structures situated outside the mining area (WUF-T). In addition, in 7 cases, higher values of the intensity rates of damage to the elements of the buildings subject to the mining impacts were obtained.

Keywords: damage of large-panel buildings, buildings in the mining areas

**APPLICATION OF MULTI-CRITERIA OPTIMIZATION IN PYROLYSIS
PROCESSING OF SELECTED WASTE MATERIALS**

Ing. Barbora Grycová, Ph.D.

VSB-Technical University of Ostrava, **Czech Republic**

ABSTRACT

Thermal methods are perspective technologies that allow transforming some types of waste materials to the quality fuels or valuable chemical raw materials. This paper presents the preparation of samples of selected waste materials either for purposes of analytical identification or for realizing the series of experiments on built-up thermal unit, in reducing conditions. Selected types of waste were pyrolyzed to a final temperature 800 °C. Mass balance of the pyrolysis products, off-line analysis of the pyrolysis gas and analysis of the solid residue were performed after pyrolysis. Taking account of all the criteria (quality and quantity of gaseous and solid products) assessment has been conducted by multi-criteria optimization. The performed analysis shows that the examination of individual solution variants with regard to simultaneous effect of several optimization criteria provides information about general breadth of the issues, which undoubtedly contributes to the quality of the process.

Keywords: pyrolysis, multi-criteria optimization, waste

**ASSESSING THE POTENTIALS OF INTRODUCING THE INTEGRATED
QUALITY MANAGEMENT SYSTEM AND ITS ECONOMIC ASPECTS IN
THE MINING COMPANY**

Assoc. Prof. Ladislav Mixtaj, PhD.¹

Assoc. Prof. Erik Weiss, PhD.¹

Assoc. Prof. Roland Weiss, PhD.¹

Assoc. Prof. Slavomír Labant, PhD.¹

JUDr. Alexander Király, Ph.D.²

¹ Technical University of Košice, Faculty BERG, **Slovakia**

² Technical University of Ostrava, Faculty of Mining and Geology, **Czech Republic**

ABSTRACT

The article is an inquiry into the potentials of introducing the IQMS in a mining company, a system capable of interlinking existing systems of management and protection into a single system of quality management. At the selected company, there are systems of SMK, EMS and OH/SMS already introduced. The integration is aimed to cut costs of assessment, increase productivity, maintaining or improving market position and meet the need for systems-based management. The data and information required were supplied by an organization active in mining and processing of mineral ore in Eastern Slovakia.

Keywords: quality, implementation, improvement,

**BENEFITS OF ENVIRONMENTAL MANAGEMENT SYSTEMS
IMPLEMENTATION IN THE CONDITIONS OF THE SLOVAK REPUBLIC**

Dr. Mariana Dubravská

Assoc. Prof. Dr. Rastislav Kotulič

University of Prešov in Prešov, **Slovak Republic**

ABSTRACT

A number of new tools such as environmental management systems – EMAS and EMS, environmental accounting, environmental reporting, life cycle assessment (LCA) and many others are available now for the purpose of making companies more environmentally pro-active. The EU Eco-Management and Audit Scheme (EMAS) is a management instrument developed by the European Commission for companies and other organisations to improve their environmental performance. EMS is voluntary tool of the environmental management in the organization, established to manage its important environmental aspects and to achieve conformity with legal requirements. By benefits identification various aspects are monitored by means of a rather large number of indicators, but the most detailed ones mainly refer to aspects where performances improvement means cost reduction and profit increasing. The Paper aims at these benefits of environmental management systems implementation in the conditions of the Slovak Republic.

Keywords: environment, environmental management, benefits, ISO 14001, Slovak republic

CASE-BASED REASONING IN EMPLOYER'S ESTIMATES

PhD. Eng. Krzysztof Zima

Cracow University of Technology, **Poland**

ABSTRACT

Cost calculation is particularly important in the case of environmental investments. Purchase and assembly equipment for the acquisition of alternative energy sources have of course a positive impact on the environment. However, must also bring economic benefits for a potential investor. Currently used methods In Poland for estimating costs lead mainly to overestimations. Such cost estimations made deterrent investors from the use of e.g. solar collectors. The purpose of this article is an attempt to improve the initial estimates of the investor. The author proposed an algorithm that designates the investment cost of purchasing and installing e.g. of solar collectors based on market prices. In order to increase the accuracy of calculation was used CBR. Case Based Reasoning is a method of solving the problems, which are not restricted to generalized knowledge, but able to use specific knowledge contained in occurred cases. In Article will be presented workflow and calculation example showing the use of CBR in the calculation of the costs of environmental investments.

Keywords: cost estimating, case based reasoning, solar installation cost.

CHALLENGES AND PERFORMANCES IN THE SUSTAINABLE ENVIRONMENTAL ECONOMICS

Prof.Dr.Eng.Lidia Cristea

Romanian University of Sciences and Arts - Gheorghe Cristea, **Romania**

ABSTRACT

The present paper is a radiography of the challenges in the sustainable environmental economics after the Lisbon treaty in the context of the economic crises. We look about the environmental economics politics in the UE and about the performances of the instruments needs to implementation the new conditions in the context of the global climate change, the global mineral resources change, the global problem of counting the waste and the global social mission.

In the Romania country like the other European country there are new adopted principles and put in application:

- The environmental protection for a sustainable economy is a central economical and social politic for the Stat.
- The principle ‘ ‘the polluter is good to pay’ ’.
- The principle of the prevention action.
- The principle of the precaution.
- The principle of the higher environmental protection.
- The principle of integration.
- The principle of the proximity.

Romania country must be a contributor for the 2020 Europe objective s in the sustainable economic growth, an intelligent and favorable for inclusion and also a vision concerning the environmental UE politics for long term. PAM7 is the seventh program of the environmental action, which means a better implementation of the European environmental legislation for the period 2014-2020.

Keywords: Sustainability, economics, environmental protection, legislatives instruments, economical-financial instruments, technical instruments

**COMPARISON OF SLOVAK ACCOUNTING REGULATION AND
INTERNATIONAL FINANCIAL REPORTING STANDARDS IN THE AREA OF
ACCOUNTING AND RECOGNITION OF EMISSION RIGHTS**

Assist. Prof. Ing. Radoslav Tušan, PhD.

Technical University of Košice, Faculty of Economics, **Slovak Republic**

ABSTRACT

In February 2005, the Kyoto Protocol to the UN Framework Convention on Climate Change entered into force. Its aim was to reduce emissions of greenhouse gases and other pollutants during the period 2008 to 2012. The validity of the Kyoto Protocol has been extended for another five years. From 31st of January 2005 emissions trading were introduced. The principle of tradable allowances consists in issuing of allowances for polluting enterprises to produce maximum quantity of emissions for a given period. Governments of countries may emissions allowances of polluting enterprises allocate for free or sell. According to Slovak accounting regulations for emissions allowances are to be considered as short-term financial assets. International Financial Reporting Standards IFRS indicate emissions allowances as intangible assets. These standards allow three approaches for accounting and recognition of emissions allowances: according to the interpretative framework IFRIC 3 - Emission rights, according to the method of Net Liability Approach, and to the method of Government Grant Approach. The aim this paper is comparing of the Slovak accounting regulation and all of the above mentioned methods of accounting and reporting of emission rights and their impact on the financial statements of the company. The accounting and reporting of emission rights has a direct impact on the financial analysis of companies and economic decisions of relevant parties. Conclusion of the contribution provides the proposals for a suitable emissions allowances accounting and reporting solution for polluting firms.

Keywords: accounting for emissions trading scheme, emission rights, Government Grant Approach, Net Liability Approach, intangible assets

**CONTRIBUTIONS TO THE FONDATION OF A WASTE MANAGEMENT
PLAN ON AN AREA LEVEL**

Conf. Univ. Dr. Trica Carmen Lenuta

The Bucharest University of Economic Studies, **Romania**

ABSTRACT

The deepening global problems such as depletion of natural resources, damage to the natural environment, consumption growth requires changing the current paradigm of development by promoting sustainable consumption and production. However, one of the major challenges is the need existing transition to a low- carbon, eco efficient and competitive. In line with the strategic documents of the European Union (Strategy 2020) and the implementation of Directive 2008/98/EC on waste, sustainable use of resources - materials and natural - must aim to increase the productivity of their use so as to allow decoupling economic growth from capital operation natural.

The overall objective of the research is the foundation and experience of a waste management plan to facilitate the identification of new business opportunities between the principle of industrial symbiosis. In this sense, the ultimate goal of research aimed at increasing resource efficiency, save energy and reduce consumption of materials, and make proposals to encourage investment in equipment used for waste recovery.

Keywords: natural resources, waste, management, industrial symbiosis, recovery.

**DEVELOPMENT OF LAND USE AND LAND TENURE IN RELATION TO
THE HISTORICAL SOCIO-POLITICAL CHANGES IN THE CENTRAL
EUROPE – CASE STUDY CZECH-AUSTRIAN BORDERS**

Jana Moravcova Ph.D.,

Tomas Pavlicek Ph.D.,

Assoc. Prof. Pavel Ondr,

Jiri Pecenka

University of South Bohemia in České Budějovice, Faculty of Agriculture, **Czech Republic**

ABSTRACT

On the model cadastral area development of land tenure and land use will be documented in the period from 1875 to the present. Development of land tenure and land use was conducted by the end of the First World War for the same socio-economic conditions as in neighbouring Austria. After the establishment of independent Czechoslovakia there is a change in legislation, affecting first the different approaches to land tenure and land use in the Czech Republic and other countries of former Austro-Hungarian Empire. Other significant changes took place in the period after the second World War, when the displacement of the German population. Other documentable shift in the use and tenure of agricultural land brings rural socialization in 50th of 20th century. Socialist mass production culminates at the end of the 80th of 20th century. By the end of this period there were significant measures throughout the cadastral territory as it has undergone changes in the use of agricultural land. In the period after 1990, there was a significant reduction in the intensity of farming in the area of interest, which in turn resulted in a significant change in land use.

Keywords: land use, land tenure, Central Europe

**DRAFT OF MANAGEMENT RAUMSAR SITES PARÍŽSKE MOČIARE
WETLAND IN THE CONTEXT OF ECOSYSTEM SERVICES
(CASE STUDY SLOVAKIA)**

Assoc. Prof. RNDr. František Petrovič, PhD.¹,

Mgr. Petr Bezák, PhD.²,

Ing. Matej Mojses, PhD.²,

Prof. RNDr. Juraj Hreško, PhD.¹

¹ Department of Ecology and Environmental sciences, Faculty of Natural Sciences Constantine the Philosopher University in Nitra, Nitra, **Slovak Republic**

² Institute of Landscape Ecology, Slovak Academy of Sciences, Nitra, **Slovak Republic**

ABSTRACT

We need to emphasise, that paper was oriented on brief description of some possible conventional market approaches for evaluation of landscape. Mentioned numbers of benefits or losses, many times connected with improper human interference to nature, should be understood rather metaphorically than verbatim image of situation, light economical view on the landscape was aim of the paper. Combination of several market approaches is possible too, but their application for project proposal needs to be considered very carefully, where actual and exact details about benefits, losses or expenses are necessary. Definitely, perception of landscape should be seen also as non-monetary value, where maintaining National Nature Reserve Parízske močiare wetlands as natural heritage for next generations has great importance.

Keywords: landscape, wetlands, economical valuation, benefit, loss

ECONOMIC INSTRUMENTS IN ENVIRONMENTAL PROTECTION PROCESS

Ing. Emília Huttmanová, PhD.

Department of Environmental Management, Faculty of Management, University of Prešov in Prešov, **Slovak Republic**

ABSTRACT

The essence of the environmental policy of the state is taking care of the environment as well as its creation and protection. The role of environmental policy instruments is to influence those who harm the environment and affect their environmental behaviour so the goals of environmental protection would be achieved. It is also necessary to be aware of the costs associated with the protection and prevention of environmental degradation. The aim of this paper is to evaluate the possibility of environmental protection and its current state in Slovakia using economic instruments (financial - economic instruments) and evaluate the development of costs of environmental protection and revenues from environmental protection in selected categories of economic subjects.

Keywords: economic instruments, environmental protection, quality of environment, costs, revenues

**ENVIRONMENTAL AND ECONOMIC ASPECTS OF SMALL FRESHWATER
LAKE SUSTAINABLE USE: LAKE PILVELIS EXAMPLE**

Karina Stankevica

Juris Burlakovs

Prof. Dr. Maris Klavins

Dr. Zane Vincevica-Gaile

University of Latvia, Latvia

ABSTRACT

Climatic conditions in Latvia support the process of overgrowing of freshwater bodies due to natural and anthropogenic eutrophication process - sapropel or gyttja is the freshwater organic sediment transformed in genetic processes and mixed with mineral components. From economic point of view this sediment is subterranean renewable resource that can be used in agriculture, construction, chemical processing, cosmetology and medicine. Recultivation of overgrown lakes can be provided by sapropel removal, but the pumping, storage, logistics and processing should be planned carefully. Thus more suitable habitats for fish can be restored and landscape becomes more attractive; benefits can be gained by investing minimal resources. Remediation works in lakes of Latvia with the water depth less than 3 m can to be promoted as the lake bed is filled with organic rich sediments. Significant economic benefits from the resources extracted can be achieved by project developers, municipalities and other stakeholders. However, these works should consider price fluctuations and logistical aspects as well as the impact to the environment. The aim of this article was to provide comparison of various sapropel extraction scenarios by analysing costs, removal rates and amount of the resource based on Lake Pilvelis economic calculations example.

Keywords: sapropel, gyttja, restoration of lakes, cost-benefit analysis, removal rates

ENVIRONMENTAL ASPECTS OF THE DESIGN OF BUILDINGS

Prof. Darja Kubečková, Ph.D.

MSc. Pavel Vlček, Ph.D.

Assoc. Prof. Dr. Kubecka

VŠB-Technical University of Ostrava, Faculty of Civil Engineering, **Czech Republic**

ABSTRACT

This paper focuses on the importance of environmental aspects in the creation of architectural and construction of all buildings civil engineering. Environmental aspects are one of the essential pillars of the principles of sustainable development. The paper deals with the aspects related with the issue of resource consumption of raw materials and energy as well as environmental pollution. Environmental environments such as industrial regions may negatively affect certain degree of durability and service life of the building envelope and increase demands on maintenance and care during the life cycle of the buildings. Evaluation behaviors of the structures throughout the life cycle of a building is necessary for the design and optimization of individual structures.

Keywords: civil engineering, building, energy, sustainable

**ENVIRONMENTAL IMPACT ASSESSMENT IN KARSTIC AREAS.
A GEOGRAPHICAL APPROACH OF NORTH OLTENIA REGION, ROMANIA**

Lecturer Liviu Buzilă

Senior Lecturer, Octavian Liviu Muntean

Ph.D.Student Daniela Raică

Lecturer Cristian Maloş

Babeş-Bolyai University, Romania

ABSTRACT

North Oltenia is a historic region of Romania located between Southern Carpathians and Getic Sub-Carpathians. Geology, composed largely of limestone strata with a varied in petrography and age, gives the original mark of this area. Two large limestone areas, divided by Jiu River, can be differentiated here: eastern part marked by the presence of elongated massifs orientated northeast – southwest and western part with plateaus, gorges and various karst landforms (sinkholes, uvalas, caves, etc.). The pressure induced by human activities (raw materials exploitation, limestone quarries, deforestation, traditional activities, touristic impact, waste management) leads to a negative environmental impact. The assessment methods and the Rapid Impact Assessment Matrix (RIAM) have been connected by using GIS techniques. Additionally, GIS has been used in the environmental impact assessment by combining both quantitative and qualitative geographical data. GIS and geographical assessment (GA) are very useful tools for supporting territorial decision-making process at regional and local level.

Keywords: North Oltenia, geographical assessment (GA), Geographic Information System (GIS), Rapid Impact Assessment Matrix (RIAM), Romania

THE ENVIRONMENTAL RISK – ORIENTATION INSTRUMENT FOR INVESTMENT DECISIONS

Carmen Lenuța Trică

Bucharest University of Economic Studies, **Romania**

ABSTRACT

In every economic, social and political field of activity is raising the question of the risk which can appear and can have consequences that are not always provided or anticipated. In general, the risk represents the uncertainty of a result, of actions or events, as positive opportunities or negative threats, being defined also as “*the probability of occurrence of an event or action which could affect the achievement of project objectives*”. In projects, risk assessment is essential in the early stages of initiating projects. Any risk identified must be diagnosed and found appropriate measures necessary to eliminate or mitigate it. The study presents, in the first part, the risk analysis related to the orientation of investment decisions. Further, are developed methodologies and generalized systemic approach to risk analysis. For a better fit of the presented concepts, the study has examples of risk analysis from projects in areas such as industry, agriculture and the environment.

Keywords: environmental risk, environmental management, risk, pollution

FEASIBILITY STUDIES OF PPP PROJECTS FOR ENVIRONMENTAL INFRASTRUCTURE IN THE WATER SECTOR

Assoc. Prof. Ing. Edita Augustínová, CSc.

Technical University of Košice, Department of Business and Management, Košice, **Slovakia**

ABSTRACT

Insufficient Feasibility study in the water sector is an issue in both developed and developing countries. This deficit requires a significant capital investment. One solution is to carry out projects by Public - Private Partnership (PPP). The article is devoted to analyzing and assessing the possibility of financing PPP projects (DBFO model) in terms of available resources. The Design Build Finance Operate (DBFO) model is a form of Public-Private Partnership (PPP). A PPP is a contractual relationship between a public authority and a private contractor used for construction projects requiring long-term investments. Significant for the DBFO model is that while the public authority is the owner, it is the private contractor that designs, builds, finances and operates the construction in question. The environmental potential in DBFOs would be considerably larger if public sector procurers focused more on the environmental side of the projects. The model in itself makes it easy to apply TCO-thinking.

Feasibility study analyzes the financial, technical and legal feasibility of the project and part of the study is also a financial model to verify the implementation of the PPP project, which will provide for the public sector better value for money (VFM) in comparison to its realization in the traditional way.

Keywords: Public-Private Partnership (PPP), Feasibility study, water sector,

FISHERIES LOCAL ACTION GROUPS AS A DRIVING FORCE FOR THE IMPLEMENTATION OF ENVIRONMENTAL INVESTMENTS IN POLAND

PhD Eng. Katarzyna Pawlewicz¹

PhD Piotr Szamrowski²

PhD Adam Pawlewicz³

¹Department of Planning and Spatial Engineering, The Faculty of Geodesy and Land Management

²Department of Organization and Management, The Faculty of Economics,

³Department of Agribusiness and Environmental Economics, The Faculty of Environmental Management and Agriculture,

University of Warmia and Mazury in Olsztyn, **Poland**

ABSTRACT

In this article the main attention will focus on investments in environmental protection implemented under Sustainable Development of the Fisheries Sector and Coastal Fishing Areas Operational Program for 2007-2013. The authors focus on the fourth axis (sustainable development of fisheries areas), for which implementation associations known as Fisheries Local Action Groups (FLAGs) were established operating in accordance with the Local Development Strategies for Fisheries Areas (LDSFA). Briefly, the level of program implementation during the current period were shown and also the prospects of its development in 2014-2020. This article also discusses the role of Fisheries Local Action Groups in promoting rural development and implementing the Leader approach. Conclusions are drawn from Fisheries Local Action Groups surveys operating in Poland. A set of research methods used in the examination have a complementary character. For example, desk research studies were used, computer-assisted web interviewing (CAWI) with FLAGs, quantitative research CATI (questionnaire carried out by telephone) with the beneficiaries of Sustainable Development of the Fisheries Sector and Coastal Fishing Areas Operational Program for 2007-2013 (fourth axis) and audit visits in some FLAGs.

Keywords: Fisheries Local Action Groups (FLAGs), Leader, environmental protection investments, local public-private partnerships, social capital

FOOD SUPPLY CHAIN: THE ASPECTS OF LOGISTICS AND PACKAGING**Prof. Dr. Andra Zvirbule-Berzina****Prof. Dr. Aina Dobele****Lecturer. Mag.oec. Rita Rozentale**

Latvia University of Agriculture, Latvia

ABSTRACT

The food sector makes one of the greatest contributions to the gross domestic product of any country. So, according to data of the European Commission, the food and beverage industry is one of Europe's most important and growing industries that involves more than 300 000 enterprises and 4 000 000 employees. In the Baltic States, too, after their accession to the European Union in 2004, food production, processing and marketing was one of the fastest growing sectors, in which a nonstop struggle for the end consumer takes place by offering better and more diverse products at the lowest possible prices. This, in its turn, motivates the industry to increase its supply chain efficiency in all its activities, including the use of packaging, which is an integral part of any product, by not only protecting, informing and encouraging but also by serving as part of the transport system. The mentioned aspects of the food sector are closely associated with the economic conditions of the food supply chain. These economic conditions – a high degree of differentiation of products, delivery systems, the need for increasing the stock turnover rate, production specialisation and centralisation, as well as marketing globalisation and demand seasonality – are nowadays only a few economic and logistical challenges in any supply chain. However, the food supply chain is a very important component of the global economy. Therefore, the research aim is to examine the roles of logistics and packaging in the global food supply chain. To achieve the aim, the following research tasks are set: 1) to summarise food supply chain guidelines and to describe the food supply chain's role in logistics; 2) to highlight and identify the global aspect of food packaging in the food supply chain. To achieve the aim and perform the tasks, the following research methods were employed: the logical and constructive methods, the graphic method, the monographic method, analysis and synthesis, induction and deduction and content analysis.

Keywords: food supply chain, logistics, packaging

GOOD ENVIRONMENTAL PRACTICES IN A MICRO-COMPANY – A CASE STUDY

Assoc. Prof. Dr. Lucia Bednárová ¹

Dr. Barbara Ciecinska ²

Dr. Robak Aneta ³

Prof. Ing. Igor Liberko ⁴

¹ Univerzity of Economics of Bratislava, Faculty of business economy with seat in Kosice, **Slovak Republic**

^{2,3} Politechnika Rzeszowska, Faculty of mechanical engineering, **Poland**

⁴ Univerzity of Prešov in Prešov, Faculty of management, **Slovak Republic**

ABSTRACT

Recently the public awareness about environmental threats has significantly increased. Toxic emissions to air, water or soil arouse justified objections. Humans living in contaminated habitat, eating food which has been polluted by chemicals are doomed to loss of health or even to extinction.

Keywords: micro –company, environmental policy, aspect of company activity

GREEN PROCUREMENT AND LIFE-CYCLE COST ASSESSMENT – HOW TO MAKE THE BEST CHOICE OF ENVIRONMENTALLY FRIENDLY, ENERGY EFFICIENT AND COST EFFECTIVE PRODUCTS AND SERVICES

Arch. Evelina Stoykova¹

¹ Sofia Energy Centre, **Bulgaria**

ABSTRACT

People realize that actions should be taken in order to protect our environment, to face problems related to climate change, depletion of natural resources and harmful gas emissions. Many countries, including EU, have implemented policies for sustainable energy development, reduction of harmful gases emissions and protection of the environment. These policies lead to the market penetration of new products and services. Unfortunately, the prominent reaction of people and stakeholders when it comes to make a choice of products or services is “Green is too expensive”.

The methodology of Green Procurement shows that more environmentally friendly products and services can be more profitable. The idea of “Green Procurement” is to compare the qualities and performances of different solutions during their whole life-cycle, and to give preference to the solution that shows the best ratio cost/performance.

Green procurement is also a tool for wider market penetration of innovative solutions for improvement of the energy characteristics of products and services, for the use of recycled materials and decrease of CO2 emissions.

Green procurement can be applied for a wide range of products and services as: building materials and components, vehicles, IT equipment, green energy, household appliances, paper, cleaning products, textiles and food and catering, and others.

Green procurement is based on:

- Detailed demand analysis
- Clear definition of subject matter
- Definition of specifications of the product
- Definition of award criteria as: better functional performance, life-cycle cost analysis, lower energy consumption, longer lifetime, etc.
- Definition of contract performance clauses



Co-funded by the Intelligent Energy Europe Programme of the European Union

¹ The Buy Smart+ Project is supported by

Green procurement can be implemented at all levels and in all companies or institutions, as well public and private organizations.

Keywords: green procurement, LCC, energy efficiency, economics

**IDENTIFICATION OF THE VULNERABLE RURAL ZONES BY USING
STATISTIC-CARTOGRAPHIC METHODS. CASE STUDY – BOTOSANI
COUNTY, ROMANIA**

Phd. Candidate Cuciureanu Maria-Simona

Prof. Dr. Iașu Corneliu

University „Alexandru Ioan Cuza” of Iași, Department of Geography, **Romania**

ABSTRACT

The study aims at using statistic and cartographic methods in order to point out the territorial disparities within an area. Therefore, the paper has as its main purpose the testing of two methods by using aggregated indicators in order to find out and compare the advantages / disadvantages of each of them. These indicators have the role of pointing out the economic, social and/or demographic vulnerability in an area, for a case study for Botosani County.

Botosani County is a predominantly rural area, with 78 basic administrative units, of which 7 are urban and 71 are rural. This area presents several social, demographic and economic risks, requiring a detailed spatial analysis in order to identify the repulsive and developed territories. The classification of the vulnerable zones includes the demographic, economic and social aspect, as the specific indicators for these domains are interdependent (population, number of educated people, number of employed people, dynamics of the activities, quality of habitation etc).

The analysis has the role of creating a study instrument from the perspective of the territorial development and its re-organization, as there are basic administrative units facing a high vulnerability, which requires a strategy for development and diminishing of the present risks.

Keywords: Romania, vulnerability, rural development, Botosani County, basic administrative units (Local Administrative Units 2 – LAU 2).

INCREASING THE APPLICATION OF CLIMATE POLICY IN WATER SUPPLY ECONOMICS OF RUSSIAN REGIONS

Prof. Dr. Anna V. Lozhnikova¹

Igor V. Muravyov¹

Prof. Dr. Inna K. Shevchenko²

¹ National Research Tomsk State University, **Russian Federation**

² Southern Federal University, **Russian Federation**

ABSTRACT

This article has been written with the goal of rethinking the economic tools used in the water resource sector. These include price, subsidies, markets, and mechanisms of financing. The authors' report contributes to the recent and ongoing work of developing innovative utility rates that support the solvency of municipal services, financing strategies, and equity considerations.

The article analyzes problems of investing fixed capital in the renewal of Russian water supply and sanitation companies characterized by a high level of physical depreciation. Particularly, the authors criticize modern approaches to the application of the Return on Invested Capital (ROIC), stated in the current government documents on fundamentals of pricing in the water supply and sanitation sectors, with an emphasis on compensation as a part of the price of regional risks.

Besides, a place has been defined for territorial planning in the modern system of strategic state planning of the Russian Federation. The article examines the potential to optimize territorial planning based on the landscape and ecological resource potential of Russian regions.

Approaches to evaluating the socially necessary costs of providing effective environmental management in territorial industrial and economic systems are explored.

The theory of risk management suggests approaches to identifying methods of regional risk management. An analysis has been carried out comparing these methods with technologies that evaluate the risks of different types of natural disasters. Such technologies are developed within the framework of long-term science and technology forecasting in the period until 2030.

The authors assess implementing the development of economic institutions and financial mechanisms, including systems of taxation and financial stimulus that promote technological upgrades and elimination of obsolete equipment by businesses. The assessment of this activity, declared in the Climate Doctrine of the Russian Federation, is based on the fundamental economic principles.

Finally, conclusions are given about the urgent need to combine the analysis of natural climate parameters with an analysis on the nature of industrial infrastructure development. The conclusion is that the high intensity of the demonstrated anthropogenic risks is largely due to the critical level of depreciation of fixed capital of Russian water supply and sanitation companies. In the most important aspects of

modern economic policy the authors include the development and implementation of medium and long-term strategies and plans for socio-economic development in regions and municipalities, including water supply and sanitation, using mechanisms to adapt to changes in the climate. These are based on financial and tax policy measures that stimulate a reduction in the anthropogenic load on the environment.

Keywords: climate change, Climate Doctrine of the Russian Federation, territorial planning, pricing in the water supply sector, regional risk, anthropogenic risks

**INNOVATIONS IN THE FIELD OF ENTERPRISE QUALITY MANAGEMENT
AS AN ELEMENT OF SUSTAINABLE DEVELOPMENT IMPLEMENTATION**

PhD Katarzyna Midor

Silesian University of Technology, **Poland**

ABSTRACT

In the contemporary world the development of enterprises has attracted the interest of managers and investors all over the world. The financial success of a company is no longer the only measure of economic activity, which is also perceived through the prism of high ethical standards. The implementation of the sustainable development concept in an enterprise is based on activities in three areas: social, ecological and economic. To be implemented, each of these areas requires the use of a number of tools. One of such tools is Quality Management System based on ISO 9001 standard, which functions in an enterprise on a permanent basis. This system introduces regulations and standards in each of the above mentioned areas, which strengthen the enterprises' aspirations towards the social and economic development, enabling it to obtain profits without disturbing the possibilities of fulfilling the aspirations and obtaining profits in the future. The article, using an example of a small service-providing enterprise, shows how innovations in quality management bring it closer to the idea of sustainable development.

Keywords: sustainable development, ISO 9001, quality management system, services

INSTRUMENTAL SUPPORT OF STRATEGIC MANAGEMENT OF MULTISPECIES FISHERIES

Dr. Elena E. Shirkova¹

Dr. Eduard I. Shirkov¹

Dr. Yriy P. Dyakov²

¹ The Kamchatka Branch of Pacific Geographical Institute, Far Eastern Branch Russian Academy of Sciences, **Russian Federation**

² The Kamchatka Research Institute of Fisheries and Oceanography, **Russian Federation**

ABSTRACT

Biodiversity conservation and sustainable use of the biological potential of the World Ocean assume the need for a balanced industrial exploitation of mass commercial species and their predators in common biocenosis.

At the same time insufficient current studying and considerable delay in changing of a structure in response of current fishery impacts make difficulties in a practical solution of issues on enhancement of balanced species exploitation in particular biocenosis.

The solution of the issue on maintenance of balanced use of various components of exploited biocenosis under the lack of needed information on current and possible (resulted from fishery) structure of biocenosis can be provided by simulation-based models.

The report presents algorithmic simulation model that helps to solve such problems by the example of a fisheries management of five flounders species, cod and sculpins near the Western coast of the Kamchatka Peninsula.

Keywords: sustainable nature management, multi-species fisheries, intraspecific balance, tool support, simulation modeling

LIFE ENVIRONMENT EXPENDITURES OF SLOVAK MUNICIPALITIES IN A CONTEXT OF THEIR INDEBTEDNESS

Ing. Marián Gál, PhD.

Technical University of Košice, Faculty of Economics, **Slovakia**

ABSTRACT

Indebtedness of local municipalities has become a key problem and main target of recent debates and discussions in Slovakia. Growing public debt negatively influences the economic development and causes serious troubles to every country and its inhabitants. In a paper we analyse and examine the influence of growing indebtedness on municipalities' decision to finance life environment protection. For our purpose, we chose eight municipalities representing the capital cities of the Slovak high territorial units. We analysed the development of indebtedness within period 2009-2012. From obtained data we examined how indebtedness influences the decision of selected municipalities to spend expenditures on life environment protection. Methodology and methods for data analysis are described in Chapter 2. We stated hypothesis that indebtedness in selected municipalities causes decreased financing of life environment. We found out that indebtedness development has direct connections and impacts on decision of municipality representatives. The general trend in analysed Slovak municipalities with few exemptions is that higher indebtedness level means lower finances directed towards life environment protection. Further conclusions and discussion are part of Chapter 4.

Paper is elaborated within national scientific research project VEGA 1/1195/12 Strategic interactions of the Slovak local municipalities in determining the tax rates.

Keywords: life environment protection, indebtedness, municipalities, expenditures.

LIFE-CYCLE ASSESSMENT FOR SUSTAINABLE WINE PRODUCTION

Mrs. Ivanka Pandelieva

Sofia Energy Centre, **Bulgaria**

ABSTRACT

ECO-PROWINE is a pioneer initiative in which partners from Austria, Bulgaria, Italy, Greece, Portugal and Spain participate, with the purpose of reducing the environmental and cost impacts and increasing the visibility and competitiveness of more than 100 pilot wineries from these countries. The main goal of the ECO-PROWINE project is offering a unique frame (methods and tools) which permit the environmental impact reduction caused by the wine sector of the UE as well as reinforce and make their products more attractive under the base of a sustainable labelling. ECO-PROWINE delivers a Life Cycle and Cost Assessment (LCA - LCC) on-line tool, tailored to the wine-making sector, that enables wine makers (possessing no expertise in LCA methodologies) to perform a self-assessment of their wine-making process, in order to accurately detect environmental charges, impacts and costs through an user-friendly and appealing interface which allowing wine-makers to fill in the requested information and get detailed results about the environmental performance and the sustainability of their wine-making process. The online self-assessment tool identifies problematic areas in the wine-making process and suggests improvement actions in order to minimize the environmental impacts of the winery operation. The wine-maker will have to commit to performance improvement in order to certify his products with the ECO-PROWINE label. By committing to performance improvement the winery will acquire the ECO-PROWINE label. Keeping the label can be achieved upon periodic validation of improvement activities.

Keywords: environmental economics, environmental assessment, sustainability, wine-production

MANAGEMENT OF CHEMICALS IN ROMANIAN FARMS – A SUSTAINABLE PROPOSITION

Assoc. Prof. Dr. Iuliana Dobre¹,

Assoc. Prof. Dr. Marcela Ștefan¹,

Student Ștefania Daniela Bran²

¹ Bucharest Academy of Economic Studies, Faculty of Agro-Food and Environmental Economics, Bucharest, **Romania**

² University POLITEHNICA, The Faculty of Applied Chemistry and Materials Science, Bucharest, **Romania**

ABSTRACT

Agricultural chemicals used in conventional technologies are known as fertilizers, stimulants and pesticides. Generally, the role of them is to control, prevent or reduce the negative impact of pests and to cover the foods needs. In this context, has increased the chemicals allocations, with negative impact on people health and environment. But not only, because the chemicals generates waste and packings, which create issues for people, environment and, additional, costs for producers. For that is need for a good management, a cooperation between inputs producers, dealers and farmers (users). They can reduce the potential risk in this field. Because toxicity is the main chemical used in crop production, their management is included in a legislative and institutional framework for long-term control, the aim being sustainability. Analyzing statistics (macro level and micro - farm level), it is found that does not acquire the entire quantity of chemicals produced. Reporting the total quantity of chemicals used on arable land and, according to media productions made in Romania, the concentration of the active substance is not liable deadly virulence. This paper makes a real analysis of pesticides per unit area and product, quantitative and economic, in the vegetal branch. For to minimize environmental health risks and hence the population, present and future, it is necessary to strictly follow best agricultural practices, and the management of plant protection products, to know their traceability. Moreover, in the management of chemicals (dangerous) are required permanent information, training and awareness, and prevention of environmental pollution become indispensable to this process. The impact and risks of pesticide use, and the desire for a healthy life in Romania encourage farmers to use caution with these substances, so that even their packaging and waste, to have a harmless course, sustainable.

Keywords: management, chemicals, sustainability, agriculture

**MARINE ECONOMIC POTENTIAL ASSESSMENT FOR ENVIRONMENTAL
MANAGEMENT IN THE RUSSIAN ARCTIC AND SUBARCTIC COASTAL
REGIONS**

Assoc. Prof. DSc. George Gogoberidze

Assoc. Prof. DSc. Valery M. Abramov

Prof. DSc. Lev N. Karlin

MSc. Julia Lednova

MSc. Julia Malakhova

Russian State Hydrometeorological University, Arctic and Subarctic Institute, **Russia**

ABSTRACT

Currently the Arctic is a territory with great geo-strategic and geo-economic significance both for the relatively few Arctic countries and other non-Arctic countries that are actively assert their interests in the region. The economy of Arctic coastal areas characterizes fully the level of development and differentiation of maritime economic complex. The most successful characteristic of their economic value can be the concept of marine economic potential of the coastal area. A comprehensive assessment of marine economic potential of coastal areas is possible to consider as a Marine Spatial Planning (MSP) tool, which will give the opportunity to identify the strengths and weaknesses, set goals, ways and perspectives of development of Arctic coastal areas. Based on the indicator methodology, authors have made the comparative assessment of the socio-economic condition of the Arctic coastal regions of the Russian Federation on 01.01.2006 and 01.01.2011. By the calculations and analysis on the values of indicators and integral value, it is possible to formulate the basic principles of decision-making processes in sphere of environmental and natural resources management, marine spatial planning and sustainable development of coastal areas in Arctic. In addition, based on the methodology it is possible to make predictions of the natural-ecological and socio-economic status of each unique coastal region and area of the Arctic of Russian Federation, as a response to the existing or planned management decisions and implementation of nature management projects in the Arctic. The Ministry of education and science of Russia provided financial support for this research with the state order 2014/166 and state contract 14.515.11.0002.

Keywords: marine economic potential, Arctic and Subarctic coastal region, environmental and natural resources management, planning and assessment.

MARKETING STRATEGY OF BUILDING STONES MINING INDUSTRY IN SLOVAKIA

Ing. Barbara Hlavňová¹

Assist-Prof. Henrieta Pavolova²

Assoc-Prof. Tomáš Bakalár³

Ing. Milan Pavol²

¹Technical University of Košice, Faculty of Mining, Ecology, Process Control and Geotechnologies, Institute of Geotourism, **Slovakia**

²Technical University of Košice, Faculty of Mining, Ecology, Process Control and Geotechnologies, Institute of Business and Management, **Slovakia**

³Technical University of Košice, Faculty of Mining, Ecology, Process Control and Geotechnologies, Institute of Montaneous Science and Environmental Protection, **Slovakia**

ABSTRACT

This article focuses on the issue of developing a marketing strategy for building stone mining industry in the context of the construction of motorway sections in Slovakia. This is analysed in two basic levels: at the level of building stone suppliers on the market that are mining organizations, and at the level of end consumers that, in the case of building road infrastructure, are represented by the state. Based on the results of the analysis of the production, supply and construction of prediction it is credited to the interaction of the volume of extracted building stone and the amount of construction output in the construction and repair of road infrastructure in the Slovak Republic.

Keywords: building stone, road infrastructure, marketing strategy, mining industry

METHODS OF EVALUATION PROCESSES

Doc. Ing. Lucia Domaracká, PhD.

Prof. Ing. Michal Cehlár, PhD.

Mgr. Mária Muchová, PhD.

Institute of Business and Management, Faculty of Mining, Ecology, Process Control and Geotechnology, Technical University of Košice, **Slovakia**

ABSTRACT

By evaluation processes is important to realize that they are graded on each levels. We can define three levels of evaluation processes: Initial study - expert study, prefeasibility study and feasibility study. Each has the task to reduce costs of the loss in the investment process. The task of studies is to stop the project in the case of its possible failure respectively of financial failure.

In the article we are dealing with each phases and it's analyze. On the particular case of raw material we will discuss individual methods of evaluation processes.

Keywords: evaluation process, raw material, expert study, prefeasibility study, feasibility

**MINIMIZATION PLAN OF NITROGEN FERTILIZERS ALLOCATION,
DICTATED BY THE AGRICULTURAL MARKET**

**Assoc. Prof. Dr. Ciprian Ioan Rujescu¹, Lect. Dr. Mariana Ramona Ciolac¹,
Lect. Dr. Simona Cristina Martin¹, Lect. Dr. Marius Butur²**

¹ Banat`s University of Agricultural Sciences and Veterinary Medicine “King Michael I of Romania” from Timisoara, **Romania**

² Victor Babes University of Medicine and Pharmacy, Timisoara, **Romania**

ABSTRACT

The capitalization of agricultural production often takes place under price instability of final products. This provides the quantitative need to modify the resources allocated to the agricultural production process in order to obtain best economic values. More exactly, in a retroactive way, the economic optimum point will have different values for different times, corresponding to the variable price of capitalization of production. Specifically, this study presents an analysis of variance of necessary amount of nitrogen which must be optimally allocated according to a situation of instability in the price of wheat, for the interval of wheat price between 150 and 300 Euro/tonne. Furthermore, several remarks are made on the size of differences obtained. Different values obtained were characterized by differences of up to 9,7% on mentioned interval; they have significant implications for economic considerations; more important, the differences can also be approached from environmental reasons, regarding the negative impact of allocation of unjustified high amounts of chemicals.

Keywords: optimal allocation, fertilizers, agricultural optimization

**MODEL FOR ASSESSING THE ENVIRONMENTAL PERFORMANCE OF
PRODUCT SYSTEMS WITHIN SUSTAINABLE DEVELOPMENT**

Prof.h.c. Prof. Ing. Milan Majerník, PhD.

Ing. Martin Bosák, PhD.

Ing. Petra Szaryszová, PhD.

Ing. Alexander Tarča, PhD.

Ing. Lenka Štofová

University of Economics in Bratislava, The Faculty of Business Economics with seat in Košice,
Košice, **Slovak Republic**

ABSTRACT

The environmental dimension of sustainable, thus socio-economic-environmental balanced socio-economic development has still been more strongly preferred even within the most recent development strategies of the EU and the OECD, for example EUROPE 2020, Horizon 2020.

Authors of the report, as results of the latest knowledge in the field and their own scientific – expert work present a new integrated more exact model for assessing the environmental performance of product systems based on the international standard EN ISO 14045:2013 and implementation of indicators of sustainable production and green growth derived from indicators of sustainable development (social, economic, environmental) and the future for the member countries of the monitoring on the level of the OECD to demonstrate progress towards green growth and green economy.

Keywords: system products, environmental performance, modeling, standardization, indicators

**PARTICULARITIES OF THE IMPLEMENTATION OF AN INTEGRATED
QUALITY-ENVIRONMENT-HEALTH AND OCCUPATIONAL SECURITY
MANAGEMENT SYSTEM IN OLTENIA POWER COMPLEX**

Legal Adviser Popa Elena-Izabela¹

Ph.D. Eng. Vasile Ioan-Viorel¹

Prof. Ph.D. Eng. Bușe Florian²

Lect. Eng. Ec. Ph.D. Bușe Gheorghe-Florin²

¹Oltenia Power Complex, **Romania**

²University of Petroșani, **Romania**

ABSTRACT

A company producing electricity from fossil fuels which also includes fuel extraction represents a challenge to the implementation of an integrated management system regarding its certification. Such a company has two main activities which can be considered as being main activities: electricity production and the extraction and transport of fossil fuels (coal). Particularities involve the knowledge and thorough research of the processes which are conducted in order to achieve the two activities necessary for establishing their similarities and their differences. This paper intends to be constituted into an implementation model regarding the certification of an integrated quality-environment-health and occupational security management system. In the case of Oltenia Power Complex the solution of implementing an integrated management system regarding its certification consisted of eight stages of implementation. The paper aims to treat the implementation stages and the peculiarities of each stage.

Keywords: audit, certification, fossil fuel development and improvement, implementation, stakeholders, integrated system.

PHYSICOCHEMICAL CHARACTERIZATION OF OIL FROM GREEN AND ROASTED COFFEE

Lecturer Dr. Diana Nicoleta Raba, Assistant Dr. Mirela Viorica Popa,

Assistant Dr. Camelia Moldovan, Lecturer Dr. Delia Gabriela Dumbrava,

Student Ioana Șerb, Assistant Dr. Diana Moigradean

Faculty of Food Processing Technology, Banat's University of Agricultural Sciences and Veterinary Medicine, Timisoara, **Romania**

ABSTRACT

The oil extracted from coffee beans has different applications in the food and pharmaceutical sectors. The objective of this work was to determine the physicochemical parameters of the oil from green and roasted coffee. The determined values of acidity, refractometric, iodine, saponification and peroxide indexes were similar with those reported before for oil from roasted coffee. The significant differences were registered in case of saponification and peroxid indexes. In this respect, the experimental saponification value of oil from green coffee was 14% higher than of the oil from roasted coffee, whereas the determined peroxid value of oil from green coffee was 2,8% smaller than of the oil from roasted coffee. The pH and sugar content of the two oils was relatively close.

Keywords: oil, green coffee, roasted coffee, physicochemical parameters

PLANT BIODIVERSITY IN SOUTH ROMANIA - SOCIAL AND ECONOMIC SUSTAINABILITY EXPRESSION

Prof. Dr Mariana Bran¹

Assoc. Prof. Dr. Marcela Ștefan¹

Assoc. Prof. Dr. Livia Vidu²

¹ Bucharest Academy of Economic Studies, Faculty of Agro-Food and Environmental Economics, Bucharest, **Romania**

² University of Agronomic Sciences and Veterinary Medicine Bucharest, **Romania**

ABSTRACT

There is an uptake of necessary resources from environment to obtain products. Taking into account that this issue takes place under knowledge application, interrelation with environment, the farming could contribute to environment preservation, if rational practices are applied, with no „pressures” on it, as follows of intensivity (huge factory concentration per area unit and caution in their utilization). At the same time, the performance as ecological results, is achieved by crop structures which involve branches with adaptability to environment and respond to modifications of human consumption pattern. The economical performance of field exploitation could be approached only from a certain level of yields and their costs. Generally speaking, the performance is the quality of human activity to produce maximum useful effects, for individuals and society, with minimum expenses. All these focus to the quantitative aspect and, generally, to economical size of human activity. To be efficient is not entirely meet the social, situation achieved only by the concept of sustainable development. The large number of diversified documentation sources as well as the utilization of investigation method performed at farmers have allowed knowing of current level of technological development and impact of reality on performances registered by crop exploitations. Based on this, new opportunities have been created to economically increase the Region. The application of linear programming pattern to improve the yield structure required data and evaluations, which refer to: existing total area (arable land), crops available to using category, available financial resources, expenses per crops, input necessary (chemical and organic fertilizers) per crops and availability from these resources. The study represents the complex analysis of area capability to produce value and to preserve the environment, having as evaluation criteria, the yield diversification degree. By diversifying cultivated species, one can follow the gradual determination of eco-economical performance, taking into account the possibilities for their commercialization on market. The obtained variants will constitute the possible options for decision-makers. Although by design process, the increasing of economical efficiency is desired, it is necessary that the indicator system must be correlated with realities and requirements of competition economy. Having in view the influence of size structure on yield and economical results, it is necessary to modify the cultivated areas; this allow the mechanization and obtainment of high benefit per ha, increasing in exploitation specialization for crops which meet the best conditions for yielding and selling. The concentration and yield development in the South Muntenia Developmental Region could generate suddenly positive effects on

economical and social plan; the place of benefit into all factors of production dynamics cannot be changed.

Keywords: plant biodiversity, eco-economical performance, sustainability, environment

POLICY INSTRUMENTS FOR SUPPORTING RENEWABLE ENERGY SOURCES IN SLOVAK REPUBLIC¹

Prof. Iveta Hajdúchová, Ph.D.

Assoc. Prof. Rastislav Šulek, Ph.D.

Ing. Blanka Giertliová, PhD.

Mgr. JUDr. Zuzana Dobšinská, PhD.

Department of Forest Economics and Management, Faculty of Forestry, Technical University in Zvolen, T. G., Zvolen, **Slovak Republic**

ABSTRACT

In January 2008, the EU published a document which declared its targets on renewable energy use. On its basis, EU committed to achieve 20% share of renewable energy sources on final energy consumption and 10% of biofuels in transport by 2020. In Slovak republic up to 35% of the technically disposable renewable energy potential falls to biomass. Biomass is a potential energy source for heat, electricity, and biogas and biofuels production. For a broader utilization of this renewable energy source it is necessary to create appropriate technological, legislative and economic conditions. One of the options is state support. This article deals with state policy instruments supporting renewable energy sources use implemented in Slovak republic. The aim is to describe the current state of state support, then to analyse the benefits and shortcomings of individual instruments as well as the whole state support system. Regarding fiscal instruments, mainly income taxes and selective consumption taxes were analysed. The non-fiscal instruments analysed were mainly direct financial support for production and biomass use for energy purposes and relevant legislation.

Keywords: renewable natural resource, biomass, instruments of the state policy, tax instruments, nontax instruments

¹ The paper originated in terms of the research project VEGA 1/0584/13 Economic and legal conditions for the functioning of markets in the forest economy and KEGA 016TU Z-4/2013: Implementation of Progressive Education based on ICT in the Taxes and Taxation Field

**POSSIBILITIES OF ENERGY SELF-SUFFICIENCY IMPROVEMENT IN
MUNICIPALITIES AND REGIONS IN SLOVAKIA**

Ing. Jana Chovancová, PhD.

Department of Environmental Management, Faculty of Management, University of Prešov in Prešov, **Slovakia**

ABSTRACT

In regard of the rapid decline of world oil reserves and rapidly progressing climate change, which creates an ever stronger pressure to change the orientation of energy production from fossil fuels to other types of energy sources, the increase of the importance of energy self-efficiency is evident. Energy self-efficiency is essential not only at national but also at regional and municipality level. Regions should actively plan the development of their own energy policy so they decrease their dependence on unstable global energy market. Most regions - especially rural - have enormous potential of savings and very good conditions for using their own renewable energy sources. The paper analyzes the possibilities that are available to municipalities in improving their energy self-sufficiency; specify the economic, social and environmental benefits that are associated with energy self-efficiency, as well as barriers and challenges in its implementation.

Keywords: energy, environment, self-efficiency, municipality, consumption, renewable energy sources

PROBLEMS OF PREDICTING AND PROVIDING ENERGY EFFICIENCY AND EFFECTIVE ENVIRONMENTAL MANAGEMENT IN RUSSIA

Prof. Dr. Natalia Skrylnikova

Pyotr P. Shchetinin

Kirill A. Ponomaryov

National Research Tomsk State University, **Russian Federation**

ABSTRACT

This article investigates the problems associated with long-term prognosis and strategic planning for a system indicating energy intensity at the macro, meso, and micro levels. The analysis focuses on the energy intensity of the GDP, and is modeled on conservative, innovative and accelerated scenarios for long-term socio-economic development in the Russian Federation until the year 2030. The article studies the practical application of modern technological foresight using the examples of two priority areas for the development of science, technology and equipment in the Russian Federation. The two examples used are ‘effective environmental management’ and ‘energy efficiency and conservation’. We examine a list of national critical technologies that correspond to these priority areas in the aspects of long-term scientific, technological, socio-economic prognosis, and fiscal policies to stimulate corporate expenditures on research and development. Then, we evaluate the guidelines for Russian ecological development policies in the period until 2030. The guidelines are aimed at solving socio-economic problems by providing low-carbon solutions for sustainable development, as well as the preservation of the environment, biodiversity, natural resources, and the realization of every person’s right to a clean environment. A comparative analysis has been performed on ‘effective environmental management’ as well as ‘energy efficiency and conservation’, which are designated as national priorities of the Russian Federation, and ‘green technology’, a priority of international centers of scientific and technological development. Finally, conclusions were drawn about the potential impact of the mass use of energy-efficient technologies to reduce the anthropogenic load on the environment by reducing energy intensity, as well as about improving the ecological situation by reducing greenhouse gas emissions and other harmful pollutants. The approaches to the development of recommendations for the implementation of general provisions for the ‘Russian Climate Doctrine’ in part increase energy efficiency in all sectors of the economy, and also decrease market disproportions by implementing financial and fiscal policy measures which stimulate the reduction of anthropogenic emissions of greenhouse gases.

Keywords: strategic planning, ecological development policies, technological foresight, national critical technologies, Climate Doctrine of the Russian Federation

**PROPOSALS FOR QUANTITATIVE INDICATORS FOR REAL PROPERTY
MARKET ANALYSIS BASED ON THE ANALYSIS OF REAL PROPERTY
MARKET IN THE CITY OF JAROSŁAW IN 2000–2011**

Dr. Janusz Dąbrowski

Dr. Piotr Cichociński

AGH University of Science and Technology in Krakow, **Poland**

ABSTRACT

Real property market value is estimated predominantly according to data from notarial deeds. As a rule, the data are based on a sample and cover a certain fraction of the market. They form a basis for according analyses and models accounting for numerous variables, frequently of macroeconomic nature, influencing real property price over time. Sampling entails significant constraints and at any rate constitutes a certain approximation of the real model.

In this study, the authors analysed all transactions completed on the local real property market in Jarosław between 2000 and 2011 to propose new indicators for real property market analysis and confront them with strong determining factors affecting the market. A considerable advantage of those indicators is their simplicity and practicability. In the future, the databases which are currently being created will make it possible to fully exploit and develop the solutions proposed herein.

Keywords: notarial act, sample, transaction

REDUCING AIR POLLUTION THROUGH THE TAXATION OF VEHICLES

Dr. of Econ. Sci., Professor Myrzabike Zhumabayeva

Student Sezim Yertayeva

International Academy of Business, **Kazakhstan**

ABSTRACT

Environmental degradation has become one of the most acute problems of Almaty. In town for the first nine months of 2013 air pollution index was 11.2. Studies have shown that there are four main sectors emitting dust, sulfur dioxide and nitrogen oxide: electricity using fossil fuels, manufacturing and mining industries, transport. The presented paper is devoted to analysis of the main reasons for the growth of harmful emissions in the transport sector, as well as the assessment of the consequences of their impact on the national economy. In this article we analyzed the causes of the bad environment and conducted their evaluation in terms of the correcting opportunities through the regulation of vehicle taxation. The paper includes comparative characteristics of the factors and causes of bad environment in different countries of the world.

Keywords: tax on vehicles, engine capacity, emissions, environment, sustainable development.

RESEARCH REGARDING THE TYPOLOGY OF ECOLOGICAL SHEEP FARMS IN ROMANIA

Assoc. Prof. Dr. Raducuta Ion

PhD Student Ion (Raducuta) Emilia

Assoc. Prof. Dr. Marin Monica

Assoc. Prof. Dr. Nicolae Carmen Georgeta

University of Agronomic Sciences and Veterinary Medicine Bucharest, **Romania**

ABSTRACT

Romania has favorable conditions for practicing a sustainable livestock production and a special perspective in the European context for development in this direction. In our country a particular importance in ecological farming system has the sheep species. This species can to capitalize efficiently and sustainable the fodder resources and especially the large surfaces of natural grasslands. The purpose of this paper was to make a study at national level as regards the typology of ecological sheep farms. To characterize the typology of ecological sheep farms a study of the production system was conducted in 15 sheep farms certified ecologically, located in the counties Sibiu, Mures, Cluj, Arad, Ialomita. Evaluation of the production system from each farm was based on the completion of a special designed questionnaire followed by the centralization and processing of data by calculating the main statistical parameters. The results showed that ecological sheep farms taken in study are diverse in terms of number of animals held and land used, the average size of sheep farm being by 577.7 heads and the average area of land used per farm is 141.1 ha. The maintenance system of animals from these farms is extensively, based on the maintenance of sheep to pasture in warmer seasons and maintenance in shelters in cold season. Labor productivity is low in these ecological farms because the main farm activities are performed manually due to the lack of machinery, equipment and installations. However the adoption of ecological production system for sheep farms of extensively type, represent the practical way to allow them existence and continuity in the future.

Keywords: typology, sheep, ecological farms, ecological farming

**ROLE OF SPATIAL ACCESSIBILITY IN THE DEVELOPMENT OF THE
PERIPHERAL RURAL AREAS IN THE EUROPEAN UNION. CASE STUDY:
BOTOSANI COUNTY, ROMANIA**

Ph.D. Candidate Cuciureanu Maria-Simona

Prof. Dr. Iațu Corneliu

Ph.D. Candidate Eva Mihail

University “Alexandru Ioan Cuza” of Iasi, Department of Geography - **Romania**

ABSTRACT

The study of spatial accessibilities has experienced an accelerated development during the past two decades, enhanced by the computer science development and by the storage of data in georeferenced format. As a result, great varieties of evaluation methods and indicators have emerged, and there have been attempts to determine the importance of the accessibility factor in the complex equation of the development. However, the problem of the spatial accessibility impact on the Romanian rural development is still an open subject, especially considering the fact that previous results have failed to demonstrate the existence of certain universally valid laws that govern the two aspects of the territory, emphasizing instead on the regional or local specificities.

This study includes statistical tests on a European Union NUTS3 region, in order to pinpoint the spatial and multi-scalar relationship between the rural development indicators and the spatial accessibility indicators. To what extent does spatial accessibility affect the development of the peripheral rural areas of the EU? How does this relationship manifest on various scales of analysis (on the local, county and regional level)?

First, this study will analyze the context elements specific to the county of Botosani. Second, the study will evaluate their accessibility using the GIS-T methods and will select the indicators of development in order to cover all three dimensions of a sustainable rural development: the economic, social, and environmental dimensions. Finally, the study will extract the role of spatial accessibility in the fluctuation of the rural development indices based on the matrix of correlation coefficients.

Keywords: spatial accessibility, rural development, correlation coefficients, Romania, Botosani County.

SCENARIOS FOR ROBUSTNESS EVALUATION OF A BRIDGE TYPE STRUCTURE – LATTICE GIRDER, PARALEL FLANGES, LOW TRACK

Prof. Dr. Eng. Carmen Bucur, Member of IABSE

Eng. Master degree, Szabolcs Derzsi

Technical University of Civil Engineering, Bucharest, **Romania**

ABSTRACT

The structural robustness is a subject often dealt with by the structural designing engineers and by the researchers, mainly during the last decades. The robustness as a characteristic of the structural systems became an important topic to be studied following some structural failures.

The article aims to present the way a structure of a bridge made out of steel lattice girders, low track, answers to various scenarios for losing some structural elements. They proposed 20 scenarios for the initial damages aiming to find out the key element of the structure and to see if there is or not an alternative way to redistribute the efforts.

Keywords: robustness, bridge, key element, redistributes the efforts

SOCIAL ISSUES OF HOUSING AND ITS ENVIRONMENTAL-ECONOMIC ASPECTS IN SLOVAK REPUBLIC

Dr. Július Golej

Dr. Miroslav Pánik

Institute of Management of Slovak University of Technology in Bratislava, Bratislava, **Slovakia**

ABSTRACT

Slovakia with its annual production from 10 to 12 tons of CO₂ per person is one of the twenty largest polluters in the world while exceeds the world average production more than two times. The housing sector represents after the energy industry the second largest producer of CO₂ and according to estimates representing almost a third of total production of CO₂ in Europe. In fact, the associated issue of housing and CO₂ production in Slovakia is secondary and underestimated at present because the state currently does not experience the adequacy of reduction of emissions created by the housing sector. The main cause of this condition is that Slovakia does not produce enough emissions to fill allocated quotas. On the contrary, emission quotas are currently filled on about 50 percent and this condition allowed it to perform controversial trade with emission allowances in the recent past. The aim of this contribution is to analyze the economic impact of housing issue associated with the production of CO₂ and its possible reduction in Slovak Republic. This stated objective is fulfilled through the creation of analysis of the technical condition of the housing stock in Slovakia, because CO₂ production in housing is influenced mainly by consumption amount and types of energy sources required for the operation of housing. The objective is also fulfilled by the available tools for supporting the reduction of CO₂ in the residential sector.

Keywords: Slovakia, housing sector, CO₂ emissions, renewal, energy resources

**SOCIO-ECONOMICAL IMPACT OF NOISE MITIGATION THROUGH
RUBBER MODIFIED POROUS ASPHALT SURFACING**

Prof. Ing. Jan Mikolaj, PhD.

Prof. Ing. Martin Decky, PhD.

Ing. Lubos Remek, PhD.

Ing. Lubomir Pepucha, PhD.

Universty of Zilina, Slovak Republic

ABSTRACT

The presented paper shortly addresses the issue of noise pollution impact on human health, noise emission emerging as side effect of car traffic and method of socio-economic costs of noise pollution. Principle of noise mitigation through rubber modified porous asphalt surfacing is presented as one of possible solutions and theoretical philosophy behind this method is explained. Subsequently, in situ measurements are presented to prove the conjectures stated in previous chapter. These measurements will be also used as input to theoretical environmental study where socio-economical benefits- monetized savings resulting from improved healthier environment of inhabitants and increased real estate values, are compared with investment costs. This study will present the impact of this kind of noise mitigation method; this study will be carried out in accordance with the “Handbook on estimation of external costs in the transport sector – IMPACT” and the result will be presented through standard economic indicators.

Keywords: noise abatement, rubber modified asphalt, cost-benefit analysis

STUDY ON THE RECENT TRENDS IN ECOLOGICAL AGRICULTURE FROM ROMANIA

Assoc. Prof. Dr. Raducuta Ion

PhD Student Ion (Raducuta) Emilia

Assoc. Prof. Dr. Nicolae Carmen Georgeta

Assoc. Prof. Dr. Marin Monica

Assoc. Prof. Dr. Dinita Georgeta

University of Agronomic Sciences and Veterinary Medicine Bucharest, **Romania**

ABSTRACT

Ecological farming system is a dynamic sector and with great future in Romania which has seen an upward trend in recent years, both in the plant cultivation and in the livestock sector. The purpose of this study was to analyze the recent trends of ecological agriculture in Romania, with special reference to the area of ecological agricultural land, the number of organic producers, the use of ecological agricultural land and the organic livestock. To achieve these objectives we have studied the official statistical data provided by different institutions (Eurostat, Ministry of Agriculture and Rural Development), we processed them and we interpreted data obtained. The results of study showed that the total area of organic agricultural land in Romania in 2012 it was 288,261 ha being with about 3 times higher as compared with the existing area in 2006, representing 2.1% of the total agricultural land. As regards the use of organic agricultural land, it was found that in 2012 the largest part of them, namely 60,6% were occupied with arable land, 36.7% with pastures and meadows and 2.7% with permanent crops (vineyards and orchards). Also this study shows that in 2012 there were 15,544 organic producers and the average size of organic agricultural holdings was 20 ha. The production of organic crops and the rearing of organic animals are the main activities in the organic sector at farm level. The livestock sector in 2012 (under conversion and fully converted to ecological farming) recorded an increasing of number of animals reared through the organic production methods. In conclusion, this study shows that ecological agriculture in our country continues to grow and domestic ecological market is expanding concomitant with the diversification of products offered on the market.

Keywords: ecological farming, agricultural land, livestock, producers

**SUSTAINABILITY ANALYSIS OF SELECTED EASTERN EUROPEAN AND
SOUTH-EAST EUROPEAN COUNTRIES VIA PARAMETER OF COMPLEX
SUSTAINABILITY ASSESSMENT Q_i**

Assoc. Prof. Peter Adamišín, Ph.D.¹

Dr. Roman Vavrek²

¹ Department of Environmental Management, Faculty of Management, University of Prešov in Prešov, **Slovakia**

² Department of Finance and Accounting, Faculty of Management, University of Prešov in Prešov, **Slovakia**

ABSTRACT

Sustainable development is such development of human society that harmonises economic and social progress along with keeping full value of environment. For comparative purposes as well as assessment of changes of environment on different levels it is important to quantify it. Presented paper deals with methods of complex assessment used for quantification its value via complex parameter. Synthesis is based on summarizing the values of selected indicators of sustainable development from these areas: economic, social, environmental and institutional. By these means we identify the changes of the state of sustainability within longer time period as well as compare sustainability of selected Eastern European and Southeast European countries.

Keywords: sustainable development, sustainable development indicators, multicriterial analysis, regional development

SUSTAINABILITY REPORTING IN MINING INDUSTRY

Dr. Eng. Patrycja Hąbek

Silesian University of Technology, **Poland**

ABSTRACT

Disclosures on economic, social and environmental performance among companies increase from year to year. This paper discusses the subject of sustainability reporting with particular attention paid to this practice in mining industry. The study has covered all sustainability reports published by mining companies in 2012 which were collected from Global Reporting Initiative database (Europe as an organization region). The author evaluated the sustainability reports for the sector by means of her own tool. The questionnaire to assess quality and type of the information disclosed in sustainability reports consisted of fourteen criteria. The author discusses in this paper overall results as well as results obtained by individual groups of reports.

Keywords: sustainability report, assessment, mining industry, sustainable development, GRI

SUSTAINABLE DEVELOPMENT AS A SOLUTION FOR AGRICULTURE AND HUMAN SETTLEMENTS COMPETITION IN ILFOV COUNTY

Assoc. Prof. Dr. Elena Matei

Assoc. Prof. Dr. Gabriela Manea

Assoc. Prof. Dr. Octavian Cocos

Lecturer Dr. Iuliana Vijulie

Lecturer Dr. Laura Tîrlă

Lecturer Dr. Elena Bogan

Lecturer Dr. Adrian Tişcovschi

Bucharest University, Faculty of Geography, **Romania**

ABSTRACT

Ilfov County, a surrounding space of Bucharest city, represents a fragile area due to the multiple influences of the country's capital. The aim of this study is to explore how the sustainability can solve the competition for land between agriculture and settlements. Thus, the objectives of the study are focused on the human settlements development after 1990, as well as on the agriculture mutations from state to private property and from conventional to organic farming. Likewise, we computed several indicators for sustainable development evaluation in order to establish its role for this land competition. The applied methods are based on secondary data, statistical calculations and GIS tools. The results show that the settlements adjacent to Bucharest City gained land, while agriculture has been severely diminished. At the same time, at the borders of Ilfov County agriculture has become more organized, despite the territorial dispersion of human settlements. As agricultural products, and especially the organic ones, are highly demanded by Bucharest's residents, farmers should do their best to turn to bio-agriculture. Consequently, sustainability is a must, but the boom of real estate generates many environmental problems, which affect the state of the land. In this respect, the study reveals the necessity of finding measures for solving these conflicts. Thus, the employment of sustainable development policies could definitely bring positive perspectives.

Keywords: agriculture, human settlements, Ilfov County, sustainable development, land competition

SUSTAINABLE DEVELOPMENT IN IMPASSE

Ph.D. Prof. Constanța Popescu,

Ph.D. Assoc. Prof. Constantin Popescu,

Ph.D. Lecturer Maria-Luiza Hrestic

“Valahia” University of Târgoviște, **Romania**

ABSTRACT

The appearance of the concept of sustainable development, although in the beginning a sort of universal remedy, is becoming increasingly frequently the object of tensions, both in point of its objectives and especially in point of its content. As far as its objectives are concerned, the debate is organized around a reasoning based on the theory of the interested parties, but also around the reasoning of competition, which sets in motion an ethics of responsibility as teleological principle. Consequently, the sustainable development meanings, and implicitly the sustainable development programs, are also the object of contradictions and may not be solvable through a process of standardization of their contents.

However, the standardization dynamics is itself a bearer of “perverse effects”, already observed in the domain of the accounting standards and, under these circumstances, this standardization dynamics cannot claim to be the only solution able to regulate these controversies.

The problem lies mainly with the doctrinal weaknesses characterizing Sustainable Development as a concept today, obviously, by comparison to what it intended to be.

Keywords: sustainable development, sustainable growth, paradoxical association, contradictory terms.

**SUSTAINABLE DEVELOPMENT – COMPROMISE OR SOLUTION. WHAT IS
THE PLACE OF GEOGRAPHY IN THIS CONTEXT?**

PhD Lecturer Avram Sorin

PhD Lecturer Vîlcea Cristiana

University of Craiova, Geography Department, **Romania**

ABSTRACT

The notion of sustainable development, which is increasingly omnipresent in all activity fields, is part of the knowledge students in Geography have to acquire as well. It is the teacher's responsibility whether this notion is presented as a solution – acquiring thus a positive valence – or as a compromise, which was accepted by the two main factors – the economy (the anthropic dimension) and the environment. The two above-mentioned components, as well as the political and social spheres – integral parts of the notion – are to be found in the curriculum a Geography graduate has to explore. But how do we manage to establish the valences of the notion?! Should we conceptualize it according to a geographical perspective?! Should we prioritize the view that it constitutes a positive “character” in the equation of environment degradation?! An introspective approach to the most important applications of the notion, according to a geographical perspective that focuses on the interaction among geospheres may indicate whether intergenerational equity is real and whether “thinking globally and acting locally” is the best solution for the preservation of both environment and human race.

Keywords: sustainable development, geography, resources, limits of exploitation.

THE ECOLOGICAL IMPRINT AS A MEASURE OF HUMAN'S BALANCED IMPACT ON THE ENVIRONMENT

PhD Katarzyna Midor

Silesian University of Technology, **Poland**

ABSTRACT

This publication presents the problems connected with the endangerment for further, durable and balanced development of a life on the earth which is caused by an intensive development of civilization in many countries. This development, which is uncontrolled and vivid in many countries, has caused the endangerment for biological substances and at the same time, endangers directly human's life and health. This problem has become global as countries' borders and wealth do not protect us from defined changes in the nature. Being aware of the issue, the concept defining the influence of local population on the area of the whole globe is presented in this publication. The concept of the ecological footprint is a trial to measure a negative human's impact on natural environment (in particular the issue of using natural resources). The heart of this matter is counting all consumer goods and services for one citizen of a given country or a region per area which is essential for obtaining energy and raw material sources which are necessary for their production and storage of all waste connected with human's activity.

Keywords: ecological footprint, sustainability, economics of sustainable development

THE IMPACT OF ECONOMIC FREEDOM ON RENEWABLE ENERGY INVESTMENTS' EFFICIENCY

PhD Corina Marinescu

PhD Adela Anca Fucec

The Bucharest University of Economic Studies, **Romania**

ABSTRACT

The aim of this study is to analyze the influence of economic freedom on efficiency of renewable energy investments, as well as on the investments inflows. Five European countries are subject to this analysis as they represent different levels of economic freedom. To address this issue, an econometric approach was chosen. Authors modeled two linear regression models, using panel data over the period 1995-2011. Thus the linkage between the economic efficiency of renewable energy investments and economic freedom is determined as well as the relationship between renewable energy investments and economic freedom. Our hypothesis is confirmed, so economic freedom positively influences renewable energy investments in countries like Germany and Greece. In the same time the amount of investments increases with the economic freedom increase. Our analysis also reveals strong relationships, either positive or negative, between economic freedom and the economic efficiency of investments in renewable energy. So, economic freedom represents a positive determinant for the economic efficiency of investments in renewable energy for Switzerland, Romania and Ukraine. In the same time it does not support the efficiency factor in Germany and Greece for reasons which are to be discussed.

Keywords: economic development, economic freedom, Europe 2020, investments efficiency, renewable energy investments.

THE IMPACT OF HUMAN RESOURCES IN DEVELOPMENT OF RURAL TOURISM IN KOSOVO

PhD Cand. Naim Ismajli

Phd Cand. Ilir Rexhepi

European University of Tirana, **Albania**

ABSTRACT

In this paper we will talk about the impact of human resources in development of rural tourism in Kosovo. Tourism plays very important role in the economic growth, especially for countries in transition like Kosovo. Efforts in according to strengthening the economic development of rural areas are comprehensive, given the largeness of its tourist value, viewed from economically, environmentally, socially and culturally. Firstly, the paper summarizes the tourism effect in economy and secondly the paper analysis human resources as advantage for increasing the tourism impact in general economic developments of the country. Beside this the study has analyzed as well the legislation of the sector, culture and natural resources of the country that plays the role of the key drivers for the development. In this way, it tries in the paper, motivation to find alternative tourism models that support sustainable rural development.

Keywords: Human resources, rural tourism, tourism law, culture, natural resources.

THE IMPACT OF THE LANDSLIDES ON LAND USE AND LIVING STANDARDS IN TÂRNAVA MICĂ HILLS

Lecturer Dr. R. Rusu, Lecturer Dr. Gh. Roşian

Assoc. Prof. Dr. Şt. Dezsi

Lecturer Dr. Al. Bădărău

”Babeş-Bolyai” University of Cluj-Napoca, **Romania**

ABSTRACT

Geomorphological processes like landslides affect especially agricultural lands in different units of the Transylvanian Basin. They determine a decrease of the value of lands that may be used for agriculture. In most cases, in Transylvanian rural areas, agriculture is the main economic activity, which provides the necessary resources for everyday life. Within the Transylvanian Basin, a specific situation is registered in Târnavă Mică Hills. In certain communes of this region, landslides affect 20-30% of the administrative unit area. One may remark communes like Şona and Fărău in Alba County as the most affected ones. As the lands altered by landslides are mainly agricultural ones (arable lands, grasslands, hay fields) and agriculture plays a key role in these rural communities, the living standards in lower in these communes. This paper tries to establish several correlations between the areas affected by landslides, the land uses and the living standards in several communes where landslides occur compared to other neighbouring communes where such geomorphological processes do not exist or have a minimal impact.

Keywords: landslides, land use, living standards, Transylvanian Basin, Târnavă Mică Hills.

THE LIBERALIZATION OF THE ROMANIAN ENERGY MARKET: OPPORTUNITIES AND CHALLENGES

PhD student Gergely Török

Senior Lecturer Dr. Ibolya Török

Babeş-Bolyai University, **Romania**

ABSTRACT

The liberalization of the Romanian electricity market has already begun back in the first semester of the year 2000, taking place gradually so that starting with the 1st of July 2007 all electricity consumers, regardless of utilization, consumption patterns or quantities have the possibility to choose their supplier of preference. Based on the Memorandum of Understanding approved by the Romanian Government, from January 2014 - in accordance with the obligations undertaken in relation to the IMF, the World Bank and the European Commission – the Romanian electricity market has become completely liberalized eliminating regulated electricity prices for final non-household consumers.

Theoretically, on a liberalized market competition is supposed to result in a decrease of the final consumer price, the higher efficiency of suppliers and more consumer-oriented services. In consequence liberalization should bring about several benefits for the Romanian companies. In practice on the other hand, the dysfunctions of the new market, the lack of information and restrictive actions at government level have all lead to distortions of the market conditions and sometimes measures defying common sense, with negative impact on the final consumers as well as the energy producers.

The aim of the paper is to analyze the opportunities offered by the liberalization process and the possibilities of achieving an integrated European energy market, considering the risks and benefits contained within.

Keywords: energy market, liberalization

**THE LIFE CYCLE ASSESSMENT (LCA) OF SELECTED PRODUCT IN
SIMANPRO V.7**

Assoc. Prof. Dr. Lucia Bednárová¹

Dr. Barbara Ciecinska²

Dr. Anna Milczanowska³

Mgr. Julius Berith⁴

¹ Univerzity of Economics of Bratislava, Faculty of business economy with seat in Kosice,
Slovak republic

^{2,3} Politechnika Rzeszowska, Faculty of mechanical engineering, **Poland**

ABSTRACT

The dynamic growth of many countries which have been underdeveloped so far and the increasing participation of industry in the economy produce specific consequences in the natural environment. This environment is the source of raw materials acquisition, necessary for processing and production of goods for people. The environment is also the recipient of by-products and waste. For our research we use a SimaPro v.7 method and other methods for LCA.

Keywords: life cycle assessment, ball bearing, SiamPro v.7, environmental impact,

**THE POTENTIAL OF UTILIZATION AND EVALUATION OF
POLYMETALLIC NODULES BED IN CLIPPERTON-CLARION LOCALITY
IN PACIFIC OCEAN**

Assoc. Prof. Ing. Dusan Kudelas, Ph.D.

Assist. Prof. Ing. Jan Kosco, Ph.D.

Assoc. Prof. Ing. Peter Taus, Ph.D.

Technical University of Kosice, Faculty BERG, Slovakia

ABSTRACT

The aim of the paper is describe possibilities of evaluation polymetallic nodule on seabed in Clipperton-Clarion area, where international organization Interoceanmetal is making research. Organizations, have already had allocated their exploring tracts and rights to polymetallic nodules mining. It is predictable that even among raw material purchasers - material conditioning firms, some new joint companies will be set up to reduce the research, development and new devices and equipment production costs. The composition of polymetallic nodules and their depositions abundance offer a possibility to consider and design the ways, how to make use of these commodities on the market. The price of commodities on the world's stock exchange and its development forecasting are expressly the best orientations in decision-making if is mining from seabed economically suitable or not, and the way, how to extract the nodules. We focus on three metals of nodules - copper, nickel and cobalt and their world's production (supply) and consumption (demand).

Keywords: Polymetallic Nodules, seabed mining, world's stock exchange

**THE ROLE OF GREEN INFRASTRUCTURE IN PROMOTING SOCIETAL
HEALTH AND WELL-BEING IN THE METROPOLITAN AREA OF CRAIOVA
CITY**

Lecturer PhD Cristiana Vilcea

Lecturer PhD Sorin Avram

Teaching Assistant PhD Ștefan Negreanu

University of Craiova, Geography Department, **Romania**

ABSTRACT

Analyzing the urban spatial structure of Craiova city and the effects generated by the urban sprawl upon the social and natural environment from its metropolitan area by means of soil sealing/ land consuming and taking into consideration the provisions of the UE 2020 biodiversity strategy, the present study assesses the opportunity of integrating the green infrastructure into the policy sectors, emphasizing the benefits provided to the social-economic and natural environment, and the possibility to enhance the territorial cohesion. The study outlines the fact that the practices of green infrastructure have effects on the individual and community well-being by improving human health, improving neighborhood aesthetics, reducing the heat island effect, cooling urban areas and improving air quality, and enhancing recreation opportunities that also increases the value of property.

The green infrastructure approach allows a qualitative and quantitative analysis of the green resources existent in the Craiova metropolitan area in a way that highlights its function and subsequently seeks the mechanisms that safeguard critical natural areas. Starting from the definition of the green infrastructure and the importance to human society, the authors' aim to achieve the following objectives: identify and classify the green areas, establishing the access of the population to the existent green infrastructure that have the greatest recreational potential and to provide viable proposals for the local administration, that meet the EU's biodiversity and nature policy under the new 2020 biodiversity strategy.

Keywords: green infrastructure, metropolitan area, natural environment, built-up environment

**THE SIMPLIFIED BIDDING DECISION MODEL BASED ON AHP METHOD
IN ORDERING OF INVESTOR'S SUPERVISION SERVICE**

Ph.D., Eng., Agnieszka Leśniak

Cracow University of Technology, **Poland**

ABSTRACT

One of the participants in the investment process, according to the Polish law, is the inspector of investor's supervision, who plays the role of the owner's representative. In the public sector, employing an inspector means ordering this sort of service. A potential contractor of the service must rather quickly make a bid/no bid decision. The decision is influenced by numerous factors connected with, for instance, the company, its environment and the service under consideration. The article presents the factors that affect a bid/no bid decision involving the investor's inspector service. The discussion includes an example of a decision-making process supported by the Analytic Hierarchy Process (the AHP).

Keywords: bidding strategy, construction management, AHP method

THE USE OF EUROPEAN FUNDS AND THE ENERGY SECTOR

Ph.D. Student Aurelia-Gabriela Antonescu

Ph.D. Student Alina Zaharia

The Bucharest University of Economic Studies, **Romania**

ABSTRACT

The European policies aim at reducing as much as possible the economic disparities between both Member States and their regions, and it is desired to apply a sustainable development by using the structural and cohesion funds. In the current context where the economic crises are more frequent, arises the question if these funds are used effectively and fully. In Romania, the efficiency of using the EU funds is still debatable although there is a huge need for investments in all economic sectors. The present work highlights the importance of using the European funds for Romania in general, and for the development of its energy sector. The main objectives of this research are to present the current status of absorption of structural funds in Romania and to do a data analysis of the contracted projects per program and per development region at the beginning of 2014 using national data. Also, have been analyzed the 2007-2013 operational programs relevant for the energy field. Finally, this paper would present solutions for increasing the Romanian absorption rate and for encouraging the investments in energy which are so necessary in this country. The development of energy sector could be done with the help of the structural funds that is why must be used with relevance and integrally.

Keywords: absorption capacity, energy, Romania, European funds

TOURIST ACTIVITIES AN INCOME ALTERNATIVE FOR INHABITANTS OF BREBU NOU COMMUNE

PhD Associate Prof. Ioan Brad

PhD Assistant Ana-Mariana Dincu

PhD Associate Prof. Tiberiu Iancu

PhD Associate Prof. Elena Pet

PhD Lecturer Corina Sîrbu

Banat`s University of Agricultural Sciences and Veterinary Medicine, Faculty of Agricultural Management, Timisoara, **Romania**

ABSTRACT

Like other economic activities, tourism activity has established in space and time its own market, characterized by the action of factors with specific manifestation determined by economic nature, cultural, social, geographical, political, and above all, motivational, of an territorial area, with relatively limited depth of knowledge which increases, in principle, the risk of offers to entering on certain markets.

Tourist market includes all people witch want and feels the need to travel and have the resources to fulfill this desire.

In order to make a correct picture of tourism activities from the area, we undertook a detailed analysis of the studied area using various bibliographic sources and other materials on the addressed issue.

Brebu Nou commune is located in the central part of Caras Severin County, at 45 km away from the Resita city and 40 km from Caransebes, being formed from localities Bebu Nou and Garana.

By its geographical position, the village is one of the pearls of Banat Mountain, so inhabitants and local governments are interested in promoting the tourist potential and creating the necessary infrastructure for increasing the commune attractiveness as a tourist destination.

Semenic Mountains, although it is one not of the mountain complex to impress through great heights is of a great beauty and variety, providing a exceptional frame-from the rounded plates, abundant springs and streams, valleys, dense and covered with rich forest. [6]

Garana is the place with the best location from this point of view, being close to origin of Timis River, formed by the union of three streams that that give birth, by containment, to lake Trei-Ape.

Keywords: tourist potential, tourism, tourist, resource

URBAN PLANNING GAP IN THE CONTEXT OF TRANSITION PERIOD IN SERBIA

Lectr. Aleksandar Bobic, Prof. Jasminka Cvejic

Lectr. Stojanka Radulovic, Lectr. Andreja Tutundzic

University of Belgrade - Faculty of Forestry, **Serbia**

ABSTRACT

The starting point of this paper is to establish a correlation between phenomenon of large production of projects and the phenomenon of postmodernity, which explains the evident quantitative and qualitative discrepancy between the number of developed and implemented projects. This phenomenon is characteristic for the transition period of Serbian society as well, and it is evident in all spheres of activity, particularly in cities. In this context, series of important studies and projects harmonised with contemporary theoretical doctrine and the best European practices, were initiated in Serbia. The goal of this paper is to explain the phenomenon of mass production of projects in urban practices, usually not implemented regardless their importance and role in life quality improvement and principled support from officials at all decision making levels. The discursive analysis of the disparity between production and realization of the projects led to the conclusion that its roots are in the change of character of capitalism in terms of periodical increase of consumption in the short period of time.

Keywords: postmodernity; consumption; spatial and urban planning; landscape; climate change; economic transition

WHEN RURAL TURNS TO URBAN: A SHORT STATISTICAL ANALYSIS ON THE ROMANIAN POST-SOCIALIST URBANIZATION

Dr. Jucu Ioan Sebastian

West University of Timișoara, **Romania**

ABSTRACT

Scholarly interest in the process of urbanization, especially in the former socialist countries from Eastern and Central Europe, has intensified over the last decades. In this article, I focus on how the Romanian cities and towns numerically increased, framing a false process of post-socialist urbanization under the recent capitalist power. Looking back on the communist Romania, during the last decades of the Romanian state-socialism, the former socialist political system ruled a false urbanization based on industrial development in order to portray so called socialist economic improvement. Hence, the number of the Romanian cities and towns continuously increased fuelling a large process of false and unreal urbanization. It was proved by the broad decline of the Romanian cities and towns after the collapse of the former communist regime (especially mono-industrial and low-specialized industrial towns). Their decline was engendered by the failure of the Romanian planned economy that turned to the market economy. This adjustment was crucial for the new post-socialist urban formation. On such a background, despite all the social and economic problems in the Romanian urban system, the post-socialist national policies endorse further post-socialist interventions in increasing number of the cities and towns. It, somewhat, shows the apparent post-socialist urban development in Romania disguising the urban problems that cities and towns face with. As such, the number of the urban settlements in Romania multiplied counterpart revealing a deep rural everyday life embedded both in the urban landscapes and in the cities and towns patterns and functionalities. Considering these issues, the paper examines the phenomena of Romanian urbanization in the last two decades unveiling the growth of the number of the urban settlements under the post-socialist policies. Beyond this recent urban (re)production, many Romanian towns remain rural and under-developed related to the contemporary EU policies demands. The methodological design of the study bases on the recent key literature in order to set the scene of the contemporary trends of current urbanization and on the available statistical data in Romania. The findings of the article frame the circular argument of the paper whereby the increased numbers of the towns in post-socialist Romania rather suggest an artificial growth of the urban at the national level than a functional urban development, the most post-socialist Romanian towns being rather settlements with rural ways of life and landscapes than modern towns or cities.

Keywords: urbanization, post-socialism, towns, development, Romania